UNIVERSITY of WASHINGTON | BOTHELL

Stormwater Operations & Maintenance Plan for UW Bothell and Cascadia Community College

February 2013

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Environmental Health and Safety
UNIVERSITY of WASHINGTON

Stormwater Operations and Maintenance Plan

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A. PURPOSE

The University of Washington Bothell/Cascadia Community College campus is a Secondary Permittee under the State of Washington Department of Ecology Phase II Municipal Stormwater Permit ("Permit"), effective February 16, 2007. Per Permit Section S6.D.6.a, Secondary Permittees are required to develop and implement a municipal operation and maintenance (O&M) plan no later than three years from the date of permit coverage.

This document serves as the UW Bothell/Cascadia Community College O&M Plan. It is based upon the City of Seattle's stormwater Source Control Best Management Practices (BMPs) in Volume 1 Source Control Technical Requirements Manual as well as the Volume 3 City of Seattle Flow Control and Water Quality Treatment Manual Appendix D for stormwater facility maintenance requirements and the King County Surface Water Design Manual (KCSWDM) Appendix A for pipe and ditch maintenance requirements. The City of Bothell has not published similar BMPs.

In addition, current procedures practices specific to the UW Bothell/Cascadia Community College campus are listed in Appendix A. Also, UW Bothell/Cascadia Community College is Salmon Safe certified and adheres to all Salmon Safe corporate and university requirements, listed at http://www.salmonsafe.org/getcertified/corporate-and-university.

As required, the O&M Plan lists procedures to minimize stormwater pollution for all of the following operations, activities, and/or types of facilities within campus boundaries, including the following:

1. Stormwater collection and conveyance system, including catch basins, piping, channels, ditches and culverts.
2. Deicing and snow removal on roads and parking lots.
3. Storage, washing and maintenance of vehicle fleets and fueling facilities.
4. External building maintenance, including cleaning and painting.
5. Proper application of fertilizer, pesticides and herbicides on "parks and open spaces" as well as sediment and erosion control, landscape maintenance and vegetation disposal, and trash management for those areas.
6. Stormwater protection at material storage areas, heavy equipment storage areas and maintenance areas not covered under other NPDES permits.
7. Any other facilities that would reasonably be expected to discharge contaminated runoff.

This Plan applies to all employees and students at University of Washington.

B. STORMWATER COLLECTION AND CONVEYANCE SYSTEM

The stormwater collection and conveyance system includes catch basins, piping and other facilities used for stormwater conveyance and/or treatment. This section lists operations and maintenance requirements for catch basins, piping and other facilities.

1. Catch Basins

Most catch basins have a storage area at the bottom to trap sediments, debris, and other particles that can settle out of stormwater, thereby preventing clogging of downstream piping and washing of these solids into the surface water ultimately receiving drainage water.

When the catch basin is approximately 60 percent full of sediment, sediment can begin to wash into stormwater piping. Oils and grease, petroleum hydrocarbons, debris, metals, sediment, and contaminated water collect in catch basins, oil/water separators, and settling basins. Outlet traps (downturned elbows) are required to trap oil and other floatables and must be replaced or repaired when damaged or missing.

Clean catch basins when they are half full or when the sediment and debris is within 18 inches of the bottom of the outlet pipe. Follow additional manufacturer guidance and requirements on catch basin inspection and maintenance.

2. Stormwater Piping

Stormwater piping must be in good condition. Piping should be inspected regularly and repaired as needed. See also the KCWSDM Appendix A for additional piping maintenance requirements.

Permit Section S6.D.3.c requires the UW, no later than 180 days before the expiration date of the NPDES permit, to 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. The map (or completed portions of the map) must be 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.

Permit Section S6.D.3.d requires the UW to conduct field inspections and visually inspect for illicit discharges at all known outfalls that discharge to surface waters. The UW must 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, and develop and implement procedures to identify and remove illicit discharges. Records of inspections and follow-up activities must be maintained.

3. Other Stormwater Facilities

Other facilities can include both structural and non-structural stormwater facilities, such as green stormwater infrastructure elements including trees, vegetation, and soil. All of these facilities require routine maintenance to ensure their functionality is maintained. Frequency and level of maintenance varies based on the facility location, function, and exposure to impacts. Facilities should be maintained according to the operation and maintenance procedures in Volume 3, the Stormwater Flow Control and Water Quality Treatment Technical Requirements Manual and the following actions:

- Promptly repair or replace all substantially cracked or otherwise damaged secondary containment and any deterioration that threatens the structural integrity of the facilities, and replace cleanout gates, catch basin lids, and rock in emergency spillways, etc as needed.
- Inspect and clean stormwater treatment facilities, conveyance systems, and catch basins as needed, and determine whether improvements in operation and maintenance procedures are needed.
- Ensure that storm drain capacities are not exceeded and that heavy sediment discharges to the drainage system are prevented.
- Regularly remove debris and sludge from facilities used for treatment. Dewater, transport, and dispose of the material as solid waste as approved by the local or state government, or have it professionally removed by a contractor. If visual or olfactory indications of pollution are noted, the waste must be characterized to ensure it is disposed of properly.

C. DEICING AND SNOW REMOVAL

1. Snow Removal

Snow removal is preferred to de-icing with chemicals.

2. Selecting Deicers

Select deicers and anti-icers that result in the least adverse environmental impact. Apply only as needed using minimum quantities.

Where feasible and practical, use roadway deicers such as calcium magnesium acetate, potassium acetate, or similar materials that cause less adverse environmental impact than urea, and sodium chloride.

3. Maintenance After Deicing

Increase maintenance of stormwater structures as necessary.

Sweep or clean up accumulated deicing and anti-icing materials and grit from roads as soon as possible after the road surface clears.

D. STORAGE, WASHING AND MAINTENANCE OF VEHICLES AND EQUIPMENT

Pollutants released while washing vehicles and equipment include surfactants, petroleum hydrocarbons, toxic organic compounds, oils and greases, nutrients, metals, and suspended solids. These pollutants must not be discharged to the storm drainage system or directly into receiving waters.

1. Vehicle and Equipment Storage

Ensure that stored vehicles are not leaking oil or other fluids into storm drains.

2. Vehicle and Equipment Washing

Wastewater from cleaning vehicles and equipment must be discharged into a sanitary sewer drain at a site that is approved for discharge.

- Conduct indoor vehicle and equipment washing in an area that drains to the sanitary sewer and that prevents the wash water from flowing outside and entering the storm drainage system.
- Conduct outdoor vehicle and equipment washing in a designated wash area that drains to a sump (like a grit separator) or a catch basin and then to the combined sewer or another appropriate wastewater treatment or recycling system. Or, discharge wash water into a sanitary sewer. If washing occurs in an uncovered area, keep stormwater out of the sanitary sewer as much as possible when not actively washing vehicles or equipment. For wash pads that discharge directly to the separated sanitary sewer, the uncovered portion of the wash pad must be no larger than 200 square feet or must have an overhanging roof. This is to prevent excess stormwater from entering the sanitary sewer. If the wash pad cannot be less than 200 square feet, a shut off valve may be installed which will direct wash water to the sanitary sewer when the wash pad is in use and stormwater to the drainage system when the wash pad is not in use. The valve on the positive control outlet may be manually operated; however, a pneumatic or electrical valve system is preferable. The valve may be on a timer circuit, where it is opened upon completion of a wash cycle. The timer would then close the valve after the sump or separator is drained. Signage and training is required for this system.
- The wash area must be clearly marked.

4. Vehicle and Equipment Maintenance

The following BMPs or equivalent measures are required of all businesses and public agencies engaged in automotive repair and maintenance activities:

- Employees must be educated annually about the need for careful handling of automotive fluids. New employees must be trained upon hiring. Employees at businesses or public agencies that routinely change or handle these fluids must be trained in spill prevention and cleanup. All training must be documented.
- Spill cleanup materials, such as rags and absorbent materials, must always be kept close at hand when changing oil and other fluids. Soiled rags and other cleanup material must be properly disposed of or professionally cleaned and reused.
- Maintenance and repair activities must be conducted indoors.
- Drain all fluids that have the potential to leak from wrecked vehicles, and equipment when they arrive. Store and dispose of fluids properly.
- If the work must be performed outdoors or at a mobile location such as a construction site, drip pans or other containment devices must be used beneath the vehicle or equipment to capture all spills and drips.
- Make sure all outside materials that have the potential to leach or spill to the drainage system are covered, contained, or moved to an indoor location.
- Maintenance and repair areas cannot be hosed down. Instead, they must be swept weekly or more often as needed to collect dirt, and spills must be wiped up with rags and other absorbent materials. If pressure washing is necessary, the wastewater must be collected and disposed of properly. It cannot be discharged to the stormwater drainage system.
- Drains located inside buildings must be connected to the sanitary sewer. Do not allow drains inside maintenance buildings to connect to the sanitary sewer without prior approval by SPU and King County.
- If floatable components are present, use an oil/water separator or other appropriate treatment to treat all runoff from the fluid changing area prior to discharge to the sanitary sewer.
- If extensive staining and oily sheen is present, absorbent pillows or booms must be used in or around catch basins and properly maintained to prevent oil from entering the stormwater drainage system.

4. Washing and Cleaning of Food Service Equipment

This section applies to washing and cleaning of commercial cooking equipment, such as vent filters, grills, floor mats, and grease and pretreatment devices. Such washing and cleaning should always occur indoors with discharges to the building sanitary sewer or to a holding tank for shipment to an offsite disposal facility or approved treatment system. If the washing activity cannot be moved indoors or contained in a tub, the washing area must drain to a sanitary sewer, holding tank, or process treatment system. Provisions must be made to prevent the flow of stormwater onto the washing area.

Wash water must be discharged into a sanitary sewer drain. It is illegal to discharge the dirty wash water to the stormwater drainage system. In addition:

- Wipe off the equipment before washing to remove fats, oil, grease and food waste.
- Do not pour cooking grease down the drain. Collect and dispose of all grease properly.

- If roof equipment or hood vents are cleaned, ensure that no wastewater or process water is discharge to the roof drains or storm water system.

E. BUILDING EXTERIOR MAINTENANCE

1. Pressure Washing

Eliminate or minimize building exterior pressure washing whenever possible.

Avoid soap when pressure washing; use heat, steam and/or water pressure instead.

If pressure washing with cold water and the building exterior is not coated with lead-containing paint or other hazardous material, it is okay discharge the wash water to a storm drain. Otherwise, collect and wash water for appropriate disposal in the local sanitary sewer or offsite as a hazardous waste. Install berms to keep contaminated wash water from entering storm drains. Consult with EH&S on whether sampling is needed to determine if the wash water is hazardous waste.

If the job generates a lot of sediment or debris, lay filter fabric on the ground or install a commercial catch basin insert in the drain to catch the debris. Dispose of this fabric and its contents appropriately.

When washing loading docks or drain trenches, berm the area and/or block the drain. Collect the wash water in containers. Let solids settle before decanting liquid and skim FOG (write out this abbreviation) off the top. Dispose of wash water in the sanitary sewer or, if the water contains hazardous materials (e.g. metals, paint), manage it as hazardous waste.

Don't allow wash water to soak into landscaping unless you have made arrangements with grounds staff.

Collect wash water for discharge to sanitary sewer. Obtain permission from EH&S to discharge to sanitary sewer during construction-related activity. See the EH&S Design Guides for more information.

2. Use of Solvents or Cleaners

Avoid the use of acids, solvents, soap or detergents whenever possible. Even products that are labeled "biodegradable" are not allowed to enter storm drains.

If soap or detergents must be used, collect your wash water using berms, plastic and other means. Dispose wash water into a sanitary sewer unless the building is coated in lead paint. If you are washing surfaces coated with lead paint, collect and take a sample of the wash water. If the lead concentration exceeds 4 ppm, the wash water cannot be disposed into the sanitary sewer. It must be managed as hazardous waste.

If you must use solvents, collect the wastewater for disposal as hazardous waste.

If you must use acidic products, collect the wash water for neutralization or characterization.

For more information, see the UW EH&S Design Guide for Waste Water Disposal on the EH&S website.

F. APPLICATION OF FERTILIZER AND PESTICIDES

Avoid fertilizer and pesticide application whenever possible. Follow the campus integrated pest management (IPM) plan and use pesticides sparingly. If pesticides or herbicides are used, they must

be carefully applied in accordance with label instructions and the Federal Insecticide, Rodenticide and Fungicide Act (FIFRA) and applicable State laws. Maintain appropriate vegetation, properly apply fertilizer where necessary, or consider the use of pest resistant varieties when possible. Also where practical, grow plant species appropriate for the site.

1. Application of Pesticides

Choose the least toxic pesticide that is capable of reducing the infestation to acceptable levels.

Conduct any pest control during the life stage when the pest is most vulnerable. For example, if it is necessary to use a *Bacillus thuringiensis* application to control tent caterpillars, it must be applied before the caterpillars form their cocoons or it will be ineffective. The pest control method should be site-specific rather than using generic.

When necessary to use, apply pesticides according to the directions on the label and use the following BMPs:

- Conduct spray applications according to specific label directions and the applicable local and state regulations.
- Do not apply pesticides if it is raining or immediately before expected rain (unless the label directs such timing).
- Ensure that the pesticide application equipment is capable of immediate shutoff in the event of an emergency.
- Do not apply pesticides within 100 feet of open waters including wetlands, ponds, streams, sloughs, or any drainage ditch or channel that leads to open water except when approved by the Department of Ecology or Seattle Public Utilities (all sensitive areas including wells, streams, and wetlands must be flagged prior to spraying.) Take care to avoid contamination or site disturbance during applications.
- Never apply pesticides in quantities that exceed the manufacturer's instructions.
- Mix pesticides and clean the application equipment under cover in an area where accidental spills will not enter surface water or ground water and will not contaminate the soil.

The Environmentally Critical Areas Ordinance (SMC 25.09) also restricts certain described pesticide use within buffer zones of certain sensitive areas.

2. Storage of Pesticides

- Store pesticides in enclosed areas or in covered impervious containment.
- Do not hose down the paved areas to a storm drain or conveyance ditch.
- Ensure that pesticide-contaminated waste materials are kept in designated covered and contained areas, and disposed of properly.
- Rinsate from equipment cleaning and/or triple-rinsing of pesticide containers should be used as product or recycled into product.

3. Application of Fertilizer

- Ensure that all fertilizers are applied by properly trained personnel. Document and keep all training records.
- For commercial and industrial facilities, ensure that fertilizers are not applied to grass swales, filter strips, or buffer areas that drain to sensitive receiving waters.

G. MATERIAL AND EQUIPMENT STORAGE

1. Outdoor Storage of Materials

This section applies outdoor storage and transfer of solid raw materials, byproducts, or products such as but not limited to gravel, sand, salts, topsoil, compost, logs, sawdust, wood chips, lumber and other building materials, concrete, and metal products typically stored outside in large piles or stacks.

Cover and contain materials to prevent erosion whenever possible. Erosion results in stormwater contamination and loss of valuable product.

Sweep paved storage areas daily or more often as necessary to collect and dispose of loose solid materials. Do not hose down the contained stockpile area if the discharge will flow into a storm drain or a drainage conveyance.

For stockpiles containing more than five cubic yards of erodible or water-soluble materials such as soil, deicing salts for roads, compost, unwashed sand and gravel, and sawdust; and for outside storage areas for solid materials such as logs, bark, lumber, and metal products, do one or more of the following:

- Store materials inside a building or on a covered outdoor paved area, preferably surrounded by a berm.
- Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent material) over the material. Anchor sheeting to prevent contact with rainfall.

For large stockpiles that cannot be covered:

- Install containment devices, such as a berm or a low wall around the perimeter of the pile and at any catch basins as needed to prevent erosion of the stockpiled material and to prevent discharge of leachate from the stockpiled material off the site or to a storm drain.
- Ensure that contaminated stormwater is not discharged directly to catch basins without being conveyed through a treatment BMP.
- Inspect and maintain catch basins regularly (weekly or more often as needed).

Maintain the quantity of materials necessary to prevent the erosion of large stockpiles and loss of valuable materials.

2. Storage of Contaminated Soils

This section applies to the storage of soils contaminated with toxic organic compounds, petroleum products, or metals.

- Cover or enclose the storage area for the contaminated soils and contain it with a curb, dike or berm constructed around the material storage area if possible to prevent rain water from leaching out contaminants..
- Sweep paved storage areas daily or more often as needed. Stock cleanup materials such as brooms, dust pans, and vacuum cleaners near the storage area.
- Regularly inspect and maintain catch basins and other drainage systems on the site to prevent contaminated materials from entering stormwater and leaving the site. Sediment from such cleaning must be disposed of properly in accordance with applicable law, which may include Washington State Dangerous Waste Regulations.

3. Outdoor Portable Container Storage

The following applies to outdoor portable containers used to store accumulated food wastes, vegetable or animal grease, used automotive fluids, liquid feedstock or cleaning compounds, chemicals, or dangerous wastes (liquid or solid), and contaminated stormwater.

- Wherever possible, store containers on a paved surface under a roof or other appropriate cover or in a building.
- Store materials in a leak-proof container with a tight-fitting lid.
- All containers must have labels identifying their contents. Apply labels and position containers so labels are clearly visible. If the material is hazardous waste it should have a hazardous waste label.
- Place drip pans beneath all taps on mounted containers and at all potential drip and spill locations during the filling and unloading of containers.
- Inspect container storage areas regularly for corrosion, structural failure, spills, leaks, overfills, and failure of piping systems. Check containers daily for leaks and spills. Replace containers, and replace and tighten bungs in drums as needed.
- Secure drums in a manner that prevents accidental spillage, pilferage, or any unauthorized use.
- Place containers mounted for direct removal of a liquid chemical for use by employees inside a containment area as described above. Use a drip pan during liquid transfer.
- Keep the minimum amount of materials necessary on hand to prevent large quantities of liquids on site.

For hazardous materials, also do the following:

- Provide covered secondary containment. Alternatively, the storage area shall be paved and surrounded by a berm or dike and covered. The dike must be high enough to hold a volume of either 10 percent of the total volume of the enclosed containers or 110 percent of the volume of the largest container, whichever is greater, or if a single container, 110 percent of the volume of that container. The area must be sloped to drain into a dead-end sump for the collection of leaks and small spills.
- Dangerous wastes that do not contain free liquids must be stored in a designated sloped area with the containers elevated or otherwise protected from stormwater run-on.
- Ensure that the storage of reactive, ignitable, or flammable liquids complies with the Bothell Fire Code and Uniform Fire Code.
- Keep containers with dangerous waste inside a building unless this is impractical due to site constraints or the requirements of the Bothell Fire Code or Uniform Fire Code.
- If the material is a hazardous waste, you must also comply with hazardous waste rules. See the UW Chemical Waste Guide for Facilities Services for more information about what qualifies as hazardous waste and more.

4. Storage of Liquids in Permanent Aboveground Storage Tanks

This section applies to aboveground storage tanks that contain liquids (excluding uncontaminated water) including, but are not limited to, aboveground heating oil tanks and gasoline and diesel tanks.

To prevent stormwater contamination, install secondary containment or a double-walled tank. Add safeguards against accidental releases, including guards around the tanks to protect them from vehicle or forklift damage, and place tags on valves to reduce human error. Design containment areas around the tank so that potential stormwater contamination can be minimized and managed. Cover the tank and containment area where possible.

Locate and design tanks to prevent and minimize stormwater contamination as follows:

- Locate permanent tanks in an impervious (Portland cement concrete or equivalent) secondary containment area.
- Surround the secondary containment area with dikes or provide double walled tanks approved by the Underwriters Laboratory (UL). Design the dike to be of sufficient height to provide a containment volume of either 10 percent of the total volume of the enclosed tanks or 110 percent of the volume of the largest tank, whichever is greater, or if a single tank, 110 percent of the volume of that tank.
- Secondary containment must be emptied regularly to prevent contaminated liquid from overflowing into the drainage system.
- If the tank containment area is not covered, equip the outlet from the spill-containment sump with a shutoff valve, which is normally closed. The valve should only be opened to convey contaminated stormwater to an approved treatment system or disposal facility or to convey uncontaminated stormwater to a storm drain.
- Place adequately sized drip pans beneath all mounted taps and locations where drips and spills might occur during the filling and unloading of tanks.
- Include a tank overfill protection system to minimize the risk of spillage during loading.

Implement the following maintenance activities to prevent and minimize stormwater contamination:

- Inspect tank containment areas regularly to identify problems (*e.g.*, cracks, corrosion, leaks) with components such as fittings, pipe connections, and valves. Replace or repair tanks that are leaking, corroded, or otherwise deteriorating. Document and keep all inspection records.
- Sweep and clean the tank storage area regularly.

5. Parking Lot Maintenance and Storage of Vehicles and Equipment

This section applies to parking lots and areas where vehicles or equipment are stored outside.

The following BMPs or equivalent measures are required for activities related to the parking and storage of vehicles and equipment:

- Sweep or vacuum parking lots, storage areas and driveways regularly to collect dirt, waste, and debris and dispose as solid waste.
- Do not hose down or pressure wash areas that drain to a storm drain or to the surface water ultimately receiving drainage water.
- If a parking lot must be washed, discharge the wash water to a sanitary sewer or other approved wastewater treatment system, if allowed by Bothell and/or King County, or collect it for offsite disposal. Cover storm drains to prevent wash water from entering the surface water ultimately receiving drainage water. Discharges to the sanitary sewer are regulated by the King County Industrial Waste Program. In some cases, contaminated stormwater may need to be pretreated before it is discharged to the

sanitary sewer. For approval before discharging wash water to the sanitary sewer, contact EH&S at 206.616.5835.

- Make sure all outside materials that have the potential to leach or spill to the drainage system are covered, contained, or moved to an indoor location.
- An oil removal system such as an API or coalescing plate oil/water separator, catch basin filter, or equivalent BMP that is approved by SPU is required for parking lots that meet the threshold vehicle traffic intensity of a high-use site. Refer to Volume 3, the Stormwater Flow Control and Water Quality Treatment Technical Requirements Manual for information on traffic intensity thresholds. If a catch basin filter is used, maintain the filter regularly (weekly or as needed) to prevent plugging.

H. OTHER CAMPUS FACILITIES

1. Cleaning and Maintenance of Swimming Pools and Spas

Dispose of pool or spa water to the sanitary sewer.

2. Roadside Ditches

The following BMPs or equivalent measures are required for activities related to the maintenance of roadside ditches:

- Inspect roadside ditches regularly, as needed to identify sediment accumulations and areas of localized erosion.
- Clean ditches on a regular basis, as needed:
  - Keep ditches free of rubbish and debris.
  - Conduct ditch maintenance (seeding, fertilizer application, and mowing) when most effective, usually in late spring and/or early fall.
  - Do not apply fertilizer unless needed to maintain vegetative growth.
  - Do not leave material from the ditch cleaning on roadway surfaces.
  - Sweep and remove dirt and debris that remains on the pavement at the completion of ditch cleaning operations.
  - Segregate clean materials from suspect or contaminated materials. Non-contaminated soils may be handled as “clean soils” and non-contaminated vegetative matter can be composted or disposed of in a municipal waste landfill, if permitted. Suspected contaminated or contaminated material removed from ditches must be tested and handled according to the Dangerous Waste Regulations unless testing indicates that it is not dangerous waste.
- Vegetation in ditches often prevents erosion and cleanses runoff:
  - Remove vegetation only when flow is blocked or excess sediments have accumulated.
  - Use grass vegetation, unless specified otherwise by SPU (e.g., for natural drainage systems).
  - Establish vegetation from the edge of the pavement if possible or at least from the top of the slope of the ditch.

- Diversion ditches on top of cut slopes that are constructed to prevent slope erosion by intercepting surface drainage must be maintained to retain their diversion shape and capability.
- Inspect culverts on a regular basis for scour or sedimentation at the inlet and outlet, and repair as necessary. Give priority to culverts that are conveying perennial or salmon-bearing streams and to culverts near streams in areas of high sediment load, such as those near subdivisions during construction.

Appendix A. UWB/CCC Specific Practices and Protocols

1. Stormwater collection and conveyance system, including catch basins, piping, channels, ditches and culverts.

UW Bothell/Cascadia Community College manages and maintains its entire stormwater system with a current total budget of $180,000. Contractors manage the coalescing vaults, sweep parking lots and vacuum catch basins on a regular schedule. UW Bothell staff conduct monitoring, maintenance and cleaning of the bioswales and wetlands.

2. Roadway and Hard Surface Snow & Ice Control

Roadway and exposed parking surface snow and ice control if performed following the Washington State Department of Transportation (WSDOT) Area 5 Snow & Ice Plan. On roadways and exposed parking surfaces, Liquid Calcium Chloride with “Boost” (Potassium & Sodium Chloride added) is applied as conditions dictate. Sand and Sand/Salt mixtures are also applied as conditions dictate (usually only in extreme weather conditions).

On sidewalks and other hard surface pedestrian pathways, granular Magnesium Chloride is applied as per the manufacturers’ recommendations and as conditions dictate. Sand is also applied as conditions dictate (sand is rarely and sparingly applied).

3. Storage, washing and maintenance of vehicle fleets and fueling facilities.

All vehicles are washed and maintained off campus at commercial facilities.

4. External building maintenance, including cleaning and painting.

Currently pressure washing is performed only to remove bio-materials. No chemicals are used during pressure washing.

5. Proper application of fertilizer, pesticides and herbicides on “parks and open spaces” as well as sediment and erosion control, landscape maintenance and vegetation disposal, and trash management for those areas.

UW Bothell/Cascadia Community College follow a draft Integrated Pest Management (IPM) program in coordination with the UW Seattle campus.

Scheduled “Green” pest control (building targeted) is performed by an outside contractor. Inorganic pesticides are rarely applied and only then as a last resort and in accordance with the IPM plan.

Inorganic herbicides are never used in the Upper Campus Grounds by UW Bothell Staff. Organic methods (compost tea, composting, organic fertilizers, *etc*.) are used for maximizing the health of the landscape and discouraging/out-competing pests. Inorganic herbicides are rarely used in the Campus Restoration areas and then only as a last resort for especially aggressive invasive species and only as recommended by professional consultants.

Nearly all waste vegetation produced during landscape maintenance is composted or chipped and then returned to the landscape. Any remaining waste vegetation is hauled to certified reclamation facilities.

Trash picks are performed on a routine, scheduled basis.

6. Stormwater protection at material storage areas, heavy equipment storage areas and maintenance areas not covered under other NPDES permits.

No materials are currently stored outside. There are no fueling tanks. Deicing chemicals (liquid deicer and sand/salt mixtures) are stockpiled by WSDOT or City of Bothell at their storage locations.

7. Any other facilities that would reasonably be expected to discharge contaminated runoff.

None.