



Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities

April 2004

Publication Number 04-10-030



Printed on Recycled Paper

Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities

Prepared by:

Washington State Department of Ecology
Water Quality Program

April 2004
Publication Number 04-10-030



Printed on Recycled Paper

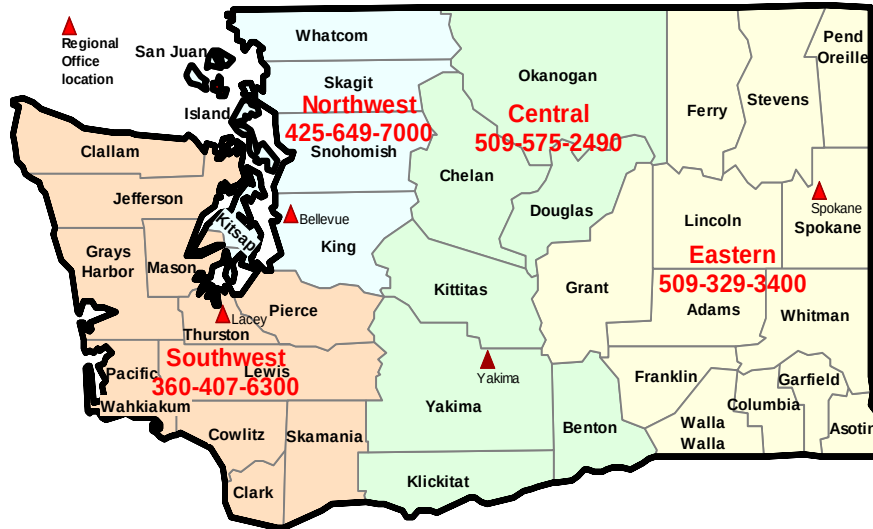
For additional copies of this document contact:

Department of Ecology
Publications Distribution Center
P.O. Box 47600
Olympia, WA 98504-7600

Telephone: (360) 407-7472

Headquarters (Lacey) 360-407-6000

If you are speech or hearing impaired, call 711 or 1-800-833-6388 for TTY



How to Get Printed Copies of the Western Washington Stormwater Manual

If you have a credit card, you can order printed copies of the stormwater manual at the following Internet address:

<https://wws2.wa.gov/prt/printwa/wsppt/default.asp>

You can also use this website to get price information and then send a check or money order payable to “Department of Printing” at the following address:

Department of Printing
P.O. Box 798
Olympia, WA 98507-0798

Make sure you include your name, mailing address, phone number, and the name of the publication. Allow about two weeks for delivery. If you have questions about ordering the manual please call the Department of Printing at (360) 570-5555.

How to Obtain the Stormwater Manual on CD: Email mewi461@ecy.wa.gov; write to: Secretary, PDS, Department of Ecology, Water Quality Program, P.O. Box 47696, Olympia, WA 98504-7696; or phone 360-407-6401. This CD includes Word and PDF files for all five volumes, a searchable PDF and index.

How to Find the Stormwater Manual on the Internet

The Stormwater Management Manual for Western Washington is also available on Ecology’s Stormwater Homepage at: <http://www.ecy.wa.gov/programs/wq/stormwater/manual.html>

If you need this document in an alternate format, please contact us at 360-407-6401. If you are a person with a speech or hearing impairment, call 711 or 800-833-6388 for TTY.

Table of Contents

A.	Purpose of this Guidance	1
B.	Objectives of the SWPPP:.....	1
C.	SWPPP Requirements (Permit Condition S9).....	1
	General Requirements.....	1
	Use of New Stormwater Manuals	2
D.	Preparing and Updating the SWPPP (See Flowchart in Section E).....	2
	Responsible Signatory Official	2
E.	SWPPP Contents	3
	1. Facility assessment.....	3
	2. Identifying Areas Associated with Industrial Activity	6
	3. Identify Past Spills and Leaks.....	6
	4. Include a Monitoring (sampling and visual inspection) Plan	7
	5. Illicit Non-stormwater Discharges (See BMP #3 in Appendix A)	7
	6. Schedule for Implementing Additional or Enhanced BMPs.....	8
	7. BMPs for Compliance with the 2002 Industrial Stormwater General Permit	8
	8. Operational BMPs.....	9
	9. Source-Specific Structural Source Control BMPs.....	14
	10. Treatment BMPs	14
	11. Stormwater Peak Runoff Rate and Volume Control.....	15
	12. Erosion and Sediment Control BMPs	16
	13. Operation and Maintenance	16
	14. Handling and Disposal of Solid and Liquid Wastes from Stormwater Treatment, Storage, and Conveyance Systems	16
F.	Significant Amounts, Benchmark Values, and Effluent Limits.....	17
G.	Monitoring Stormwater Discharges	18
H.	The Effect on the SWPPP of Changing Ownership or Ceasing Operation.....	21

I. References	22
Appendix A: Source Specific BMPs	23
Appendix B: Example SWPPP	47
Appendix C: Blank Forms	71
Appendix D: Other Requirements	87
Appendix E: Transfer Ownership Form	89
Appendix F: Ecology Contacts	91
Glossary and Acronyms	93

Acknowledgements

This document was prepared with considerable assistance from a technical advisory committee. The document could not have been prepared without the hands-on experience of the industrial, local government, and Ecology representatives who served on this committee. Ecology wishes to thank the committee for its time and effort.

The advisory committee consisted of the following members:

Name	Affiliation
Ron Devitt	Ecology Northwest Regional Office
Bob Dick	Northwest Forestry Association, Olympia
Nathan Graves	Kennedy Jenks Consultants for the Association of WA Business
Keith Johnson	Ecology Headquarters
Ken Johnson	Weyerhaeuser Company
Charles Keller	Boeing Co.
Heather Kibbey	Pierce County
Ray Latham	Ecology Central Regional Office
Grant Nelson	Association of WA Business
Marilou Pivrotto	Ecology Southwest Regional Office
Gary Smith	Independent Business Association
Paul Turner	Ecology Eastern Regional Office

A. Purpose of this Guidance

The purpose of this guidance is to assist operating managers and owners of industrial facilities in preparing a Stormwater Pollution Prevention Plan (SWPPP) that complies with Ecology's 2002 Industrial Stormwater General Permit (Permit). It contains the following:

- A summary of the SWPPP requirements as specified in Permit Condition S9
- The required content of a SWPPP
- Descriptions of required BMPs for industrial activities
- A summary of the monitoring guidance and a list of benchmark values
- An example SWPPP
- Blank forms for recording monitoring information and BMP recommendations.

This guidance has no independent regulatory authority and does not establish new regulatory requirements or standards. Using this guidance document does not relieve the responsible company official from understanding and complying with all permit requirements (Reference 1). Other background documents recommended as routine ongoing references are: "*How To Do Stormwater Sampling*" (Reference 2) and the western and eastern Washington stormwater manuals (References 3 and 4). www.ecy.wa.gov/programs/wq/stormwater

B. Objectives of the SWPPP:

1. To implement and maintain best management practices (BMPs) that identify, reduce, eliminate, and/or prevent the discharge of stormwater pollutants.
2. To prevent violations of surface water quality, groundwater quality, and sediment management standards.
3. To prevent adverse impacts to receiving water by controlling peak rates and volumes of stormwater runoff.
4. To eliminate the discharges of unpermitted process wastewater, domestic wastewater, noncontact cooling water, and other illicit discharges to stormwater drainage systems.

C. SWPPP Requirements (Permit Condition S9)

General Requirements

New facilities: develop a SWPPP and implement it before beginning operation.

Existing facilities: not normally required to revise their SWPPP unless necessary to accommodate significant process changes at their facility or other action that requires modification of permit coverage or changes in design, construction, operation, or maintenance of any BMP which cause(s) the SWPPP to be less effective in controlling pollutants, or, as required

to meet permit conditions, including meeting water quality standards. Ecology may require implementation of additional BMPs, including treatment BMPs, if an applicable benchmark value specified in the 2002 permit is exceeded.

SWPPP Availability: Retain the SWPPP on site or within reasonable access to the site. You must make it immediately available to Ecology personnel on site or submit a copy of the SWPPP within two (2) weeks of receiving a request or, for discharges to a storm sewer system, to the municipal operator of the storm sewer system. Ecology will maintain a copy of the SWPPP for each industrial facility and the public may view a copy of the permittee's SWPPP at the appropriate regional office. Upon receiving a request from the public for a copy of the SWPPP the permittee:

- Shall provide a copy of the SWPPP, as requested, within a reasonable time frame,
 - May contact the requester to determine if the entire SWPPP is needed or if specific portions satisfy the requestor's needs,
 - May notify the requestor of the location at or near the permitted facility and times within normal business hours that the SWPPP can be viewed;and
 - May notify Ecology and the requestor of claims to confidential business information and/or security concerns with releasing the SWPPP to the public. The permittee shall identify the general sections of concern. Ecology shall then coordinate with the permittee and requestor to provide such information as needed to satisfy the requestor's needs. Disputes pertaining to released SWPPP material shall be subject to Special Condition S13. of the Permit, or such other applicable course of appeal as pertains to the information under consideration.

Use of New Stormwater Manuals

New and existing facilities may select BMPs from the most recent published edition of an applicable stormwater management manual such as the 2001 *Stormwater Management Manual for Western Washington* (3) and the *Stormwater Management Manual for Eastern Washington* (4) when published, or equivalent manual.

D. Preparing and Updating the SWPPP (See Flowchart in Section E)

Responsible Signatory Official

A responsible company official or duly authorized representative must sign the SWPPP, its significant updates, monitoring results, and all certifications required by the permit. The responsible company official can be a vice president or higher, a general partner, or an owner of the company or facility. To delegate to a duly authorized representative, the responsible company official must submit to Ecology the name of the individual or a position (plant manager, superintendent, or equivalent) as the duly authorized representative having overall responsibility for environmental matters. The company official responsible for preparing,

updating, and implementing the SWPPP and for compliance with the permit should be thoroughly familiar with the permit requirements.

The SWPPP will include a BMP that identifies specific individuals (a pollution prevention team) by name or by title within the plant organization who are responsible for developing the SWPPP and assisting the plant manager in its implementation, maintenance, and modification. The activities and responsibilities of the pollution prevention team should address all aspects of the facility's SWPPP.

Other environmental management plans/permits for your facility should also be reviewed to determine their impact on stormwater pollutants. Examples include an NPDES wastewater discharge permit; and any of the following plans: Federal Spill Control and Countermeasures, Hazardous Waste Reduction, Dangerous Waste and Toxics Reduction, and Occupational Safety and Health Plans. (Appendix D)

E. SWPPP Contents

This section provides guidance to help the permittee comply with Special Condition S9.B. of the Permit.

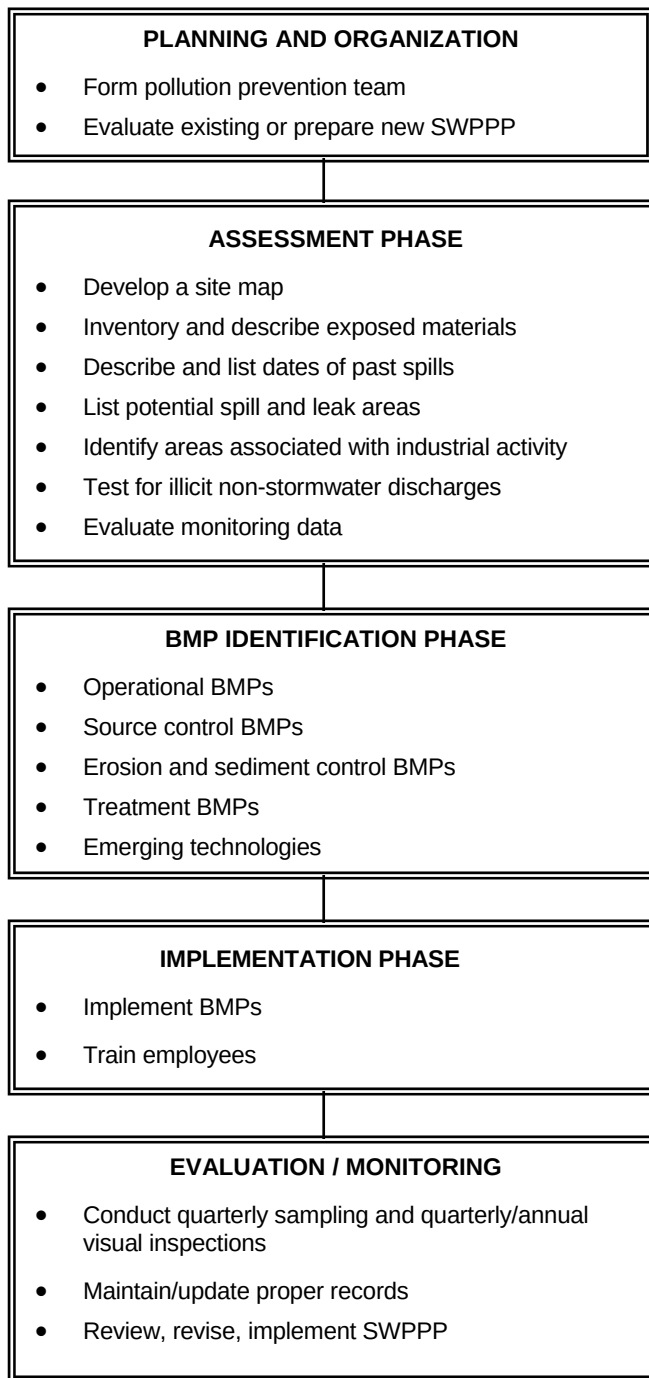
Note: The worksheets in Appendix C may be used to record the SWPPP information identified in this section of the guidance.

1. Facility assessment

Description of the industrial operation

Describe the industrial (manufacturing, transportation, processing, etc.) activities conducted at the site and provide a general layout. Include buildings, storage of raw materials, and the flow of goods and materials through the facility. A process flow diagram would be helpful. Include any variations that could impact stormwater including seasonal and climate-related changes in production, particularly if the changes affect contact with stormwater.

SWPPP PREPARATION FLOWCHART



Site Map

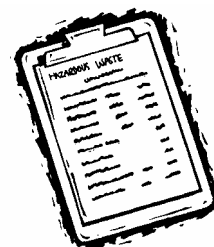
Draw a site map to an identified scale or with relative distances between significant structures and drainage systems that includes the following:

- Identifiers (names) of significant features.
- Stormwater drainage and discharge structures.
- An outline of the stormwater drainage areas for each stormwater discharge point (including discharges to ground water).
- Buildings and paved areas.
- Areas of pollutant contact (actual or potential).
- Surface water locations (including wetlands and drainage ditches).
- Areas of existing and potential soil erosion in a significant amount.
- Vehicle (trucks, vans, forklifts, etc.) service areas.

Materials Inventory

The applicable worksheets in Appendix C may be used to list materials with a narrative that describes materials handling practices including the following:

- List of significant materials handled, treated, stored, or disposed of that can be exposed to stormwater or snowmelt and result in stormwater pollution of a significant amount. Include the location of each material that is exposed to stormwater and a measure of its quantity, by volume or weight. Also include the significant materials handled during past activities.
- Materials handled indoors that could be tracked outdoors by equipment or vehicles.
- Explanations of how significant materials are handled, treated, stored, and disposed of to prevent pollution of stormwater and how each material has or can contaminate stormwater, including past activities.
- A list of the pollutants that may be present in your stormwater discharges.
- Method(s) and location(s) of on-site storage and disposal and a list of significant past spills and leaks of toxic or hazardous pollutants.



Note: The category of significant materials includes, but is not limited to, raw materials; fuels; materials such as solvents, detergents, plastic pellets; finished materials such as metallic products, raw materials used in food processing or production, hazardous substances designated under Section 101 (14) CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizer;,, pesticide;, and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges.

2. Identifying Areas Associated with Industrial Activity

List pollutant generating activities and areas and describe their potential to be a pollutant source in a significant amount. Pollutant generating activities and areas can include:

- Loading and unloading of dry (bulk) or liquid materials.
- Dust or particulate generating processes.
- On-site solid waste or residual treatment, storage, or disposal; material handling sites; refuse sites; and sites used for the application or disposal of process wastewaters.
- Vehicle and equipment maintenance, fueling, and washing/cleaning.
- Outdoor storage area(s) of materials or products, stockpile area(s), tank farms, etc.
- Petroleum transfer area.
- Manufacturing building roofs and other processing areas where particles are emitted from air vents and are likely to mix with stormwater.
- Roofs or other surfaces composed of materials that may be mobilized (eluted) by stormwater, (e.g., galvanized or copper roofs).
- Outdoor manufacturing or processing area.
- Plant yards, immediate access roads and rail lines, manufacturing buildings, and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater.

Also check storage tanks, pipes, or pumping areas and note any leaks, spills, or staining. Is the loading and unloading of materials exposed to stormwater? Do the dumpsters have a lid, or are they stored in a covered area? Verify whether the dumpsters or other disposal units have “unsealed” bottoms. Also pay attention to material handling equipment, including everything from vehicles to pallets, where raw and waste materials from industrial activities are exposed to stormwater.

Note: Areas separate from the industrial activity are excluded from permit coverage. Examples of excluded areas are office buildings and parking lots used solely for employee parking, if the drainage does not mix with stormwater runoff from areas with industrial activity.

3. Identify Past Spills and Leaks

Update in the SWPPP the significant spills and leaks of oils and toxic or hazardous pollutants that have occurred during the three years prior to the effective date of the Permit. Include the information specified in Worksheet #4. This list will provide additional information on the potential sources of stormwater contamination. One way of identifying whether small spills and leaks are taking place is by noting areas with “residues” of a material that may pollute the stormwater.



4. Include a Monitoring (sampling and visual inspection) Plan

Identify who is responsible for monitoring and thoroughly describe monitoring procedures to meet permit requirements including sampling points, frequencies, methods, parameters, completing the discharge monitoring report, etc. Follow the sampling guidance in reference 2 carefully and review the summary of the Monitoring Guidance in Section G. At a minimum the monitoring plan must include:

- Who conducts the sampling and visual inspections
- Descriptions of all points of discharge to storm drains or to surface water and where samples will be taken and why sampling points were or were not selected at all multiple discharges
- An explanation how volumes/rates of each discharge will be/are estimated considering storm duration, intensity and quantity; tributary area and slope; and permeability of pervious and impervious areas.
- A record of the differences in exposure to pollutants, e.g., periodic vs. continuous; and pollutant concentrations likely in the discharge(s).
- A list of the pollutant parameters (constituents) for analysis
- Procedures for sample collection and handling, sending samples to the lab, and submitting the results to Ecology
- A check list for visual monitoring (See Worksheet #11)

5. Illicit Non-stormwater Discharges (See BMP #3 in Appendix A)

Include measures to identify and eliminate unpermitted discharges of process and domestic wastewater, cooling water and other wastewaters to storm drains or to surface waters. Process wastewater means any water which, during manufacturing or processing comes in direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product, including stormwater that commingles with process water. Wastewaters may need a separate NPDES discharge permit. As required in Section S4. of the Permit, the SWPPP must include a certification by the responsible official from your facility that a test has been conducted for the presence of non-stormwater discharges. Conduct the test during the dry season (July, August, and September) at all stormwater discharge locations. You must keep a record if you are unable to test or certify for the presence of non-stormwater discharges because you do not have access to a particular outfall, manhole, or other point of access to a final stormwater discharge point. Complete a “Failure to Certify” form (Worksheet #7) and include with your SWPPP.

As a result of the 2002 permit appeal, Ecology anticipates covering certain non-stormwater discharges including discharges from fire fighting activities; fire protection system flushing, testing, and maintenance; discharges of potable water, including water line flushing provided that water line flushing water is dechlorinated; uncontaminated air conditioning or compressor condensate; irrigation drainage; uncontaminated ground water or spring water; and discharges associated with dewatering of foundations, footing drains, or utility vaults where flows are not

contaminated with process materials such as solvents. The following information on these conditionally approved non-stormwater discharges, except for discharges from fire fighting activities and of uncontaminated ground or spring water, must be included in the SWPPP:

- Identification and location of the discharge to the stormwater collection system of each non-stormwater discharge.
- Characterization of the non-stormwater source, including estimated flows or flow volume, and likely pollutants, which may be present.
- Evaluation of non-stormwater discharges for any chemical contamination, including cooling tower mist.
- Evaluation, design, and implementation of available and reasonable best management practices to reduce or eliminate pollutants and/or flow volumes in non-stormwater discharges.

6. Schedule for Implementing Additional or Enhanced BMPs

Include a schedule in the SWPPP for implementing additional or enhanced BMPs, which are either ordered by Ecology or are necessary due to facility changes or a self-inspection, within 30 days of self-determination or an Ecology order. Modification of BMPs to reduce pollutants may also be necessary for a change in design, construction, or operation and maintenance (O&M) of any BMP, and/or if a BMP is observed to be insufficiently effective during a visual inspection. Non-capital BMPs must be completed within two (2) weeks and capital BMPs (see Permit – Appendix 2 for definition) within six (6) months after completing the implementation plan for addition or modification of BMPs.

Describe any capital improvements (e.g., detention pond, oil removal, filter, cover (roof) for exposed materials, paving, construction of outside storage buildings, overhangs, containment areas, covered fuel island with Portland cement pavement, etc.) Provide the date (s) of completion of the capital and non-capital improvements.

7. BMPs for Compliance with the 2002 Industrial Stormwater General Permit

The Permit requires the implementation of best management practices to comply with state water quality standards; all known, available, and reasonable methods of prevention, control, and treatment (AKART); and federal technology-based treatment requirements. These standards and technology-based requirements have been adopted as rules. Permittees must demonstrate that their BMPs meet the standards and requirements described in the Washington State rules. This may be achieved in one of two ways:

Option 1 – The Demonstration Approach. The technical basis for the selection of all stormwater BMPs must be documented in the SWPPP including how stormwater BMPs were selected; the pollutant removal performance expected from the BMP being selected; the technical bases which

support the performance claims for the BMPs being selected; and an assessment of how the selected BMPs will achieve compliance with state water quality standards, the state AKART requirements, and the federal technology-based treatment requirements under 40 CFR part 125.3. Ecology expects the demonstration documentation to be based on good science and sound engineering judgment. An example of an acceptable technology assessment protocol is the protocol for emerging stormwater treatment technologies (Technology Assessment Protocol-Ecology (TAPE)) which can be downloaded at www.ecy.wa.gov/programs/wq/stormwater/newtech/

Option 2 – The Presumptive Approach. Permittees who choose to follow the stormwater management practices contained in approved stormwater technical manuals, including the proper selection, implementation, and maintenance of appropriate BMPs, are presumed to have satisfied the demonstration requirement and do not need to include within the SWPPP the technical bases, which support the performance claims for the BMPs being used. Unless there is site-specific information to indicate otherwise, permittees who choose the presumptive approach are presumed to be in compliance with standards as set forth in Permit Special Condition S7.

Other approved stormwater technical manuals include:

- *Stormwater Management Manual for Western Washington*, August 2001, for sites west of the crest of the Cascade Mountains;
- *Stormwater Management Manual for Eastern Washington*, (completion expected by early 2004) for sites east of the crest of the Cascade Mountains.
- *Industrial Stormwater General Permit Implementation Manual for Log Yards*, (completion expected by January 2004)
- *Best Management Practices to Prevent Stormwater Pollution at Vehicle Recycler Facilities* – DOE-WQ #94-146, 1994. Updating this manual is planned during 2004.

Operational BMPs

To comply with the permit, the categories of operational BMPs listed in this section are a minimum set of BMPs that must be included in the SWPPP. Source-specific operational BMPs are also specified in Appendix A.

- **Formation of a Pollution Prevention Team.** The responsible company official must organize a pollution prevention team and assign responsibilities that comply with the Permit. The responsibilities include:
 - Assigning one or more individuals by name and title to be responsible for developing the SWPPP and assisting the plant manager in its implementation, maintenance, and modification.
 - Holding regular meetings to review the overall operation of the BMPs.
 - Establishing responsibilities for sampling, inspections, operation and maintenance, and availability for emergency situations.

- Arranging the training of all team members in the operation, maintenance, and inspections of BMPs.
- **Good Housekeeping.** Good housekeeping is an ongoing approach to improve and maintain a clean and orderly work environment and includes the following BMPs:
 - Promptly contain and clean up solid and liquid pollutant leaks and spills including oils, solvents, fuels, and dust from manufacturing operations on any soil, vegetation, or paved area exposed to stormwater.
 - Sweep paved material handling and storage areas regularly as needed to collect and dispose of dust and debris that could contaminate stormwater. Do not hose down pollutants from any area to the ground, storm drain, conveyance ditch, or receiving water unless necessary for dust control purposes to meet air quality regulations and unless the pollutants are conveyed to a treatment system approved by the local jurisdiction. Contact Ecology's regional office for a wastewater discharge permit, if required.
 - Clean oils, debris, sludge, etc. from all BMP systems regularly, including catch basins, sedimentation basins, oil/water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater. (Appendix D.3. – dangerous wastes.)
 - Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas, which are subjected to pollutant material leaks or spills.
 - Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., which can contaminate stormwater.
 - Use solid absorbents, e.g., clay and peat absorbents and rags for cleanup of liquid spills/leaks, where practicable.
- **Preventive Maintenance.** A preventive maintenance program includes inspection and maintenance of stormwater management devices (BMPs) and drainage systems, and routine inspections of industrial facility operations including vehicle maintenance. Equipment such as tanks, containers (drums), and outside piping, pumps, and process equipment should be checked regularly for signs of deterioration. The following are additional preventive BMPs applicable at industrial sites:
 - Prevent the discharge of unpermitted liquid or solid wastes, process wastewater, and sewage to ground or surface water or to storm drains, which discharge, to surface water or to the ground. Floor drains in potential pollutant source areas shall not be connected to storm drains, surface water, or to the ground. Eliminate illicit non-stormwater discharges within 30 days of discovery.
 - Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building and/or on an impervious contained area such as a

concrete pad. Direct contaminated stormwater from such an area to a sanitary sewer where allowed by local sewer authority, or to a storm drain after implementing BMP #17 (see Appendix A–BMPs for washing and steam cleaning).

- Do not pave over contaminated soil unless it has been determined that ground water has not been and will not be contaminated by the soil. Call Ecology for assistance.
- Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.
- Use drip pans to collect leaks and spills from equipment such as cranes at ship/boat building and repair facilities, log stackers, industrial parts, trucks, and other vehicles that are stored outside. Empty drip pans immediately after a spill or leak is collected in an uncovered area.
- Drain oil from fuel filters before disposal. Discard empty oil and fuel filters, oily rags, and other oily solid waste into appropriately closed and properly labeled containers and in compliance with the Uniform Fire Code.
- For the storage of liquids use containers, such as steel and plastic drums, that are rigid and durable, corrosion resistant to the weather and fluid content, non-absorbent, water tight, rodent-proof, and equipped with a close fitting cover.
- For the temporary storage of solid wastes contaminated with liquids or other potential pollutant materials use dumpsters, garbage cans, drums and comparable containers that are durable, corrosion resistant, non-absorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container must be stored under a lean-to or equivalent structure.
- Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.



Note: Evidence of stormwater contamination can include the presence of floatable, visible sheen, color, or turbidity in the runoff or existing or historical operational problems at the facility. Use pH paper or meter to test for stormwater contamination in areas subject to acid or alkaline contamination.

- **Spill Prevention and Reporting and Emergency Cleanup.** Identify area(s) of the facility where oil, hazardous material, or other pollutant spill(s) is/are likely to occur and their drainage points. Ensure that employees are aware of response procedures, including material handling and storage requirements. Access to appropriate spill cleanup equipment is essential. The SWPPP may include excerpts from other spill plans for the facility, e.g., Federal Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Clean Water Act. (See Appendix A-BMP #13 for spills)

The following are required spill control and reporting BMPs:

- o Stop, contain, and clean up all spills immediately upon discovery. Do not flush absorbent materials or other spill cleanup materials to a storm drain or to surface water. Collect the contaminated absorbent material as a solid and place in appropriate disposal containers.
- o If any spill has reached, or may reach, a sanitary or a storm sewer, ground water, or surface water, notify Ecology and the local sewer authority immediately (not to exceed one hour). Take reasonable steps to minimize any adverse impacts to waters of the state and to correct the problem. Follow up with written documentation covering the event *within thirty (30) days* unless otherwise directed by Ecology. Compliance with the preceding requirements does not relieve the permittee from responsibility to maintain continuous compliance with all permit conditions or the resulting liability for failure to comply.
- o Place and maintain emergency spill containment and cleanup kit(s) at outside areas where there is a potential for fluid spills. These kits should be appropriate for the materials being handled and the size of the potential spill, and readily accessible to personnel responsible for spill response.
- o Oil includes the following: oil, gasoline, or diesel fuel that causes a violation of the state of Washington's Water Quality Standards, or, that causes a film or sheen upon or discoloration of the waters of the state or adjoining shorelines or causes a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines.

Note: Ecology recommends that the kit(s) include salvage drums or containers, such as high-density polyethylene, polypropylene or polyethylene sheet-lined steel; polyethylene or equivalent disposal bags; an emergency response guidebook; safety gloves/clothes/equipment; shovels or other soil removal equipment; and oil containment booms and absorbent pads—all stored in an impervious container.

- **Reporting and Recordkeeping** (See also S5 of the Permit)
 - o Retain records of all monitoring including original continuous recordings, inspection, monitoring instrument calibration and maintenance, all permit application records of data, reports required by the permit including DMRs (discharge monitoring reports), and all compliance records, for a minimum of five years.
 - o Report sampling results to Ecology quarterly on a DMR, either hard copies or electronically. Keep copies of discharge monitoring reports with the SWPPP. Send a DMR every quarter even when there is no sample. If no sample was taken, you must explain why on the DMR. Also, include any pollutant sampling data that is not required by the permit and an explanation for any missing quarterly data. Quarterly reports must be submitted within 45 days following the end of a reporting period and no later than May 15, August 14, November 14, and February 14 to Industrial Stormwater Permit Manager, Department of Ecology, Water Quality Program, P.O. Box 47696, Olympia, WA 98504-7696.

- For each sample, record the following: the date of analysis; exact place, method, time of, and name of individual conducting the sampling or analysis; analytical methods used; and analytical results. Include an explanation for not following any sampling criteria. Laboratory analytical reports on organics and metals must also include Chemical Abstract Service number, method detection limit, and practical quantitation limits (PQL) and must be kept on site.
- The results of each inspection (visual monitoring) event shall be summarized in an inspection report or checklist and be entered into or attached to the SWPPP. Quarterly visual monitoring reports must be signed by the person making the observations and, if different, reviewed and also signed in accordance with Condition G17. It shall include a certification that, in the judgment of the person doing the inspection, the facility is in compliance or non-compliance with the permit requirements identifying any incidents of non-compliance. The visual inspection report must include: scope of the inspection, the date of the inspection, major observations relating to the implementation of the SWPPP (performance of the BMPs, etc.), a summary of the actions which will be taken to meet permit requirements, and a tracking procedure to ensure that an inspection report is prepared and appropriate action steps taken in accordance with S5.E. of the permit.
- Submit a report to Ecology on noncompliance with the terms and conditions of this permit including visual inspections, discharges of greater than significant amounts of pollutants, and significant spill events of oil or hazardous substances within 30 days of discovery. The report shall contain a description of the noncompliance, including exact dates and times, and (if the noncompliance has not been corrected) the anticipated time it is expected to continue. Include the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (See S5.E. of the permit) Immediately notify Ecology's regional office of any noncompliance according to S5.E of the permit.
- **Inspections.** In the SWPPP, include procedures for complying with inspection and recordkeeping requirements by listing personnel who will conduct inspections, describing a tracking procedure to ensure that inspections are reported and appropriate actions taken as a result of the inspections, listing the personnel with signatory authority, describing how records will be retained for five years, and the name of the person who will be responsible for writing and signing the certificate of compliance with permit requirements.
- **Employee Training on Maintaining and Implementing the SWPPP.** An annual employee training program on the SWPPP and its implementation is required. Train all employees who work in pollutant source areas in identifying pollutant sources and in understanding pollutant control measures, spill prevention and response, good housekeeping, and environmentally acceptable material handling/management practices—particularly those related to vehicle and equipment liquids such as fuels, and vehicle/equipment cleaning. Include in the SWPPP the content, method, and frequency of the training and a log of the training dates.

9. Source-Specific Structural Source Control BMPs

Include descriptions of all structural source control BMPs in the SWPPP required for the pollutant generating activities and sources existing at the facility. For permittees choosing to use stormwater manuals or any other technical guidance documents approved by Ecology (the presumptive approach) the BMPs listed as applicable are considered the minimum required BMPs for an industrial activity. The operational and structural source control BMPs specified in Appendix A for the following pollutant generating sources can be implemented to comply with the permit:

- Dust control at manufacturing areas
- Fueling at dedicated stations
- Non-stormwater illicit connections to storm drains
- Pesticide management
- Loading and unloading liquid or solid material
- Maintenance and repair of vehicles and equipment
- Maintenance of stormwater drainage and treatment systems
- Manufacturing activities-outside
- Mobile fueling of vehicles and heavy equipment
- Painting/finishing/coating of vehicles/buildings/equipment
- Roof/building drains at manufacturing and commercial buildings
- Soil erosion and sediment control at industrial sites
- Spills of oil and hazardous substances
- Container storage of liquids, food wastes, or dangerous wastes
- Liquid storage in permanent above-ground tanks
- Outside storage or transfer of solid raw materials, by-products, or finished products
- Washing and steam cleaning vehicles/equipment/building structures

Note: If other pollutant generating sources or activities exist at a site, they must also be listed in the SWPPP.

10. Treatment BMPs

A discharge exceeding a benchmark value of a pollutant will trigger a level of concern by Ecology which may order the implementation of treatment BMPs if operational and structural source control BMPs do not reduce a pollutant below its benchmark value. A thorough explanation as to whether treatment is necessary must be included in the SWPPP. Applicable treatment BMPs are identified in Appendix A – Structural Source Control BMPs for specific pollutant sources. Treatment BMPs for typical stormwater pollutants are also identified below:

- For gross solids and turbidity (benchmark value of 25 NTU): sedimentation, filtration, or equivalent treatment. Consider emerging technologies where applicable. Descriptions of several emerging technologies and a procedure for evaluating and accepting emerging technologies are explained in Chapter 12, Volume V of Ecology's 2001 Stormwater Management Manual for Western Washington (Reference 3). It can be downloaded at www.ecy.wa.gov/programs/wq/stormwater/manual.html. Also, you can download the emerging technology testing protocol (TAPE), a listing of emerging technologies, and the status of several ongoing evaluations of technologies at www.ecy.wa.gov/programs/wq/stormwater/newtech/
- For oil and grease (benchmark value of 15 mg/L): applicable emerging technologies, oil/water separator, and activated carbon filter. If an ongoing or frequently recurring visible sheen is observed in the stormwater discharge, implement additional BMPs to prevent the sheen. If the discharge contains below a benchmark value of oil and grease and still has an ongoing or recurring visible sheen, submit a report to the Ecology regional office summarizing the effort to control the sheen. The report should include discharge data, inspection results, and BMPs implemented to attempt to control the sheen. After receiving such a report, an Ecology inspector may visit the site to decide whether further controls are necessary.
- If the pH of a stormwater discharge is below 6.0 or above 9.0, install a neutralization system or convey to an industrial wastewater treatment system. Carbon dioxide-based neutralization systems are being developed for high pH stormwater.
- For total zinc (benchmark value of 117 ug/L) use advanced treatment measures as specified in Reference 3.
- In those areas of eastern and central Washington with low rainfall, a no discharge option using infiltration and evapotranspiration can also be considered as long as ground water quality standards are not violated.

Engineering Practice for Treatment BMPs. Design, construct, and operate treatment BMPs in accordance with the criteria in an applicable Ecology stormwater manual or in accordance with professional engineering practice that is based on equivalent standards. (See also WAC 173-240-160; Requirements for Professional Engineer)

11. Stormwater Peak Runoff Rate and Volume Control

Include a narrative that describes flow control BMPs which are required for new development and redevelopment. Stormwater peak flow and volume control and duration requirements for western Washington are specified in minimum requirement #7 of the stormwater manual (Reference 3). Permittees who choose not to use approved SWMMs or other technical guidance documents to meet this requirement must include within the SWPPP the technical basis for their chosen BMPs (the demonstration approach).

12. Erosion and Sediment Control BMPs

Identify and include in your SWPPP, any activities or areas that have a high potential for significant soil erosion or that cause an exceedance of the benchmark value for turbidity, and identify measures to prevent or control the erosion. Refer to Ecology's stormwater manual (Reference 3) for designs and descriptions of appropriate BMPs. The SWPPP must document how stormwater BMPs were selected, the technical basis that supports the performance claims for the BMPs being selected, and an assessment of how the selected BMP will reduce the potential for soil erosion using either the presumptive or the demonstration approach.

13. Operation and Maintenance

All pollutant treatment and control systems and laboratories installed or used for compliance with the permit must be properly operated and maintained (O&M). Recommended O&M procedures for certain BMPs are provided in Chapter 4, Volume V of Ecology's 2001 Stormwater Manual. (3, 4). Bypass of untreated stormwater is prohibited unless it is consistent with the design criteria for the facility and with other provisions of Section S8 of the permit.

14. Handling and Disposal of Solid and Liquid Wastes from Stormwater Treatment, Storage, and Conveyance Systems

The owner or operator of an industrial facility is responsible for the legal handling and disposal of all liquid and solid waste generated or accumulated on their site. Disposal of waste materials from maintenance activities, including liquids and solids from the maintenance of catch basins and other stormwater facilities, shall be conducted in accordance with the Minimum Functional Standards for Solid Waste Handling, Chapter 173-304 WAC or the recent Chapter 173-350, as applicable. Liquids or solids generated in the collection, storage, or treatment of contaminated stormwater may also be regulated as a hazardous or dangerous waste, and are subject to the Dangerous Waste Regulations, Chapter 173-303 WAC.

If you need help with the proper disposal and handling of the solid waste at your facility, first, contact the local jurisdiction solid waste or public works department. Contact the local government official where your facility is located from the following list:

COUNTY/CITY	PHONE	COUNTY/CITY	PHONE
Adams	(509) 659-3276	Kittitas	(509) 962-7542
Asotin	(509) 243-2074	Klickitat	(509) 773-4448
Bellingham,	(360) 676-6850	Lewis	(360) 740-1123
City of Benton		Lincoln	
Prosser	(509) 786-5611	Office	(509) 725-7041
Tri-Cities	(509) 736-3084	Transfer Station	(509) 725-0122
Chelan/Douglas	(509) 886-0899	Mason Landfill	(360) 427-9670
Clallam			ext 271
Port Angeles City Landfill	(360) 417-4875	Okanogan	(509) 422-7315
Olympic Disposal	(360) 417-0120	Pacific	(360) 875-9368
Clark/Skamania	(360) 737-6118	Pend Oreille	(509) 447-4821

COUNTY/CITY	PHONE	COUNTY/CITY	PHONE
Columbia	(509) 382-4121	Pierce	
Cowlitz/Wahkiakum	(360) 577-3125	General Number	(253) 798-4050
Ferry	(509) 775-5217	Recorded Information	(253) 798-4115
Franklin	(509) 545-3551	Web Page	
Garfield	(509) 843-1262	www.co.pierce.wa.us/So dWaste	
Grant	(509) 754-6082	San Juan	(360) 378-2114
Gays Harbor	(360) 249-4413	Skagit	(360) 336-9400
Island	(360) 679-7386	Snohomish	(425) 388-3429
Jefferson	(360) 385-9160	Snohomish, City of	1-800-732-9253
King		Snohomish County/City of	(509) 625-7898
County Solid Waste Utility (located outside of City)	(206) 296-6542	Stevens	(253) 591-5543
Seattle Solid Waste Utility (General Information or Dial '0' for Reception)	(206) 684-7600	Tacoma, City of	(360) 754-4111
City Facilities that Recycle	(206) 389-7304	Thurston	(509) 527-4463
County Facilities that Recycle	(206) 296-8800	Walla Walla	(360) 676-6724
Kitsap	(360) 895-5777	Whatcom	(509) 397-3861
		Whitman	(509) 574-2450
		Yakima	

F. Significant Amounts, Benchmark Values, and Effluent Limits

To determine whether a treatment facility must be installed after implementing operational and structural source control BMPs, you need to consider how the significant amount and benchmark value will be used in making this decision. A significant amount of a pollutant is defined as a pollutant that is amenable to treatment, prevention, or that has the potential to cause or contribute to a violation of surface water quality, ground water quality, or sediment management standards. A permit benchmark value may be used by Ecology as an indicator of a significant amount of a pollutant that needs further reduction. Therefore, Ecology may order implementation of additional BMPs, including treatment, to reduce a pollutant below a benchmark value. Effluent limits that must be met are also specified in the permit for some industries. The table below lists benchmark values that apply to all permittees and those that apply only to specific industries. (See explanatory notes below the table)

Parameter	Analytical Method	Benchmark Value
Turbidity	meter	25 NTU
pH	Meter or pH paper	6-9 pH units
BOD ₅	USEPA 405.1 or Std, Methods 5210B	30 mg/L
Total Zinc	USEPA 200.7	117 µg/L
Petroleum-Oil/grease	USEPA 1664 or 1664A	15 mg/L
Total Copper ¹	USEPA 200.7	63.6 µg/L ⁽³⁾

Parameter	Analytical Method	Benchmark Value
Total Lead ¹	USEPA 200.7	81.6 µg/L
Hardness ¹	USEPA 130.1 or 130.2	NA
Nitrate/Nitrite as N ²	USEPA 353.1 or 353.2	0.68 mg/L
Ammonia ²	USEPA 350.1	19 mg/L
Phosphorous (TP) ²	USEPA 365.1, 365.3 or SM 4500-PH/PI	2.0 mg/L
BOD ₅ ²	USEPA 405.1, SM 5201B	30 mg/L

1. Additional parameters required if the zinc benchmark value is exceeded for two consecutive quarters. Hardness is not required for discharges to marine waters.
2. Air transportation sites analyze nitrate/nitrite, ammonia, and BOD₅; Chemical/Allied Products and Food and Kindred Products sites analyze nitrate/nitrite, phosphorous (TP), and BOD₅.
3. Subject to final resolution of litigation and issuance of modified permit

Additional Pollutant Parameters

Carefully review Special Conditions S3 and S4 of the permit to determine which additional pollutant parameters must be monitored if your facility is among the specific industrial groups or conducts the activities listed including hazardous and non-hazardous waste landfills, coal piles, significant contributors, timber products industry, paper and allied products, food and kindred products, primary metals, metals mining, automobile salvage, scrap recycling, and metals fabricating.

G. Monitoring Stormwater Discharges

Monitoring must be conducted in accordance with the SWPPP Monitoring Plan and may follow the sampling procedures in Ecology's *How to do Stormwater Sampling* (Reference 2). The information below is a summary of the monitoring requirements of the Permit which should be included in the Monitoring Plan.

1. Sampling

All permitted facilities must conduct quarterly sampling (during representative facility operations) and visual inspections of authorized stormwater discharges to surface water. The sampling results must be reported to Ecology quarterly on DMRs, including no discharges and a no sampling (or analysis of a parameter) decision based on eight consecutive quarters of a reported value that is equal to or less than the benchmark value. For 303(d) listed or waters with total maximum daily load (TMDL), refer to S4.F for sampling criteria.

The sampling protocol includes the following:

- A grab sample taken within the first hour or a time or flow proportional sample within the first 30 minutes for a minimum of 2 hours after the onset of the discharge.
- Sampling points at greatest exposure to pollutants must be selected. Where the pollutant type doesn't vary at multiple discharge sites only the discharge at highest pollutant

concentration may be sampled and documented in the SWPPP. Otherwise each point of discharge must be sampled and analyzed. Include area and type of drainage surface (e.g., vegetated, paved) so that volumes or flows of all discharges can be estimated. The sampling point must be as close to the point of discharge as is practicable.

- The parameters required to be analyzed are turbidity, pH, total zinc, and oil and grease-petroleum based. If the zinc is above the benchmark value for two consecutive quarters, then total copper, total lead, and hardness (not required for discharge to marine water) analyses are also required beginning with the next sampling quarter.
- To qualify for sampling, a storm event must be of an intensity of at least 0.1 inch rainfall/24 hours and must be preceded by at least 24 hours of no measurable precipitation.
- Include explanations of any sampling variances, anomalies, and deviations from permit criteria, in the SWPPP.
- Check permit Section S4.B. for exceptions to sampling requirements.

For 303(d) listed waters or waters subject to TMDL determination (except 303(d) Listings for sediment and tissue) also include quarterly monitoring of parameters on the 303(d) list, and for allocated pollutants based on a TMDL determination, except for temperature. Fecal coliform is required only if it is from an industrial activity at the facility. Monitoring may be suspended for a listed parameter if the parameter is not detected in eight consecutive quarterly samples or, for pH, if the pH values are not outside the range of 6.5-8.5 in fresh water and not outside the range of 7.0-8.5 in marine waters.

If a 303(d) receiving water is listed for sediment also analyze total suspended solids (TSS) in the discharge and use secondary treatment discharge standards of 30 mg/L monthly average and 45 mg/L instantaneous maximum as the benchmark values.

2. Visual Monitoring by Personnel Named in the SWPPP (Use Worksheets 6, 7, & 11)

Conduct quarterly visual inspections of the discharges to ground and surface water during sampling and an annual inspection of the remaining unsampled discharges during a storm event. The inspection must include:

- Verification that the descriptions of the pollutant sources are accurate; the site map reflects current conditions; and structural and non-structural BMPs are implemented, properly maintained, and adequate. Adjust BMPs, as needed, and modify the SWPPP accordingly.
- Observations of the presence of floating materials including oil and grease, visible sheen, discoloration, turbidity, and odor in the stormwater discharges and in outside vehicle maintenance/repair and liquid handling and storage areas. In areas where acid or alkaline materials are handled or stored, use pH paper or meter to identify those types of stormwater contaminants, where needed.

- Include in the SWPPP an implementation schedule for necessary improvements within 30 days of an inspection. Implement non-capital BMPs within two weeks and capital BMPs within six months after revising the SWPPP.
- The responsible person named in the SWPPP must certify each visual monitoring report pursuant to G17 and keep it on site with the SWPPP.

Conduct at least one dry season inspection during July, August, or September each year after at least 7 consecutive days of no precipitation and determine whether there is/are unpermitted non-stormwater discharges to storm drains or receiving waters, such as domestic wastewater, noncontact cooling water, process wastewater (including leachates) and vehicle/equipment washwater. Inspect all discharge points during dry weather for odors, discolorations, abnormal flows or conditions. As a rule, the discharge point should be dry during a period of extended dry weather since a stormwater collection system should only collect stormwater. Keep in mind, however, that drainage of a particular rain event can continue for three days or more after the rain has stopped. Infiltration of ground water into the underground collection system is also common. If a non-stormwater discharge is discovered, notify an Ecology regional office and eliminate the illicit discharge within 30 days or apply for a permit.

3. Additional Information that should be included in the Monitoring Plan

Sample Analysis, Handling, and Preservation. Samples should be analyzed, handled, and preserved in accordance with Code of Federal Regulations Title 40, Part 136. Typically, acceptable analytical methods include USEPA methods and Standard Methods for the Examination of Water and Wastewater (APHA). Laboratories accredited (Chapter 173-50 WAC) must be used for pollutants other than for flow, temperature, settleable solids, conductivity, pH, turbidity, and internal process control parameters. If use of an accredited lab is required, then analysis of conductivity, pH, and turbidity must also be conducted.

Special Considerations for Oil and Grease Sampling. Only grab samples must be taken for oil/grease. The sample should not be transferred from one container to another—rather, a wide-mouth solvent prerinsed one-liter glass bottle with a Teflon insert in the lid should be used to collect the sample. The sample must be preserved by adding sulfuric or hydrochloric acid to a pH of less than 2.0 and then stored no longer than 28 days at four degrees C, until analyzed. (See Reference 2 for details)

Health and Safety: Monitoring personnel should be trained in proper safety procedures. Stormwater monitoring may subject sampling personnel to hazardous conditions, such as the following:

- Hazardous weather conditions (e.g., wind, lightning, flooding)
- Sampling in confined spaces (e.g., manholes)
- Hazards associated with chemicals and biological hazards (e.g., rodents and snakes)
- Physical hazards (e.g., traffic, falling objects, sharp edges, slippery footing)
- Lifting injuries from opening or removing access panels and manhole covers, etc.

H. The Effect on the SWPPP of Changing Ownership or Ceasing Operation

If the business is sold and the operation continues to be basically the same, the new owner may assume coverage under the previous owner's permit. The new owner may assume ownership of the current SWPPP by modifying the SWPPP according to any changes in the operation. Both the previous and new owner shall complete a "Transfer of Ownership" form (Appendix E). The new owner shall submit, along with the transfer request form, a new stormwater application form for permit coverage, and mark it as a "Change of Information" along with the current stormwater permit number. An adjusted permit fee billing statement will be processed and mailed to both parties. The previous owner should retain a copy of the original stormwater permit coverage application and SWPPP for a minimum of three years. (See Permit Condition G14)

I. References

1. *The Industrial Stormwater General Permit, Ecology, September 20, 2002*
2. *How To Do Stormwater Sampling, Ecology, December 2002*
3. *Stormwater Management Manual for Western Washington; Ecology, August 2001.*
4. *Stormwater Management Manual for Eastern Washington, Ecology, when published*
5. *Stormwater General Permit Implementation Manual for Log Yards, Ecology, when published*
6. *BMPs to Prevent Stormwater Pollution at Vehicle Recycler Facilities, Ecology, 1994.*
7. *Spill Prevention and Countermeasure Plans, Section 311, Clean Water Act*
8. *Emergency Spill Response in Washington State, Ecology Publication # 97-1165-CP.*

Appendix A

Source-Specific Operational and Structural Source Control Best Management Practices

1. BMPs for Dust Control at Manufacturing Areas

Description of Pollutant Sources. Industrial material handling activities can generate dust that is typically removed using exhaust systems. This can generate air emissions that can contaminate stormwater. Dusts can be generated at cement and concrete products mixing and wherever powdered materials are handled. Particulate materials that are of concern to air pollution control agencies include grain dust, sawdust, coal, gravel, crushed rock, cement, and boiler fly ash. The objective of this BMP is to reduce the stormwater pollutants caused by dust generation and control.

Pollutant Control Approach. Prevent dust generation and emissions where practicable, regularly clean-up dust that can contaminate stormwater, and convey dust contaminated stormwater to proper treatment.

Applicable BMPs

- Clean, as needed, powder material handling equipment and vehicles that can be sources of stormwater pollutants to remove accumulated dust and residue.
- Regularly sweep dust accumulation areas that can contaminate stormwater. Sweeping should be conducted using vacuum filter equipment to minimize dust generation and to ensure optimal dust removal.
- In manufacturing operations, train employees to carefully handle powders to minimize the generation of dust where stormwater is likely to be contaminated.
- Consider using dust filtration/collection systems such as bag house filters, cyclone separators, etc., to control vented dust emissions that could contaminate stormwater. Control of zinc dusts in rubber production is one example.
- Use water spray to flush dust accumulations to sanitary sewers where allowed by the local sewer authority or to other appropriate treatment system.
- Use approved dust suppressants such as those listed in Ecology Publication *Techniques for Dust Prevention and Suppression*, #96-433. (Ecology, 1996). Application of some products may not be appropriate in close proximity to receiving waters or conveyances close to receiving waters. For more information, check with an Ecology regional office or the local jurisdiction.

Treatment BMPs, if required (See Section E.10.). For removal of TSS in stormwater, use sedimentation basins, wet ponds, wet vaults, catch basin filters, vegetated filter strips, or equivalent sediment removal BMPs (3, 4).

2. BMPs for Fueling At Dedicated Stations

Description of Pollutant Sources. Typically, stormwater contamination at fueling stations is caused by leaks/spills of fuels, lube oils, radiator coolants, and vehicle washwater.

Pollutant Control Approach. Cover with roof or canopy and conduct the fueling in an impervious containment area.

Operational BMPs

- Prepare an emergency spill response and cleanup plan (see applicable spill control BMPs) and have designated trained person(s) available either on site or on call at all times to promptly and properly implement that plan and immediately cleanup all spills. Keep suitable cleanup materials, such as dry adsorbent materials, on site to allow prompt cleanup of a spill.
- Train employees on the proper use of fuel dispensers. Post signs in accordance with the Uniform Fire Code (UFC). Post “No Topping Off” signs (topping off gas tanks causes spillage and vents gas fumes to the air). Make sure that the automatic shutoff on the fuel nozzle is functioning properly.
- The person conducting the fuel transfer must be present at the fueling pump during fuel transfer, particularly at unattended or self-serve stations.
- Keep drained oil filters in a suitable container or drum.

Structural Source Control BMPs

- Design the fueling island to control spills (dead-end sump or spill control separator in compliance with the UFC) and to treat collected stormwater and/or wastewater to required levels. Slope the concrete containment pad around the fueling island toward drains—either trench drains, catch basins, and/or a dead-end sump. The slope of the drains shall not be less than 1 percent (Section 7901.8 of the UFC). Drains to treatment shall have a shutoff valve, which must be closed in the event of a spill. The spill control sump must be sized in compliance with Section 7901.8 of the UFC; or
- Design the spill containment pad of the fueling island with a sill or berm raised to a minimum of four inches (Section 7901.8 of the UFC) to prevent the runoff of spilled liquids and to prevent run-on of stormwater from the surrounding area. Raised sills are not required at the open-grate trenches that connect to an approved drainage-control system.
- The fueling pad must be paved with Portland cement concrete, or equivalent. Asphalt is not considered an equivalent material.
- The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the spill containment pad (see Figure 2.1). The roof or canopy should, at a minimum, cover the spill containment pad (within the grade break or

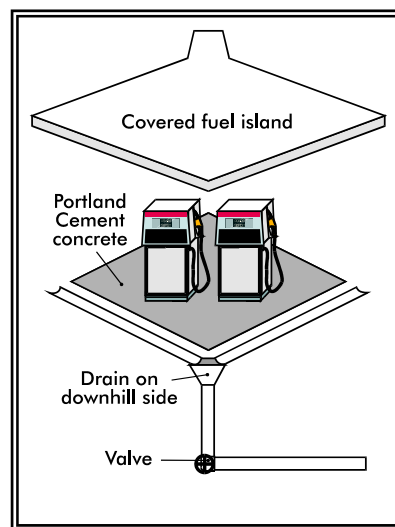


Figure 2.1 – Covered Fuel Island

fuel dispensing area) and preferably extend several additional feet to reduce the introduction of windblown rain. Convey all roof drains to storm drains outside the fueling containment area.

- If treatment of the runoff is required (see section E.10.) stormwater collected on the fuel island containment pad must be conveyed to a sanitary sewer system, if approved by the sanitary authority; or to an appropriate treatment system such as an oil/water separator, media filter, biofilter, or equivalent treatment. Discharges from treatment systems to storm drains or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a benchmark value of oil and grease-petroleum.
- Alternatively, stormwater collected on the fuel island containment pad may be collected and held for proper off-site disposal.
- Conveyance of any fuel-contaminated stormwater to a sanitary sewer must be approved by the local sewer authority and must comply with pretreatment regulations (WAC 173-216-060). These regulations prohibit discharges that could cause fire or explosion. An explosive or flammable mixture is defined under state and federal pretreatment regulations, based on a flash point determination of the mixture. If contaminated stormwater is determined not to be explosive, then it could be conveyed to a sanitary sewer system.
- Transfer the fuel from the delivery tank trucks to the fuel storage tank in impervious contained areas and ensure that appropriate overflow protection is used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.

Additional BMPs for vehicles ten feet in height or greater

A roof or canopy may not be practicable at fueling stations that regularly fuel vehicles that are ten feet in height or greater. At those types of fueling facilities, the following BMPs apply, as well as the applicable BMPs and fire prevention (UFC requirements) of this BMP for fueling stations.

- If a roof or canopy is impractical the concrete fueling pad must be equipped with emergency spill control, which includes a shutoff valve for the drainage from the fueling area. The valve must be closed in the event of a spill. An electronically actuated valve is preferred to minimize the time lapse between spill and containment. Spills must be cleaned up and disposed off site in accordance with BMPs for Spills of Oil and Hazardous Substances.
- If treatment is required (see Section E.10.) the valve may be opened to convey contaminated stormwater to a sanitary sewer, if approved by the sewer authority, or to oil/water separator, media filter, biofilter, or equivalent treatment. Discharges from treatment systems to storm drains or surface water or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a benchmark value of oil and grease.

3. BMPs for Non-stormwater Illicit Connections to Storm Drains

Description of Pollutant Sources. Illicit connections are unpermitted sanitary or process wastewater discharges to a storm drain or to a surface water, rather than to a sanitary sewer, industrial process wastewater or other appropriate treatment. Examples of non-stormwater discharges include any water used directly in the manufacturing process (process water), air conditioner condensate, non-contact cooling water, vehicle wash water, and sanitary wastewater.

Pollutant Control Approach. Identify and eliminate unpermitted discharges within 30 days, or obtain an NPDES permit, where necessary.

Operational BMPs

- Identify and eliminate unpermitted non-stormwater discharges to storm drains, ground water, or surface water; and, convey unpermitted discharges to a sanitary sewer if allowed by the local sewer authority, or to other approved treatment; and, obtain appropriate permits for these discharges. Call the appropriate Ecology regional office if you discover a discharge of non-stormwater discharging to a surface water. ***The discharge must be eliminated within 30 days,*** or you may need to apply for Ecology's individual NPDES or State Waste Discharge Permit. Unless the discharge is eliminated or application is made for permit coverage, you are subject to enforcement action by Ecology or third party lawsuits.
- Conduct a survey of sanitary and industrial wastewater, condensate, cooling water, and any other contaminant discharge connections to storm drains and to surface water as follows:
 - Conduct a field survey of buildings, particularly older buildings, and other industrial areas to locate storm drains from buildings and paved surfaces. Note where these join the public storm drain(s).
 - During non-stormwater conditions inspect each storm drain for non-stormwater discharges. Record the locations of all non-stormwater discharges. Include all permitted discharges.
 - If useful, prepare a map of each area as it is to be surveyed. Show on the map the known location of storm drains, sanitary sewers, and permitted and unpermitted discharges. Aerial photos may be useful. Check records such as piping schematics to identify known side sewer connections and show these on the map. Consider using smoke, dye, or chemical analysis tests to detect connections between two conveyance systems (e.g., process water and stormwater). If desirable, conduct TV inspections of the storm drains and record the footage on videotape. Compare the observed locations of connections with the information on the map and revise the map accordingly. Note suspect connections that are inconsistent with the field survey. Several of the common dry weather inspection methods are described below.

Common Dry Weather Methods for Locating Non-stormwater Discharges

- Review a sewer map or plant schematic (a map of pipes and drainage systems used to carry process wastewater, non-contact cooling water, air conditioner condensate, and sanitary wastes (bathrooms, sinks, etc.)). It is not uncommon to find that accurate and current information is not available. If you have an accurate and current map, simply examine the pathways of the different water circuits cited above. Determine where interior floor drains discharge. The drain(s) may be connected to the stormwater drainage system. If so, they **must** be disconnected and redirected to the sanitary sewer. Contact your local sewage utility before redirecting flow to the sanitary sewer.
- Observe all discharge points during dry weather for odors, discolorations, abnormal flows or conditions. As a rule, the discharge point should be dry during a period of extended dry weather since a stormwater collection system should only collect stormwater.
- Smoke testing of wastewater and stormwater collection and conveyance is used to detect connections between the two systems. During dry weather, the stormwater collection system is filled with smoke and then traced to sources. The appearance of smoke at the base of a toilet, sink, floor drain, wastewater conveyance, etc., indicates that there may be a connection with the stormwater system. If so, they must be disconnected and redirected to the sanitary sewer. Contact your local sewage utility before redirecting flow to the sanitary sewer.
- A dye test can be performed by simply releasing a dye into floor drains, sinks, basins, or other potential contaminant sources that may discharge to a surface water or storm sewer system. Examine discharge points in the stormwater collection system or surface water for discoloration.

4. BMPs for Pesticide Management

Description of Pollutant Sources. Runoff from pesticide application areas can cause contaminants of stormwater. Pesticide applications at access roads and yard areas include sap stain and insect control on lumber and logs, rooftop moss removal, and killing nuisance rodents. Leaching and dripping from treated parts, container leaks, product misuse, and outside storage of pesticide contaminated materials and equipment can cause stormwater contamination.

Pollutant Control Approach. Develop and implement an Integrated Pest Management Plan (IPM) and use pesticides only as a last resort. If pesticides/herbicides are used they must be carefully applied in accordance with label instructions on U.S. Environmental Protection Agency (EPA) registered materials.

Operational BMPs for the Use of Pesticides

- Develop and implement an IPM (Reference 3) and use pesticides only as a last resort. An IPM program may consist of the following steps:
 - Step 1. Correctly identify problem pests and understand their life cycle.
 - Step 2. Establish tolerance thresholds for pests.
 - Step 3. Monitor to detect and prevent pest problems.

- Step 4. Modify the maintenance program to promote healthy plants and discourage pests.
- Step 5. Use cultural, physical, mechanical, or biological controls first if pests exceed the tolerance thresholds.
- Step 6. Evaluate and record the effectiveness of the control and modify maintenance practices to support lawn or landscape recovery and prevent recurrence.
- Implement a pesticide-use plan and include at a minimum: a list of selected pesticides and their specific uses; brands, formulations, application methods and quantities to be used; equipment use and maintenance procedures; safety, storage, and disposal methods; and monitoring, record keeping, and public notice procedures. All procedures shall conform to the requirements of Chapter 17.21 RCW and Chapter 16-228 WAC (Appendix D.7). Include the following BMPs:
 - Choose the least toxic pesticide available that is capable of reducing the infestation to acceptable levels. The pesticide should readily degrade in the environment and/or have properties that strongly bind it to the soil. Any pest control used should be conducted at the life stage when the pest is most vulnerable. Any method used should be site-specific and not used wholesale over a wide area.
 - Apply the pesticide according to label directions. Under no conditions shall pesticides be applied in quantities that exceed manufacturer's instructions.
 - Mix the pesticides and clean the application equipment in an area where accidental spills will not enter surface or ground waters and will not contaminate the soil.
 - Store pesticides in enclosed areas or in covered impervious containment. Ensure that pesticide contaminated stormwater or spills/leaks of pesticides are not discharged to storm drains. Do not hose down the paved areas to a storm drain or conveyance ditch. Store and maintain appropriate spill cleanup materials in a location known to all near the storage area.
 - Clean up any spilled pesticides and ensure that the pesticide contaminated waste materials are kept in designated covered and contained areas.
 - Include immediate shutoff of the pesticide application equipment in the event of an emergency.
 - Do not spray pesticides within 100 feet of open waters including wetlands, ponds, and streams, sloughs and any drainage ditch or channel that leads to open water except when approved by Ecology or the local jurisdiction. All sensitive areas including wells, creeks, and wetlands must be flagged prior to spraying.
 - As required by the local government or by Ecology, complete public posting of the area to be sprayed prior to the application.

- Spray applications should be conducted only during weather conditions as specified in the label direction and applicable local and state regulations. Do not apply during rain or immediately before expected rain.
 - Consider alternatives to the use of pesticides such as covering or harvesting weeds, substituting vegetative growth, and manually controlling weeds and removing moss.
 - Rinseate from equipment cleaning and/or triple rinsing of pesticide containers should be used as product or recycled into product.
 - Once a pesticide is applied, its effectiveness should be evaluated for possible improvement. Records should be kept showing the applicability and inapplicability of the pesticides considered. An annual evaluation procedure should be developed including a review of the effectiveness of pesticide applications, impact on buffers and sensitive areas (including potable wells), public concerns, and recent toxicological information on pesticides used/proposed for use.
 - If individual or public potable wells are located in the proximity of commercial pesticide applications, contact the regional Ecology hydrogeologist to determine if additional pesticide application control measures are necessary.
- Consider the use of soil amendments, such as compost, that are known to control some common diseases in plants such as Pythium root rot, ashy stem blight, and parasitic nematodes. The following are three possible mechanisms for disease control by compost addition (USEPA Publication 530-F-9-044):
 1. Successful competition for nutrients by antibiotic production.
 2. Successful predation against pathogens by beneficial microorganism.
 3. Activation of disease-resistant genes in plants by composts.

Note: Installing an amended soil/landscape system can preserve both the plant system and the soil system more effectively. This type of approach provides a soil/landscape system with adequate depth, permeability, and organic matter to sustain itself and continue working as an effective stormwater infiltration system and a sustainable nutrient cycle.

For more information, contact the WSU Extension Home-Assist Program, (253) 445-4556, or Bio-Integral Resource Center (BIRC), P.O. Box 7414, Berkeley, CA 94707, or the Washington Department of Ecology to obtain “Hazardous Waste Pesticides” (Publication #89-41); and/or EPA to obtain a publication entitled “Suspended, Canceled and Restricted Pesticides” which lists all restricted pesticides and the specific uses that are allowed. Valuable information from these sources may also be available on the internet.

5. BMPs for Loading and Unloading Areas for Liquid or Solid Material

Description of Pollutant Sources. Loading and unloading of liquid and solid materials are typically conducted at shipping and receiving, outside storage, fueling areas, etc. Materials transferred can include products, raw materials, intermediate products, waste materials, fuels, and scrap metals. Leaks and spills of fuels, oils, powders, organics, heavy metals, salts, acids, alkalis, etc., during transfer are potential causes of stormwater contamination. Spills from hydraulic line breaks are a common problem at loading docks.

Pollutant Control Approach. Cover and contain the loading/ unloading area where necessary to prevent run-on of stormwater and run-off of contaminated stormwater.

Operational BMPs

At All Loading/ Unloading Areas

- A significant amount of debris can accumulate at outside, uncovered loading/unloading areas. Sweep these surfaces frequently to remove material that could otherwise be washed off by stormwater. Sweep outside areas that are covered for a period of time by containers, logs, or other material after the areas are cleared.
- Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur such as hose connections, hose reels, and filler nozzles. Drip pans shall always be used when making and breaking connections (see Figure 2.2). Check loading/unloading equipment such as valves, pumps, flanges, and connections regularly for leaks and repair as needed.

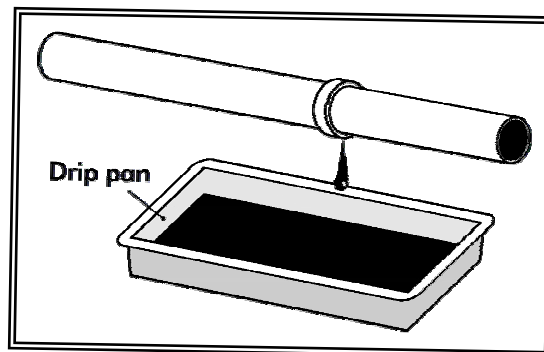


Figure 2.2 – Drip Pan

At Tanker Truck and Rail Transfer Areas to Above/Below-ground Storage Tanks

- To minimize the risk of accidental spillage, prepare an operations plan that describes procedures for loading/unloading. Train the employees, especially fork lift operators, in its execution and post it or otherwise have it readily available to employees.
- Prepare and implement an emergency spill cleanup plan for the facility (See BMP Spills of Oil and Hazardous Substances) which includes the following BMPs:
 - Ensure the cleanup of liquid/solid spills in the loading/unloading area immediately, if a significant spill occurs, and, upon completion of the loading/unloading activity, or, at the end of the working day.
 - Retain and maintain an appropriate oil spill cleanup kit on-site for rapid cleanup of material spills. .

- Ensure that an employee trained in spill containment and cleanup is present during loading/unloading.
- Report spills as required in BMP on spills

At Rail Transfer Areas to Above/Below-Ground Storage Tanks. Install a drip pan system as illustrated (see Figure 2.3) within the rails to collect spills/leaks from tank cars and hose connections, hose reels, and filler nozzles.

Loading/Unloading from/to Marine Vessels. Facilities and procedures for the loading or unloading of petroleum products must comply with Coast Guard requirements specified in Appendix D.5.

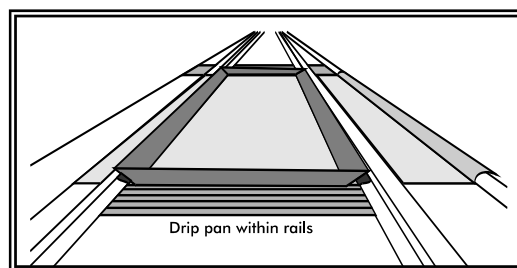


Figure 2.3 – Drip Pan Within Rails

Transfer of Small Quantities from Tanks and Containers. Refer to BMPs Storage of Liquids in Permanent Above-ground Tanks, and Storage of Liquid, Food Waste, or Dangerous Waste Containers, for requirements on the transfer of small quantities from tanks and containers, respectively.

Structural Source Control BMPs

At All Loading/Unloading Areas

- Consistent with Uniform Fire Code requirements (Appendix D.2) and to the extent practicable, conduct unloading or loading of solids and liquids in a manufacturing building, under a roof, or lean-to, or other appropriate cover.
- Berm, dike, and/or slope the loading/unloading area to prevent run-on of stormwater and to prevent the run-off or loss of any spilled material from the area.
- Large loading areas frequently are not curbed along the shoreline. As a result, stormwater passes directly off the paved surface into surface water. Place curbs along the edge or slope the edge such that the stormwater can flow to an internal storm drain system that leads to an approved treatment BMP.
- Pave and slope loading/unloading areas to prevent the pooling of water. The use of catch basins and drain lines within the interior of the paved area must be minimized as they will frequently be covered by material, or they should be placed in designated “alleyways” that are not covered by material, containers, or equipment.
- For the transfer of pollutant liquids in areas that cannot contain a catastrophic spill, consider installing an automatic shutoff system in case of unanticipated off-loading interruption (e.g., coupling break, hose rupture, overfill, etc.).

At Loading and Unloading Docks

- Install/maintain overhangs or door skirts that enclose the trailer end (see Figures 2.4 and 2.5) to prevent contact with rainwater.
- Design the loading/unloading area with berms, sloping, etc., to prevent the run-on of stormwater.
- Retain on-site the necessary materials for rapid cleanup of spills.

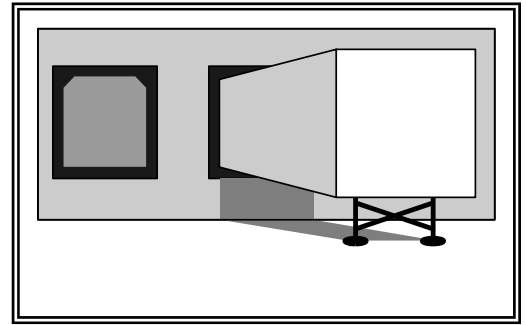


Figure 2.4 – Loading Dock with Door Skirt

At Tanker Truck Transfer Areas to Above/Below-ground Storage Tanks

- Pave the area on which the transfer takes place. If any transferred liquid, such as gasoline, is reactive with asphalt, pave the area with Portland cement concrete.
- Slope, berm, or dike the transfer area to a dead-end sump, spill containment sump, a spill control (SC) oil/water separator, or other spill control device. The minimum spill retention time should be 15 minutes at the greater flow rate of the highest fuel dispenser nozzle through-put rate, or the peak flow rate of the 6-month, 24-hour storm event over the surface of the containment pad, whichever is greater. The volume of the spill containment sump should be a minimum of 50 gallons with an adequate grit sedimentation volume.

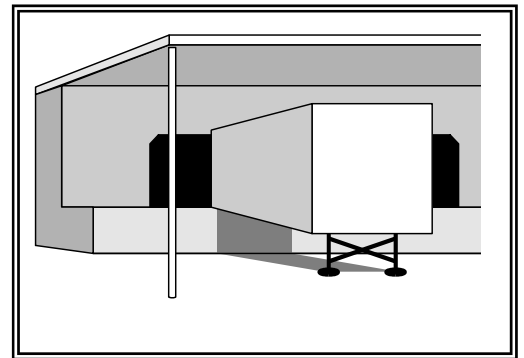


Figure 2.5 – Loading Dock with Overhang

6. BMPs for Maintenance and Repair of Vehicles and Equipment

Description of Pollutant Sources. Pollutant sources include parts/vehicle cleaning, spills/leaks of fuel and other liquids, replacement of liquids, outdoor storage of batteries/liquids/parts, and vehicle parking.

Pollutant Control Approach. Control of leaks and spills of fluids using good housekeeping and cover and containment BMPs.

Operational BMPs

- Inspect for leaks all incoming vehicles, parts, and equipment stored temporarily outside.
- Use drip pans or containers under parts or vehicles that drip or that are likely to drip liquids, such as during dismantling of liquid containing parts or removal or transfer of liquids.
- Remove batteries and liquids from vehicles and equipment in designated areas designed to prevent stormwater contamination. Store cracked batteries in a covered non-leaking secondary containment system.
- Empty oil and fuel filters before disposal. Provide for proper disposal of waste oil and fuel.

- Do not pour/convey washwater, liquid waste, or other pollutant into storm drains or to surface water. Do not hose down work areas to storm drains. Use dry methods for cleaning leaked fluids. Check with the local sanitary sewer authority for approval to convey to a sanitary sewer.
- Do not connect maintenance and repair shop floor drains to storm drains or to surface water. To allow for snowmelt during the winter, a drainage trench with a sump for particulate collection can be installed and used only for draining the snowmelt and not for discharging any vehicular or shop pollutants.
- Consider storing damaged vehicles inside a building or other covered containment until all liquids are removed. Remove liquids from vehicles retired for scrap.
- Consider cleaning parts with aqueous detergent based solutions or non-chlorinated solvents such as kerosene or high flash mineral spirits, and/or use wire brushing or sand blasting whenever practicable. Avoid using toxic liquid cleaners such as methylene chloride, 1,1,1-trichloroethane, trichloroethylene, or similar chlorinated solvents. Choose cleaning agents that can be recycled.
- Inspect all BMPs regularly, particularly after a significant storm. Identify and correct deficiencies to ensure that the BMPs are functioning as intended.

Structural Source Control BMPs

- Conduct all maintenance and repair of vehicles and equipment in a building, or other covered impervious containment area that is sloped to prevent run-on of uncontaminated stormwater and run-off of contaminated stormwater.
- Park large mobile equipment, such as log stackers, in a designated contained area.

Treatment BMPs, if required (See Section E. 10.). Contaminated stormwater run-off from vehicle staging and maintenance areas may be conveyed to a sanitary sewer, if allowed by the local sewer authority, or to an API or CP oil and water separator followed by a basic treatment BMP, media filtration systems, or other equivalent oil treatment system (3, 4).

7. BMPs for Maintenance of Stormwater Drainage and Treatment Systems

Description of Pollutant Sources. Facilities include roadside catch basins, conveyance systems, detention facilities such as ponds and vaults, oil and water separators, biofilters, settling basins, infiltration systems, and all other types of stormwater treatment systems presented in Volume V of SWMM (3). Oil and grease, hydrocarbons, debris, heavy metals, sediments, and contaminated water are found in catch basins, oil and water separators, settling basins, etc.

Pollutant Control Approach. Provide maintenance and cleaning of debris, sediments, and oil from stormwater collection, conveyance, and treatment systems to obtain proper operation.

Operational BMPs. Maintain stormwater treatment facilities according to the O&M procedures presented in Section 4.6 of Volume V (3) in addition to the following BMPs:

- Inspect and clean treatment BMPs, conveyance systems, and catch basins as needed, and determine whether improvements in O&M are needed.

- Promptly repair any deterioration threatening the structural integrity of the facilities. These include replacement of clean-out gates, catch basin lids, and rock in emergency spillways.
- Ensure that storm sewer capacities are not exceeded and that heavy sediment discharges to the sewer system are prevented.
- Regularly remove debris and sludge from BMPs used for peak-rate control, treatment, etc., and discharge to a sanitary sewer if approved by the sewer authority or truck to a local or state government approved disposal site.
- Post warning signs; “Dump No Waste - Drains to Ground Water,” “Streams,” “Lakes,” or emboss on or adjacent to all storm drain inlets *where practical*.

8. BMPs for Outside Manufacturing Activities

Description of Pollutant Sources. Manufacturing pollutant sources include outside process areas, stack emissions, and areas where manufacturing activity has taken place in the past and significant pollutant materials remain and are exposed to stormwater.

Pollution Control Approach. Cover and contain outside manufacturing and prevent stormwater run-on and contamination, where feasible.

Operational BMP

Sweep paved areas regularly, as needed, to prevent contamination of stormwater.

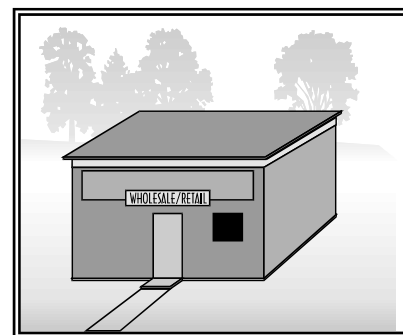


Figure 2.6 – Enclose the Activity

Structural Source Control BMPs

- Alter the activity by eliminating or minimizing the contamination of stormwater.
- Enclose the activity (see Figure 2.6). If possible, enclose the manufacturing activity in a building.
- Cover the activity and connect floor drains to a sanitary sewer, if approved by the local sewer authority. Berm or slope the floor as needed to prevent drainage of pollutants to outside areas. (Figure 2.7)
- Isolate and segregate pollutants as feasible. Convey the segregated pollutants to a sanitary sewer, process treatment or a dead-end sump depending on available methods and applicable permit requirements.

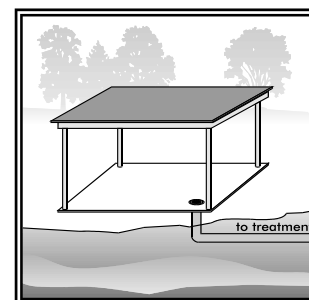


Figure 2.7 – Cover the Activity

9. BMPs for Mobile Fueling of Vehicles and Heavy Equipment

Description of Pollutant Sources. Mobile fueling, also known as fleet fueling, wet fueling, or wet hosing, is the practice of filling fuel tanks of vehicles by tank trucks that are driven to the yards or sites where the vehicles to be fueled are located. Diesel fuel is considered as a Class II Combustible Liquid, whereas gasoline is considered as a Flammable Liquid.

Pollutant Control Approach. Proper training of the fueling operator and the use of spill/drip control and reliable fuel transfer equipment with backup shutoff valving are typically needed.

Note that some local fire departments may have restrictions on mobile fueling practices.

Operational BMPs

- Ensure that all mobile fueling operations are approved by the local fire department and comply with local and Washington State fire codes.
- In fueling locations that are in close proximity to sensitive aquifers, designated wetlands, wetland buffers, or other waters of the state, approval by local jurisdictions is necessary to ensure compliance with additional local requirements.
- Ensure the compliance with all 49 CFR 178 requirements for DOT 406 cargo tanker. Documentation from a Department of Transportation (DOT) Registered Inspector shall be proof of compliance.
- Ensure the presence and the constant observation/monitoring of the driver/operator at the fuel transfer location at all times during fuel transfer and ensure that the following procedures are implemented at the fuel transfer locations:
 - Locating the point of fueling at least 25 feet from the nearest storm drain or inside an impervious containment with a volumetric holding capacity equal to or greater than 110 percent of the fueling tank volume, or covering the storm drain to ensure no inflow of spilled or leaked fuel. Storm drains that convey the inflow to a spill control separator approved by the local jurisdiction and the fire department need not be covered. Potential spill/leak conveyance surfaces must be impervious and in good repair.
 - Placing a drip pan or an absorbent pad under each fueling location prior to and during all dispensing operations. The pan (must be liquid tight) and the absorbent pad must have a capacity of 5 gallons. Spills retained in the drip pan or the pad need not be reported.
 - The handling and operation of fuel transfer hoses and nozzle, drip pan(s), and absorbent pads as needed to prevent spills/leaks of fuel from reaching the ground, storm drains, and receiving waters.
 - Not extending the fueling hoses across a traffic lane without fluorescent traffic cones, or equivalent devices, conspicuously placed so that all traffic is blocked from crossing the fuel hose.
 - Removing the fill nozzle and cessation of filling when the automatic shut-off valve engages. Do not allow automatic shutoff fueling nozzles to be locked in the open position.
 - Not “topping off” the fuel receiving equipment.

- Provide the driver/operator of the fueling vehicle with:
 - Adequate flashlights or other mobile lighting to view fill openings with poor accessibility. Consult with local fire department for additional lighting requirements.
 - Two-way communication with his/her home base.
- Train the driver/operator annually in spill prevention and cleanup measures and emergency procedures. Make all employees aware of the significant liability associated with fuel spills.
- The fueling operating procedures should be properly signed and dated by the responsible manager, distributed to the operators, retained in the organization files, and made available in the event an authorized government agency requests a review.
- Ensure that the local fire department (911) and the appropriate regional office of the Department of Ecology are immediately notified in the event of any spill entering the surface or ground waters. Establish a “call down list” to ensure the rapid and proper notification of management and government officials should any significant amount of product be lost off-site. Keep the list in a protected but readily accessible location in the mobile fueling truck. The “call down list” should also pre-identify spill response contractors available in the area to ensure the rapid removal of significant product spillage into the environment.
- Maintain in all fueling vehicles a minimum of the following spill cleanup materials that are readily available for use :
 - Non-water absorbents capable of absorbing 15 gallons of diesel fuel.
 - A storm drain plug or cover kit.
 - A non-water absorbent containment boom of a minimum 10 feet in length with a 12-gallon absorbent capacity.
 - A non-metallic shovel.
 - Two, five-gallon buckets with lids.
- Maintain and replace equipment on fueling vehicles, particularly hoses and nozzles, at established intervals to prevent failures.

Structural Source Control BMP. Automatic fuel transfer shut-off nozzles; and, an adequate lighting system at the filling point.

10. BMPs for Painting/Finishing/Coating of Vehicles/Boats/ Buildings/ Equipment

Description of Pollutant Sources. Surface preparation and the application of paints, finishes and/or coatings to vehicles, buildings, and/or equipment outdoors can be sources of pollutants. Potential pollutants include organic compounds, oils and greases, heavy metals, and suspended solids.

Pollutant Control Approach. Cover and contain painting and sanding operations and apply good housekeeping and preventive maintenance practices to prevent the contamination of stormwater with painting oversprays and grit from sanding.

Operational BMPs

- Train employees in the careful application of paints, finishes, and coatings to reduce misuse and over spray. Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly clean and temporarily store collected debris daily.
- Do not conduct spraying, blasting, or sanding activities over open water or where wind may blow paint into water.
- Wipe up spills with rags and other absorbent materials immediately. On dock areas sweep rather than hose down debris. If hosing is conducted, collect any hose water generated and convey to appropriate treatment and disposal. Do not hose down the area to a storm drain or receiving water or conveyance ditch to receiving water.
- Use a storm drain cover, filter fabric, or similarly effective run-off control device if dust, grit, washwater, or other pollutants may escape the work area and enter a catch basin. The containment device(s) must be in place at the beginning of the workday. Collect contaminated run-off and solids and properly dispose of such wastes before removing the containment device(s) at the end of the workday.
- Use a ground cloth, pail, drum, drip pan, tarpaulin, or other protective device for activities such as paint mixing and tool cleaning outside or where spills can contaminate stormwater.
- Properly dispose of all wastes and prevent all uncontrolled releases to the air, ground, or water.
- Clean brushes and tools covered with non-water-based paints, finishes, or other materials in a manner that allows collection of used solvents (e.g., paint thinner, turpentine, xylol) for recycling or proper disposal.
- Store toxic materials under cover (tarp, etc.) during precipitation events and when not in use to prevent contact with stormwater.

Structural Source Control BMPs. Enclose and/or contain all work while using a spray gun or conducting sand blasting and in compliance with applicable air pollution control, OSHA, and WISHA requirements. Do not conduct outside spraying, grit blasting, or sanding activities during windy conditions which render containment ineffective.

11. BMPs for Roof/ Building Drains at Manufacturing and Commercial Buildings

Description of Pollutant Sources. Stormwater run-off from roofs and sides of manufacturing buildings can be sources of pollutants caused by leaching of roofing materials, building vents, and other air emission sources. Vapors and entrained liquid and solid droplets/particles have been identified as potential pollutants in roof/building runoff. Metals, solvents, acidic/alkaline pH, BOD, and organics are some of the pollutant constituents identified.

Pollutant Control Approach. Evaluate the potential sources of stormwater pollutants and apply source control BMPs where practicable.

Operational Source Control BMPs

- If leachates and/or emissions from buildings are suspected sources of stormwater pollutants, then sample and analyze the stormwater draining from the building.
- If a roof/building stormwater pollutant source is identified, implement appropriate source control measures such as air pollution control equipment, selection of materials, operational changes, material recycle, and process changes.

12. BMPs for Soil Erosion and Sediment Control at Industrial Sites

Description of Pollutant Sources. Industrial activities on soil areas; exposed and disturbed soils; steep grading; etc., can be sources of sediments that can contaminate stormwater run-off.

Pollutant Control Approach. Limit the exposure of erodible soil, stabilize or cover erodible soil where necessary to prevent erosion, and/or provide treatment for stormwater contaminated with TSS caused by eroded soil.

Cover BMP Options

- Vegetative cover such as grass, trees, and shrubs on erodible soil areas, or
- Covering with mats such as clear plastic, jute, synthetic fiber, and/or
- Preservation of natural vegetation including grass, trees, shrubs, and vines.

Structural Practice Options

Consider biofilter, sedimentation basin, silt fence, gravel filter berm and proper grading. For other BMPs and design information, refer to Volume II of the SWMM (3)

13. BMPs for Spills of Oil and Hazardous Substances

Description of Pollutant Sources. Owners or operators of facilities engaged in drilling, producing, gathering, storing, processing, transferring, distributing, refining or consuming oil and/or oil products are required by federal law to have a spill prevention and control plan if the storage capacity of the facility, which is not buried, is 1,320 gallons or more of oil, or any single container with a capacity in excess of 660 gallons and which, due to its location, could reasonably be expected to discharge oil in harmful quantities, as defined in 40 CFR Part 110, into or upon the navigable waters of the United States or adjoining shorelines {40 CFR 112.1 (b)}. Onshore and offshore facilities, which, due to their location, could not reasonably be expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines, are exempt from these regulations {40 CFR 112.1(1)(i)}. Owners of businesses that produce dangerous wastes are also required by state law to have a spill control plan (Appendix D.3). The federal definition of oil is oil of any kind or any form, including, but not limited to petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil.

Pollutant Control Approach. Maintain, update, and implement an oil spill prevention/cleanup plan.

Operational BMPs. Industries that are required to prepare and implement an emergency spill cleanup plan shall implement the following:

- Prepare an emergency spill control plan, which includes:
 - A description of the facility including the owner's name and address.
 - The nature of the activity at the facility.
 - The general types of chemicals used or stored at the facility.
 - A site plan showing the location of storage areas for chemicals, the locations of storm drains, the areas draining to them, and the location and description of any devices to stop spills from leaving the site such as positive control valves.
 - Cleanup procedures.
 - Notification procedures to be used in the event of a spill, such as notifying key personnel. Agencies such as Ecology, local fire department, Washington State Patrol, and the local sewer authority, shall be notified.
 - The name of the designated person with overall spill cleanup and notification responsibility.
- Train key personnel in the implementation of the Emergency Spill Control Plan. Prepare a summary of the plan and post it at appropriate points in the building, identifying the spill cleanup coordinators, location of cleanup kits, and phone numbers of regulatory agencies to be contacted in the event of a spill;
- Update the spill control plan regularly;

14. BMPs for Storage of Liquid, Food Waste, or Dangerous Wastes in Containers

Description of Pollutant Sources. Steel and plastic drums with volumetric capacities of 55 gallons or less are typically used at industrial facilities for container storage of liquids and powders. The BMPs specified below apply to container(s) located outside a building used for temporary storage of accumulated food wastes, vegetable or animal grease, used oil, liquid feedstock or cleaning chemical, or Dangerous Wastes (liquid or solid) unless the business is permitted by Ecology to store the wastes (Appendix D.4). Leaks and spills of pollutant materials during handling and storage are the primary sources of pollutants. Oil and grease, acid/alkali pH, BOD, COD are potential pollutant constituents.

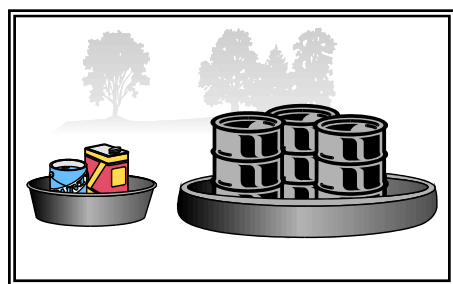


Figure 2.8
Secondary Containment
System

Pollutant Control Approach. Store containers in impervious containment under a roof or other appropriate cover, or in a building. For roll-containers (for example, dumpsters) that are picked up directly by the collection truck, a filet can be placed on both sides of the curb to facilitate moving the dumpster. If a storage area is to be used on site for less than 30 days, a portable temporary secondary system like that shown in Figure 2.8 can be used in lieu of a permanent system as described above.

Operational BMPs

- Place tight-fitting lids on all containers.
- Place drip pans beneath all mounted container taps and at all potential drip and spill locations during 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/spills. Replace containers and replace and tighten bungs in drums as needed.
- Businesses accumulating dangerous wastes that do not contain free liquids need only to store these wastes in a sloped designated area with the containers elevated or otherwise protected from storm water run-on.
- Drums stored in an area where unauthorized persons may gain access must be secured in a manner that prevents accidental spillage, pilferage, or any unauthorized use (see Figure 2.9).
- If the material is a dangerous waste, the business owner must comply with any additional Ecology requirements. (Appendix D.3)
- Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code (Appendix D.2).
- Cover dumpsters, or keep them under cover such as a lean-to, to prevent the entry of stormwater. Replace or repair leaking garbage dumpsters.
- Drain dumpsters and/or dumpster pads to sanitary sewer. Keep dumpster lids closed. Install waterproof liners.

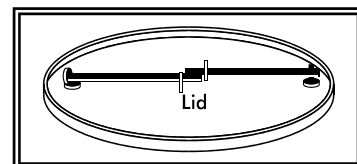


Figure 2.9
Locking System for Drum

Structural Source Control BMPs

- Keep containers with dangerous waste, food waste, or other potential pollutant liquids inside a building unless this is impracticable due to site constraints or Uniform Fire Code requirements.
- Store containers in a designated area, which is covered, bermed or diked, paved and impervious in order to contain leaks and spills (see Figure 2.10). The secondary containment shall be sloped to drain into a dead-end sump for the collection of leaks and small spills.
- For liquid wastes, surround the containers with a dike as illustrated in Figure 2.10. The dike must be of sufficient height to provide a volume of either 10 percent of the total enclosed container volume or 110 percent of the volume contained in the largest container, whichever is greater, or, if a single container, 110 percent of the volume of that container.

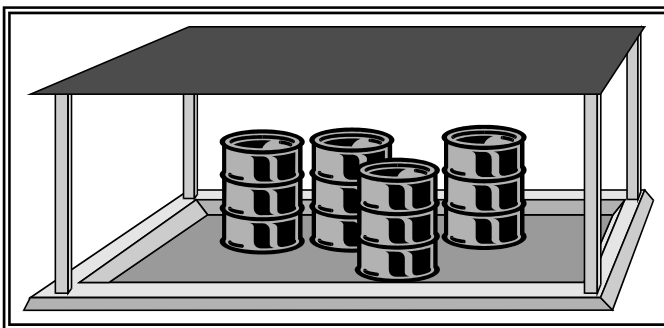


Figure 2.10 – Covered and Bermed Containment Area

Where material is temporarily stored in drums, a containment system can be used as illustrated, in lieu of the above system (see Figure 2.8).

- 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

Treatment BMP, if required (See Section E.10.)

- For contaminated stormwater in the containment area, connect the sump outlet to a sanitary sewer, if approved by the local Sewer Authority, or to appropriate treatment such as an API or CP oil/water separator, catch basin filter, or other appropriate system (3, 4). Equip the sump outlet with a normally closed valve to prevent the release of spilled or leaked liquids, especially flammables (compliance with fire codes), and dangerous liquids. This valve may be opened only for the conveyance of contaminated stormwater to treatment.
- Another option for discharge of contaminated stormwater is to pump it from a dead-end sump or catchment to a tank truck or other appropriate vehicle for off-site treatment and/or disposal.

15. BMPs for Storage of Liquids in Permanent Above-ground Tanks

Description of Pollutant Sources. Above-ground tanks containing liquids (excluding uncontaminated water) may be equipped with a valved drain, vent, pump, and bottom hose connection. They may be heated with steam heat exchangers equipped with steam traps. Leaks and spills can occur at connections and during liquid transfer. Oil and grease, organics, acids, alkalis, and heavy metals in tank water and condensate drainage can also cause stormwater contamination at storage tanks.

Pollutant Control Approach. Install secondary containment or a double-walled tank. Slope the containment area to a drain with a sump. Stormwater collected in the containment area may need to be discharged to treatment such as an oil/water separator, or equivalent BMP (3, 4). Add safeguards against accidental releases including protective guards around tanks to protect against vehicle or forklift damage and tagging valves to reduce human error. *Tank water and condensate discharges are process wastewater that may need an NPDES Permit.*

Operational BMPs

- Inspect the tank containment areas regularly to identify problem components such as fittings, pipe connections, and valves, for leaks/spills, cracks, corrosion.
- Place adequately sized drip pans beneath all mounted taps and drip/spill locations during filling/unloading of tanks. Valved drain tubing may be needed in mounted drip pans.
- Sweep and clean the tank storage area regularly, if paved.
- Replace or repair tanks that are leaking, corroded, or otherwise deteriorating.
- All installations shall comply with the Uniform Fire Code (Appendix D) and the National Electric Code.

Structural Source Control BMPs

- Locate permanent tanks in impervious (Portland cement concrete or equivalent) secondary containment surrounded by dikes as illustrated in Figure 2.12, or UL approved double-walled tanks. The dike must be of sufficient height to provide a containment volume of either 10 percent of the total enclosed tank volume or 110 percent of the volume contained in the largest tank, whichever is greater, or, if a single tank, 110 percent of the volume of that tank.
- Slope the secondary containment to drain to a dead-end sump (optional), or equivalent, for the collection of small spills.
- Include a tank overfill protection system to minimize the risk of spillage during loading.

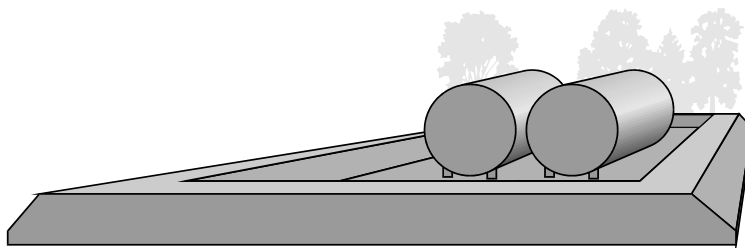


Figure 2.12 – Above-ground Tank Storage

Treatment BMPs, if required (See Section E.10.). If the tank containment area is uncovered, equip the outlet from the spill-containment sump with a shutoff valve, which is normally closed and may be opened, manually or automatically, to convey contaminated stormwater to approved treatment or disposal, or to convey uncontaminated stormwater to a storm drain. Evidence of contamination can include the presence of visible sheen, color, or turbidity in the runoff, or existing or historical operational problems at the facility. Use pH paper or meter for testing areas subject to acid or alkaline contamination.

Required Treatment BMP at Petroleum Tank Farms Convey stormwater contaminated with floating oil or debris in the contained area through an API or CP-type oil/water separator (3) or other approved treatment prior to discharge to storm drain or surface water.

16. BMPs for Outside Storage or Transfer of Solid Raw Materials, By-Products, or Finished Products

Description of Pollutant Sources. Solid raw materials, by-products, or products such as gravel, sand, salts, topsoil, compost, logs, sawdust, wood chips, lumber and other building materials, concrete, and metal products sometimes are typically stored outside in large piles, stacks, etc. at commercial or industrial establishments. Contact of outside bulk materials with stormwater can cause leachate, and erosion of the stored materials. Contaminants include TSS, BOD, organics, and dissolved salts (sodium, calcium, and magnesium chloride, etc).

Pollutant Control Approach. Provide impervious containment with berms, dikes, etc., and/or cover to prevent run-on and discharge of leachate pollutant(s) and TSS.

Operational BMPs

- Do not hose down the contained stockpile area to a storm drain or a conveyance to a storm drain or to a receiving water.
- Sweep paved storage areas regularly for collection and disposal of loose solid materials.

Structural Source Control BMP Options. Choose one or more of the source control BMP options listed below for stockpiles greater than five cubic yards of erodible or water soluble materials such as soil, road deicing salts, compost, unwashed sand and gravel, and sawdust. Also included are outside storage areas for solid materials such as logs, bark, lumber, metal products, etc.

- Store in a building or paved and bermed covered area as shown in Figure 2.13, or
- Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material as illustrated (see Figure 2.14), or
- Pave the area and install a stormwater drainage system. Place curbs or berms along the perimeter of the area to prevent the run-on of uncontaminated stormwater and to collect and convey runoff to treatment. Slope the paved area in a manner that minimizes the contact between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.
- For large stockpiles that cannot be covered, implement containment practices at the perimeter of the site and at any catch basins as needed to prevent erosion and discharge of the stockpiled material offsite or to a storm drain. Ensure that contaminated stormwater is not discharged directly to catch basins without conveying through a treatment BMP.

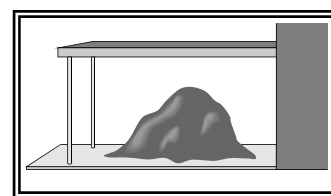


Figure 2.13
Covered Storage Area for Bulk Solids (include berm if needed)

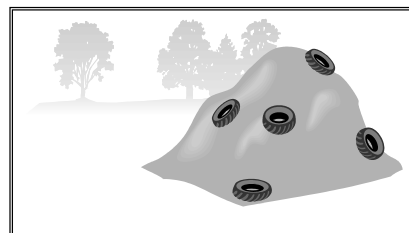


Figure 2.14
Material Covered with Plastic Sheetting

Treatment BMP, if required (See Section E.10.). Convey contaminated stormwater from the stockpile area to a wet pond, wet vault, settling basin, media filter, or other appropriate treatment system depending on the contamination.

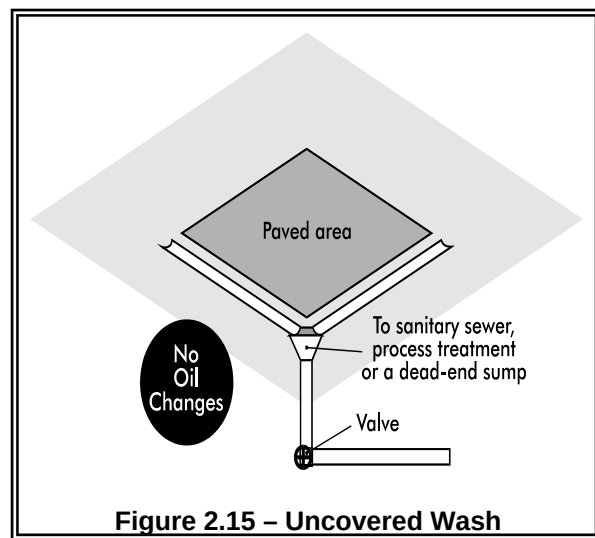
17. BMPs for Washing and Steam Cleaning Vehicles/ Equipment/ Building Structures

Description of Pollutant Sources. Washwater from cleaning activities can contain oil and grease, suspended solids, heavy metals, soluble organics, soaps, and detergents that can contaminate stormwater.

Pollutant Control Approach. The preferred approach to separate the uncontaminated stormwater from the pollutant sources is to cover and/or contain the cleaning activity, or conduct the activity inside a building. Wash water must be conveyed to industrial treatment or a sanitary sewer after approval by the local sewer authority; temporarily stored before proper disposal; or recycled, with no discharge to the ground, to a storm drain, or to surface water. Washwater may be discharged to the ground after proper treatment in accordance with *Ecology guidance WQ-95-056, "Vehicle and Equipment Washwater Discharges," June 1995*. The quality of any discharge to the ground after proper treatment must comply with Ecology's Ground Water Quality Standards, Chapter 173-200 WAC. Contact the local Ecology regional office for an NPDES Permit application for discharge of washwater to surface water or to a storm drain after on-site treatment.

Structural Source Control BMPs

- Conduct vehicle/ equipment washing in a building or under a roof , with washwater draining to industrial treatment facility or a sanitary sewer, if approved by the local sewer authority,
 - Conduct outside washing operation in a designated wash area as follows:
 - Conduct washing on a paved spill containment pad to prevent the run-on of stormwater from adjacent areas. Slope the spill containment area so that washwater is collected in a containment pad drain system with perimeter drains, trench drains or catchment drains. Size the containment pad to extend out a minimum of four feet on all sides of the vehicles and/or equipment being washed.
 - Convey the washwater to a sump (like a grit separator) and then to a sanitary sewer (if allowed by the local Sewer Authority), or industrial wastewater treatment, or recycle system. An NPDES permit would be required for any washwater discharge to a storm drain or receiving water after treatment. Contact the Ecology regional office for NPDES Permit requirements.
 - For discharge to a sanitary sewer, the containment sump must have a positive control outlet valve for spill control with live containment volume and oil/water separation. Size the minimum live storage volume to contain the maximum expected daily washwater flow plus the sludge storage volume below the outlet pipe. The outlet valve will be shut during the washing cycle to collect the washwater in the sump. The valve should remain shut for at least two hours following the washing operation to allow the oil and solids to separate before discharge to a sanitary sewer.
- (See Ecology Publication WQ-95-056)The inlet valve could be closed when washing is not occurring, thereby preventing the entry of uncontaminated stormwater into the pretreatment/ treatment system. The stormwater can then drain into the conveyance/ discharge system outside of the wash pad (essentially bypassing the wash water treatment/conveyance system). Post signs to inform operating personnel of the operation and purpose of the valve. Clean the concrete pad thoroughly until there is no foam or visible sheen in the washwater prior to closing the inlet valve and allowing uncontaminated stormwater to bypass (overflow and drain off) the pad. (Figure 2.15)
- For uncovered wash pads, the positive control outlet valve may be manually operated, but an automatic pneumatic or electric valve system is preferable. The valve may be on



a timer circuit to be opened on completion of a wash cycle. The timer would then close the valve after the sump or separator is drained (Figure 2.15).

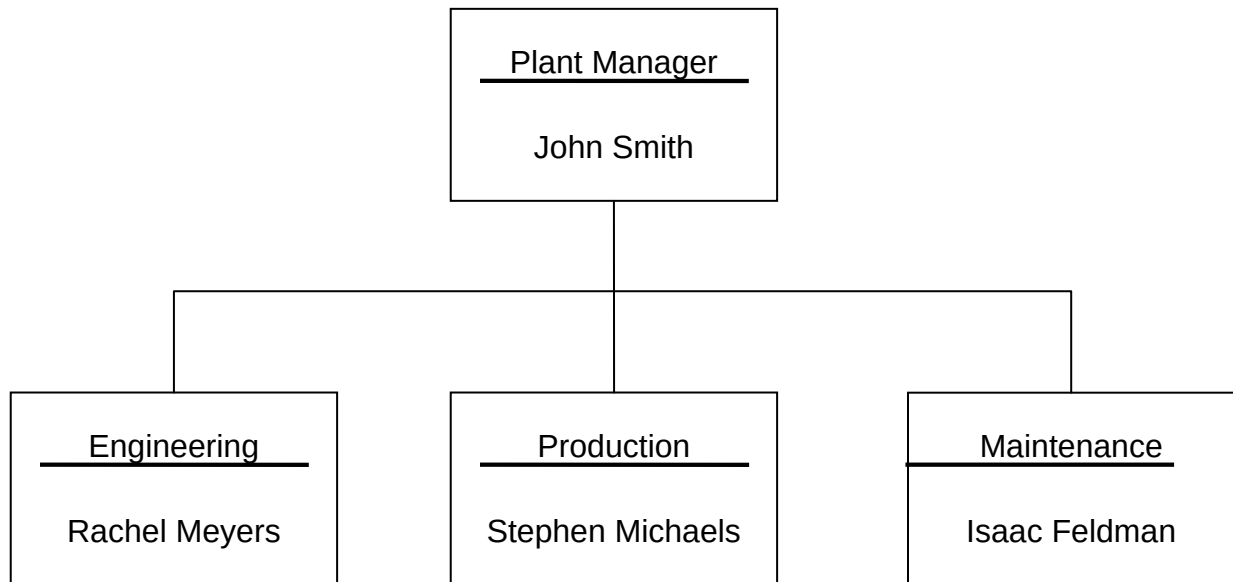
- Because soluble/emulsifiable detergents can be used in the wash medium, the selection of soaps and detergents and treatment BMPs should be considered carefully. *Oil/water separators are ineffective in removing emulsified or water soluble detergents.*

Appendix B

Example of an Industrial SWPPP

A-B-C Metals
40 Wonka Drive
Anytown, OK 12345
January 31, 2003

POLLUTION PREVENTION TEAM ORGANIZATION CHART



A-B-C Metals

Initial Preliminary SWPPP Checklist

- _____ Identify areas where other potential pollutants spills may occur besides oil.
- _____ Conduct visual observations for flows, odors, oil sheens, or other abnormal conditions.
- _____ Review material handling procedures, storage, cleanup equipment.
- _____ Implement maintenance schedule for all treatment systems, storm drains, catch basins, and plant equipment that may contaminate stormwater.
- _____ Identify materials and equipment exposed to stormwater.
- _____ Place dumpsters under cover or with a lid; assure no leaching from bottom.
- _____ Implement good housekeeping procedures for entire site.
- _____ Implement training for all employees in the industrial area.
- _____ Conduct a wet season (October 1 - April 30) and dry season (July, August, September) inspection annually to verify that no illegal discharges go to storm drains.
- _____ Implement source control best management practices (BMPs) for fueling station, vehicle equipment, loading and unloading areas, dangerous waste material and outside storage of materials.
- _____ Prepare SWPPP implementation schedule and milestone dates.
- _____ Review the SWPPP for adequacy of existing BMPs.
- _____ Always have SWPPP and related permit documents available for inspectors from state and local governments.
- _____ Plan to call Ecology staff person cited in the stormwater permit coverage letter whenever technical assistance is needed for water quality issues for the facility.

A-B-C Metals

Stormwater Pollution Prevention Plan Comparison with Spill Control Plan

A-B-C Metals Company has implemented a spill prevention plan for its above ground fuel storage tank. Overlaps are noted below:

Isaac Feldman is the spill coordinator and reports directly to John Smith. He will be the stormwater spill prevention and response coordinator.

A complete description of potential for oil to contaminate stormwater discharges including quantity of oil that could be discharged.

Curbing around above ground fuel storage tank identified on site map.

Expanded spill plan schedules and procedures to include SWPPP requirements.

Incorporated spill plan training into stormwater training programs on spill prevention and response.

Relevant portions of the spill plan will be included in this SWPPP.

A-B-C Metals 40 Wonka Drive Anytown, OK 12345 October 31, 2002	
Stormwater Pollution Prevention Plan (SWPPP)	
Emergency Contact: John Smith	Work Phone: (101) 555-1234
Title: Plant Manager	Emergency Phone: (101) 555-6929
Secondary Contact: Rachel Meyers	Work Phone: (101) 555-3923
Title: Engineering Supervisor	Emergency Phone: (101) 555-6789
Type of Manufacturer: Metal Fabrication	Startup Date: October 31, 2002
Operating Schedule: 8:00 a.m. - 11:30 p.m.	
Number of Employees: The plant has 21 employees, including part time staff. Shifts overlap all day.	
Average Wastewater Discharge:	
NPDES Permit Number: SO3999911 Effective: September 22 2002	
SWPPP Implemented:	

Pollution Prevention Team	Worksheet #1
	Completed by: <u>John Smith</u>
	Title: <u>Plant Manager</u>
	Date: <u>October 31, 2002</u>
Responsible Official: _____ Title: <u>Plant Manager</u> Team Leader: <u>John Smith</u> Office Phone: <u>(101) 555-1234</u> Responsibilities: Signatory authority; coordinate all stages of plan development and implementation; coordinate employee training program; keep all records and ensure reports are submitted. _____ _____	
(1) <u>Stephen Michaels</u> Title: <u>Production Supervisor</u> Office Phone: <u>(101) 555-3923</u> Responsibilities: <u>Note any process changes; help conduct inspections.</u> _____ _____	
(2) <u>Rachel Meyers</u> Title: <u>Environmental Engineering Dept. Supervisor</u> Office Phone: <u>(101) 555-5870</u> Responsibilities: <u>Responsible for implementing the pollution prevention maintenance program; oversee inspections.</u> _____ _____	
(3) <u>Isaac Feldman</u> Title: <u>Maintenance Dept. Supervisor</u> Office Phone: <u>(101) 555-0482</u> Responsibilities: <u>Mr. Feldman is the spill response coordinator; oversees "good housekeeping."</u> _____ _____	
(4) <u>Group Activities</u> Title: _____ Office Phone: _____ Responsibilities: <u>Developing the SWPPP elements, choosing stormwater management options.</u> _____ _____	

Material Inventory					Worksheet #2 _____			
					Completed by: <u>John Smith</u>			
					Title: <u>Plant Manager</u>			
					Date: <u>January 31, 2003</u>			
List materials handled, treated, stored, or disposed of at the site that may potentially be exposed to precipitation or runoff. Also indicate if any spills or leaks of pollutants have occurred during the three years prior to the effective date of the permit. (Including any pollutants no longer handled on-site.)								
Material	Purpose/Location	Quantity (Units)			Exposed Since Nov. 89 (Yes/No)	Likelihood of contact With stormwater. If Yes, describe reason	Past Spill or Leak	
		Used	Produced	Stored			Yes	No.
		(indicate per/wk. or yr.)						
Machine oil	Truck unloading area	20 gal/wk	—	80 gal/ wk	No	Truck loading/unloading area outside and possible		✓
						Exposure with ruptured drums		
Gasoline	Truck fueling	80 gal/wk	—	300 gal/wk	Yes	Leaking valve overfilling fuel tanks	✓	
Motor oil	750 gal above grd tank	20 gal/wk	—	—	No	Possible exposure in event of defective tank or		
						Transfer of materials from tanks to containers		

Description of Exposed Significant Material			Worksheet #3A _____	
			Completed by: <u>John Smith</u>	
			Title: <u>Plant Manager</u>	
			Date: <u>January 31, 2003</u>	
Based on your material inventory, list significant materials that have been exposed since November 18, 1989, and/or are currently exposed.				
List of Exposed Significant Materials	Period of Exposure	Quantity Exposed (units)	Location (as indicated on the site map)	Method of storage, handling, treatment, or disposal (e.g., sealed drum standing outside, or covered pile, drum, tank)
Machine oil	12/7/ 2002	10 gal	Storage bldg tank #2	50 gallon tanks (2)

List of Significant Spills and Leaks

Worksheet #4

Completed by: John Smith

Title: Plant Manager

Date: January 31, 2003

List all spills and leaks (as indicated on Worksheet #2) of toxic or hazardous pollutants since November 18, 1989, that were significant. Significant spills and leaks include but are not limited to, release of oil or hazardous substances in excess of reportable quantities (see chapter 2 of text). Although not required, we suggest you list spills and leaks of non-hazardous materials.

Date (month/day/year)	Location (as indicated on site map)	Description				Response Procedure		Preventive Measure Taken
		Type of Material	Quantity	Source, If Known	Reason for Spill/Leak	Amount of Material Recovered	Material No longer exposed to Storm- water (Yes/No)	
12/21/2002	Storage bldg	Oil	10 gal	Tank #2	Leaky valve	8 gal – balance	Yes	Complete the installation of
						contained and mopped		Curbing around tank Have “kitty” litter available

**Non-Stormwater Discharge
Dry Weather (July, August, September)
Assessment and Certification**

Worksheet #5

Completed by: Rachel Meyers

Title: Engineering Dept – Supervisor

Date: December 31, 2003

The dry season inspection shall determine the presence of unpermitted non-stormwater discharges such as domestic wastewater, non-contact cooling water, or process wastewater (including *leachate*) to the *stormwater drainage system*.

Tests may include: visual observations of flows, odors, and other abnormal conditions; dye tests, television line surveys; and/or analysis and validation of accurate piping schematics.

Date	Discharge Location (as indicated on the site map)	Method used to test or Evaluate Discharge	Describe Results from Test for Presence of Non- Stormwater Discharge	Identify Potential Significant Sources	Person who Conducted The Test
7/21/03	001	Visual inspection	No discharge observed		R. Meyers and S. Goodhope
9/20/03	001	Visual inspection	Significant flow; oil	Vehicle wash ongoing at time	R. Meyers and S. Goodhope
12/1/03	001	Visual inspection	Small amount of clear discharge	Suspected to be delayed stormwater drainage from storm that occurred 8/30/98	R. Meyers and S. Goodhope

CERTIFICATION

Based on my inquiry of the person or persons who manage the systems or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. Name and Title: Cheryl Glenn, Plant Manager

B. Phone: (101) 555-1239

C. Signature: Cheryl Glenn

D. Date Signed: 1/31/03

<u>FIELD NOTEBOOK</u> For Non-Stormwater Discharge Inspections	<u>Inspection Team:</u> R. Meyers S. Goodhope
Completed by: Rachel Meyers Date: 7/21/03 Time: 10:50 a.m. Time since last rain: 42 hours Quantity of last rain: 0.12 inches Flow observed: No Signature: <i>Rachel Meyers</i>	
Completed by: Rachel Meyers Date: 9/20/03 Time: 3:20 p.m. Time since last rain: 5 days Quantity of last rain: 0.5 inches Flow observed: Yes Description: No odor; clear color (soap suds); oily sheen; some sediment Temperature: cold (37.5°F) Volume: Collected ten gallons/minute in buckets This was the source of the flow. Signature: <i>Rachel Meyers</i>	
Completed by: Rachel Meyers Date: 12/1/03 Time: 12:15 p.m. Time since last rain: 96 hours Quantity of last rain: 2.5 inches Flow observed: Yes Description: No odor; clear; some sediments; few small pieces of paper (trash) Temperature: Cold (42.3°F) Volume: Collected one gallon in 5 minutes Comments: We suggest that the flow was left over from storm that occurred on 8/30/98 (4 days ago) Signature: <i>Rachel Meyers</i>	

A-B-C Metals

Site Assessment Inspection

December 31, 2003

Evaluate the site for pollutants.

There are eight areas where material handling and storage activities take place.

- The storage building contains tanks of oils, lubricants, solvents, and acids. The tanks were examined for possible leaks. We found that the valve on the oil tank #2 was faulty and had leaked approximately 10 gallons of oil. Although this leak occurred on 9/21/03, the faulty valve was not discovered until now. All other tanks are secure. Areas around the tanks were swept clean to determine if leaks or spills were prevalent.
- The solvent storage tanks were then examined for leaks or exposure. Upon closer examination, it was found that the number 1 tank was leaking a small amount of lubricant to the drainage system. This leak may be the reason for the high concentration of biochemical oxygen demand found in the sample taken from the stormwater discharge. The tank was temporarily fixed to ensure that no further contamination would result. A replacement tank was ordered on 9/28/03, and was expected to arrive within 30 business days. The tanks shall be examined on a daily basis to further prevent possible exposure to the stormwater collection system and receiving stream.
- We inspected the fueling station to see if there were any leaks. The general area surrounding the fueling station was clean but we observed gasoline and motor oil drips during fueling. In accordance with standard operating conditions, facility personnel hose down the area during vehicle washing and the drain is connected to the storm sewer. We detected this connection on 9/20/03 during one of the non-storm water discharge assessment visual inspections. Since this discharge is not allowed under our general permit, we are in the process of submitting a separate permit application specifically for the discharge of vehicle wash water to the municipal wastewater treatment plant.
- We examined the fueling station which is adjacent to the vehicle washing area. Vehicle washing cleaners are used here and any empty or open containers were removed from the area.
- We next looked at the loading and unloading docks where raw materials and various cleansers are delivered. The transfer of goods from incoming trucks to storage areas is a source of pollution. Although no problems were noticed, the pollution prevention team has developed a spill prevention and response plan to clean up spills quickly and report them if necessary. An overhead roof is planned in order to protect the loading and unloading of materials.

Describe existing management practices.

Grass was lightly planted around the parking lot after recent construction. The fuel storage tank has curbing around it in accordance with our SPCC plan. Also, the maintenance crew regularly picks up trash and empty containers from around the storage tanks, loading and unloading areas, and the vehicle washing areas. Used oils are collected in containers and taken to a recycling facility. In addition, we installed two oil/water separators at the drains into our underground storm sewer leading to the Rocky River. These separators are indicated on the site map.

A-B-C Metals

Sampling Data

Date of Sampling	9/20/03
Outfall Sampled	001
Type of Storm	1 inch light rainfall (lasted 2 days)
Type of Samples	Grab samples taken during first hour of flow

Data		
Parameter	Quantity	Sample Type
Zinc	22.0 ug/L	Grab
turbidity	100 NTU	Grab
pH	7.2 s.u.	Grab
Oil and grease	50.0 mg/L	Grab

The pollution prevention team is considering possible potential sources of turbidity and oil. We will look at storage areas housing oils, lubricants, acids, pesticides, and fertilizers. If additional source control methods do not reduce turbidity and oil and grease below the benchmark values of 25 NTUs and 15 mg/L respectively, treatment methods will be considered. Sampling will be conducted during the storm event following the implementation of the new source control BMPs.

A-B-C Metals

Summary of Pollutant Sources

January 31, 2003

Based on the site assessment inspection conducted on 1/25/03, the pollution prevention team identified four potential sources of pollutants:

- Oil and grease stains on the pavement in the fueling area indicate oil and grease may be picked up by stormwater draining to the storm sewer. This area drains into the storm sewer leading to the Rocky River.
- Sediment and erosion potential in the field below the employee parking lot because of thinly planted grass.
- Potential for spills or leaks from oil storage tanks, including the fuel storage tank, based on a spill that occurred on 12/21/02 and the leak that was detected in the oil storage tank. These pollutants would drain into the piped outfall into the Rocky River.
- Use of a toxic cleaning agent may result in a pollution problem if handled improperly.

A-B-C Metals

Description of Stormwater Management Measures Taken Based on Site Assessment Phase

January 31, 2003

These measures correspond to the pollutant sources identified on the preceding page.

Oil and grease from fueling area.

We installed drip pads around the fuel pumps to pick up spilled gas and oil during truck refueling. These will be inspected regularly to make sure they are working well. Drip pads will be disposed of properly.

Sediment and erosion in the field below the employee parking lot.

We planted grass in this area to reduce potential for erosion.

Leaks/spills from oil storage tanks.

We are in the process of installing curbing around the outdoor oil storage tanks that will contain the volume of the largest tank in case a spill should occur. The spill response team has developed procedures to clean up this area should a spill occur. We are incorporating spill response procedures from our SPCC plan.

Toxic cleaning agent.

We have discontinued the use of this agent and are replacing it with a non-toxic cleaning agent.

Plan to Consider Treatment

After implementing additional source control BMPs, sampling will be conducted during the next three consecutive storms to determine if the turbidity and the oil and grease levels have been reduced below benchmark values. If the turbidity and oil and grease concentrations continue to be above benchmark levels, the installation of a treatment facility will be considered.

Pollutant Source Identification	Worksheet #6	
	Completed by: John Smith	
	Title: Plant Manager	
	Date: January 31, 2003	
List all potential stormwater pollutants from materials handled, treated, or stored on-site.		
Stormwater Pollutant Source	Existing Management Practices	Description of New BMP Options
1. Oil and grease on pavement in fueling area	Oil and water separators installed in stormwater drain	Install drip pads
2. Erosion in field below employee parking lot	Planted some grass after construction, grassed swales along Wonka Drive	Plant more grass
3. Potential for spills from oil storage tanks (leak detected in oil tank #1 and past spill on 5/10/98)	Curbing around fuel storage tank (see SPCC plan)	Replace oil tank #1, replace valve on oil tank #2, install curbing around other outside tanks, spill prevention response plan, inspection
4. Use of toxic cleaning agent.		Use non-toxic cleaning agent
5. Trash in loading/unloading fueling areas	Regular trash pickup (daily) by maintenance crew, collect and recycle used oil.	Train staff in good housekeeping practices.

Additional BMP Identification	Worksheet #7A
	Completed by: John Smith
	Title: Plant Manager
	Date: January 31, 2003
Describe any treatment and emerging technologies that are required to address existing and potential pollutant sources identified in Worksheet 3, 4, and 5. These are BMPs needed to prevent the discharge of significant amounts of pollutants despite implementation of operational and source control BMPs.	
BMPs	Brief Description of Activities or Improvements
Additional BMPs	Order non-toxic cleaning agent.
Emerging Technologies	

Minimum BMP Identification	Worksheet # 7
	Completed by: <u>John Smith</u>
	Title: <u>Plant Manager</u>
	Date: <u>January 31, 2003</u>
Describe the BMPs that are needed for the facility to address existing and potential pollutant sources identified in Worksheets #3, 4, and 5. The description shall include the following minimum requirements.	
BMPs	Brief Description of Activities or Improvements
Good Housekeeping	Collect and recycle used oil; regular trash pickup; train staff in basic cleanup procedures (sweeping loading and unloading areas, etc.)
Preventive Maintenance	Daily inspection of outside oil tanks; replace faulty valve on oil tank #2; replace leaking oil tank #1.
Spill Prevention and Emergency Cleanup	Install curbing around outside oil storage tanks; fuel tank has curbing, install drip pads at fueling station.

BMPs	Description of Action(s) Required for Implementation	Schedule Milestone and Completion Date(s)	Person Responsible for Action
Source Control BMPs	1.		
	2.		
	3		
	4.		
	5.		
	6.		
Erosion and Sediment Control	1. Plant grass around new parking area.		
	2.		
	3.		
Management of Runoff Emerging technologies	1. Grassed swales along Wonka Drive, (2) oil/water separators in storm drain system		
	2.		
	3.		
	1.		
	2.		
	3.		
	4.		

A-B-C Metals

Employee Training Program

1. For line workers, maintenance crew, and shipping and receiving crew

Employee meetings held the first Monday of each month to discuss:

- Any environmental/health and safety incidents
- Upcoming training sessions
- Brief reminders on good housekeeping, spill prevention and response procedures, and material handling practices.
- Announce any changes to the SWPPP
- Announce implementation of new management practices.

In-depth pollution prevention training for new employees during first month

Refresher courses held every 6 months (October and March) addressing:

Good Housekeeping

- Review and demonstrate basic cleanup (sweeping and vacuuming) procedures.
- Clearly indicate proper disposal locations and review recycling program.
- Post signs in materials handling areas reminding staff of good housekeeping procedures.
- Be sure employees know where routine clean-up equipment is located.

Spill Prevention and Response

- Clearly identify potential spill areas and drainage routes.
- Familiarize employees with past spill events – why they happened and the environmental impact (use slides).
- Post warning signs in spill areas with emergency contacts and telephone numbers.
- Introduce Isaac Feldman as the spill response coordinator and introduce his “team.”
- Drill on spill clean-up procedures.
- Post the locations of spill clean-up equipment and the persons responsible for operating the equipment.

Materials Handling and Storage

- Be sure employees are aware which materials are hazardous and where those materials are stored.
- Review sources of stormwater contamination.
- Demonstrate how valves are tightly closed and how drums should be sealed.
- Show how to fuel vehicles and avoid “topping off.”
- Remind employees to use drip pans in fueling area.

2. For Annual training of P2 Team:

- Review SWPPP
- Review pollutant sources and existing BMPs and discuss any problems with BMPs
- Review sampling and visual inspection procedures and any problems
- Discuss need for improvements and changes to SWPPP

BMP Implementation		Worksheet #8	
		Completed by: Cheryl Glenn	
		Title: Plant Manager	
		Date: January 31, 2003	
Develop a plan for implementing each BMP. Describe the steps necessary to implement the BMP (i.e., any construction or design), the schedule for completing those steps (list dates) and the person(s) responsible for implementation...			
BMPs	Description of Action(s) Required for Implementation	Schedule Milestone and Completion Date(s)	Person Responsible for Action
Good Housekeeping	1. Develop training program	1/15/03	Glenn
	2. Conduct training	1/15/03	Glenn
	3.		
Preventive Maintenance	1. Replace valve on oil tank #2	3/15/03	Feldman
	2. Install new oil tank #2	6/30/03	Feldman
	3.		
	4.		
Spill Prevention and Emergency Cleanup	1. Install curbing around oil storage tanks	6/30/03	Meyers
	2. Install drip pads	1/15/03	Feldman
	3. Develop/implement spill prevention/response training	1/15/03 – Develop; 1/31/03 - Train	Feldman
Inspections	1. Develop inspections schedule	12/31/02	Glenn
	2.		

Employee Training	Worksheet #9		
	Completed by: Cheryl Glenn		
	Title: Plant Manager		
	Date: 10/31/02		
Describe the annual training of employees on the SWPPP, addressing spill response, good housekeeping, and material management practices.			
Training Topics	Brief Description of Training Program/Materials (e.g., film, newsletter course)	Schedule for Training (list dates)	Attendees
Spill Prevention and Response	Locate spill areas by signs; drill spill response procedures; show slides of past spills.	December/June	Maintenance/shipping and receiving
Good Housekeeping	Demonstration; post signs at disposal sites.	December/June	Maintenance/shipping and receiving
Material Management Practices	Introduce hazardous materials labels; discuss recycling.	December/June	Line workers/shipping and receiving/maintenance
Other Topics	Environmental/health incidents; reminders of pollution prevention plan issues.	First Monday of each month	All employees.
Communication Channels			

Appendix C

Blank Forms for Development of the SWPPP

(Note: Use these forms or create your own.)

Pollution Prevention Team	Worksheet #1 Completed by: _____ Title: _____ Date: _____
Responsible Official: _____ Title: _____ Team Leader: _____ Office Phone: _____ Responsibilities: _____ _____ _____	
(1) _____ Title: _____ Office Phone: _____ Responsibilities: _____ _____ _____	
(2) _____ Title: _____ Office Phone: _____ Responsibilities: _____ _____ _____	
(3) _____ Title: _____ Office Phone: _____ Responsibilities: _____ _____ _____	

Material Inventory				Worksheet #2 _____ Completed by: _____ Title: _____ Date: _____				
List materials handled, treated, stored, or disposed of at the site that may potentially be exposed to precipitation or runoff. Also indicate if any spills or leaks of pollutants have occurred during the three years prior to the effective date of the permit. (Including any pollutants no longer handled on-site.)								
Material	Purpose/Location	Quantity (Units)			Exposed Since Nov. 89 (Yes/No)	Likelihood of contact With stormwater. If Yes, describe reason	Past Spill or Leak	
		Used	Produced	Stored			Leak	
		(indicate per/wk. or yr.)					Yes	No.

Description of Exposed Significant Material				Worksheet #2A_____
				Completed by:_____
				Title:_____
				Date:_____
Based on your material inventory, list significant materials that have been exposed since November 18, 1989, and/or are currently exposed.				
List of Exposed Significant Materials	Period of Exposure	Quantity Exposed (units)	Location (as indicated on the site map)	Method of storage, handling, treatment, or disposal (e.g., sealed drum standing outside, or covered pile, drum, tank)

Potential Pollutant Source Identification

Worksheet #3 _____
Completed by: _____
Title: _____
Date: _____

List all potential stormwater pollutants from materials handled, treated, or stored on-site.

Potential Stormwater Pollutant	Stormwater Pollutant Source	Likelihood of pollutant being present in your stormwater discharge. If yes, explain

List of Significant Spills and Leaks

Worksheet #4 _____

Completed by: _____

Title: _____

Date: _____

List all spills and leaks (as indicated on Worksheet #2) of toxic or hazardous pollutants that were significant after the date of three years prior to the effective date of this Permit. Significant spills and leaks include but are not limited to, release of oil or hazardous substances in excess of reportable quantities (see chapter 2 of text). Although not required, we suggest you list spills and leaks of non-hazardous materials.

Date (month/day/year)	Location (as indicated on site map)	Description				Response Procedure		Preventive Measure Taken
		Type of Material	Quantity	Source, If Known	Reason for Spill/Leak	Amount of Material Recovered	Material No longer exposed to Storm- water (Yes/No)	

Identify Areas Associated With Industrial Activity	Worksheet #5 _____	
	Completed by: _____	
	Title: _____	
	Date: _____	
List areas and activities, not included on Worksheets 2, 2A, and 3, which may be sources of pollution. Discuss the potential of these areas and activities as potential pollutant sources and identify any pollutant that may be generated by that activity...		
Industrial Area or Activity	Potential Stormwater Pollutant from Area or Activity	Likelihood of being present in your stormwater discharge. If yes, describe reason.

Non-Stormwater Discharge Dry Weather (July, August, September) Assessment and Certification			Worksheet #6 _____ Completed by: _____ Title: _____ Date: _____		
The dry season inspection shall determine the presence of unpermitted non-stormwater discharges such as domestic wastewater, non-contact cooling water, or process wastewater (including <i>leachate</i>) to the <i>stormwater drainage system</i>. Such discharges, if illicit, must be eliminated within 30 days, or application submitted to Ecology for a NPDES Permit. Tests may include: visual observations of flows, odors, and other abnormal conditions; dye tests, television line surveys; and/or analysis and validation of accurate piping schematics.					
Date	Discharge Location (as indicated on the site map)	Method used to test or Evaluate Discharge	Describe Results from Test for Presence of Non-Stormwater Discharge	Identify Potential Significant Sources	Person who Conducted The Test
CERTIFICATION (Other certification document may be used as required in Section S4 of the Permit)					
I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information. <i>Based on my inquiry of the person or persons who manage the systems or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>					
A. Name and Title				B. Phone:	
C. Signature				D. Date Signed	

Non-Stormwater Discharge Assessment and Failure To Certify Notification	Worksheet #7 _____ Completed by: _____ Title: _____ Date: _____	
If you cannot feasibly evaluate the entire stormwater drainage system, fill in the table below with the appropriate information and sign this form to certify the accuracy of the included information. List all outfalls or storm drains tested or evaluated, describe any potential sources of non-stormwater pollution from listed outfalls or drains, and state the reason(s) why certification is not possible. Use the key from your site map to identify each outfall.		
Identify Discharge Location Not Tested/Evaluated	Description of Why Certification is Infeasible	Description of Potential Sources of Non-Stormwater Pollution
CERTIFICATION (Other certification document may be used as required in Section S4 of the Permit)		
I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information. <i>Based on my inquiry of the person or persons who manage the systems or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.</i>		
A. Name and Title	B. Phone:	
C. Signature	D. Date Signed	

Minimum BMP Identification		Worksheet #8 _____
		Completed by: _____
		Title: _____
		Date: _____
Describe the BMPs that are needed for the facility to address existing and potential pollutant sources identified in Worksheets #3, 4, and 5. The description shall include the following minimum requirements.		
BMPs	Brief Description of Activities or Improvements	
Good Housekeeping		
Preventive Maintenance		
Spill Prevention and Emergency Cleanup		

BMPs	Brief Description of Activities or Improvements
Inspections	
Source Control BMPs	
Erosion and Sediment Control BMPs (if applicable)	

Additional BMP Identification		Worksheet #8A _____ Completed by: _____ Title: _____ Date: _____
Describe any treatment and innovative BMPs that are required to address existing and potential pollutant sources identified in Worksheet 3, 4, and 5. These are BMPs needed to prevent the discharge of significant amounts of pollutants despite implementation of operational and source control BMPs.		
BMPs	Brief Description of Activities or Improvements	
Treatment BMPs		
Emerging technologies		
Flow Control BMPs (if applicable)		

BMP Implementation		Worksheet #9 _____ Completed by: _____ Title: _____ Date: _____	
Develop a plan for implementing each BMP. Describe the steps necessary to implement the BMP (i.e., any construction or design), the schedule for completing those steps (list dates) and the person(s) responsible for implementation.			
BMPs	Description of Action(s) Required for Implementation	Schedule Milestone and Completion Date(s)	Person Responsible for Action
Good Housekeeping	1. _____	_____	_____
	2. _____	_____	_____
	3. _____	_____	_____
Preventive Maintenance	1. _____	_____	_____
	2. _____	_____	_____
	3. _____	_____	_____
	4. _____	_____	_____
Spill Prevention and Emergency Cleanup	1. _____	_____	_____
	2. _____	_____	_____
	3. _____	_____	_____
Inspections	1. _____	_____	_____
	2. _____	_____	_____
	3. _____	_____	_____

BMPs	Description of Action(s) Required for Implementation	Schedule Milestone and Completion Date(s)	Person Responsible for Action
Source Control BMPs	1.		
	2.		
	3.		
	4.		
	5.		
	6.		
	7.		
	8.		
Erosion and Sediment Control	1.		
	2.		
	3.		
	4.		
Treatment BMPs	1.		
	2.		
	3.		
	4.		
Emerging technologies	1.		
	2.		
Flow Control BMPs	3.		
	4.		

Employee Training		Worksheet #10 _____	
		Completed by: _____	
		Title: _____	
		Date: _____	
Describe the annual training of employees on the SWPPP, addressing spill response, good housekeeping, and material management practices.			
Training Topics	Brief Description of Training Program/Materials (e.g., film, newsletter course)	Schedule for Training (list dates)	Attendees
1.) LINE WORKERS			
Spill Prevention and Response			
Good Housekeeping			
Material Management Practices			
2.) P2 TEAM:			
SWPPP Implementation			
Monitoring Procedures			

RECORD OF VISUAL INSPECTIONS of STORMWATER DISCHARGES	Worksheet #11	
	Completed by *: _____	
	Title: _____	
	Date: _____	
* Must be conducted by qualified person identified in the SWPPP.		

List observed pollutants in all discharges and carefully assess the pollutant sources and action steps needed to control the pollutants. Record pollutant sources/generating activities, BMP adequacy, site map, and other facility information on Worksheets 1-9, inclusive.

Date	Surface Discharge ID	Ground Discharge ID	List of observed pollutants and descriptions of intensities of each. Include floatables, oil sheen, discoloration, turbidity, odor, etc. in the SW	Recommended Action Steps

Certification (Other certification document may be used as required in Section S4 of the Permit)

Certification by Responsible Company official: I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information. ***Based on my inquiry of the person or persons who manage the systems or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.***

Name _____ Title _____ Signature _____

Date Signed _____

Appendix D

Other Requirements that Could Impact Stormwater Pollutants

1. Stormwater Discharges to Public Sanitary Sewers, Septic Systems, Sumps and Process Treatment: (Chapter 173-216 WAC (State Waste Water Discharge Permit Program) and Federal Regulations 40 CFR Part 403.5 (National Pretreatment). Discharges to Municipal Separate Storm Sewer System. Industrial facilities that discharge stormwater through a large or medium municipal separate storm sewer system (serves a population of 100,000 or more) must notify the municipality. The following are telephone numbers of the larger municipalities:

Seattle, (206) 684-7589; King County, (206) 296-6519; Tacoma, (253) 591-5588; Pierce County, (253) 596-2725; Snohomish County, (425) 388-3464; Spokane City, (509) 625-4600; Spokane County (509) 456-3600.
2. Uniform Fire Code Requirements: Uniform Fire Code, International Conference of Building Officials and the Western Fire Chiefs Association, ISSN 0-896-9736. Uniform Fire Code Standards, National Fire Protection Association. National Electric Code, National Fire Protection Association. NPPA 30A Automotive and Marine Service Station Code, American National Standard Institute and the National Fire Protection Association.
3. Ecology Requirements for Generators of Dangerous Wastes (Chapter 173-303 WAC) and *Step by Step: Fact Sheets for Hazardous Waste Generators*, publication 91-12, available from Ecology's Public Information Office.
4. Minimum Functional Standards for Containers: Chapter 173-304 WAC or Chapter 173-350 WAC.
5. Coast Guard Requirements for Marine Transfer of Petroleum Products Federal regulations 33 CFR Parts 153, 154 and 155 cover.
6. USEPA/Ecology Emergency Spill Cleanup Requirements, SPCC: 40 CFR Part 112 and WAC 173-303-350.
7. WSDA Pesticide Regulations: Washington Pesticide Control Act (Ch. 15.58 RCW), Washington Pesticide Application Act (Ch. 17.21 RCW), and regulations under Ch. 16-228 WAC. Useful publications include *Hazardous Waste Pesticides: A Guide for Growers, Applicators, Consultants and Dealers*, Ecology publication 89-41, August 1989 and *Suspended, Cancelled and Restricted Pesticides*, USEPA Region 10, Seattle, 1-800-424-4372.
8. Air Quality Regulations The Northwest Air Pollution Agency covers Whatcom, Island and San Juan counties. The Puget Sound Air Pollution Control Agency covers Snohomish, King and Pierce counties. The Olympic Air Pollution Control Authority covers Clallam, Jefferson, Mason and Thurston counties. The Puget Sound Air Pollution Control Authority (PSAPCA).
9. Ecology Waste Reduction Program: Chapter 70.95C RCW, Chapter 173-07 WAC.
10. Water Pollution Control: Chapter 90.48 RCW.
11. Water Quality Standards for Ground Waters of the State of Washington: Chapter 173.200 WAC.
12. Water Quality Standards for Surface Waters of the State of Washington: Chapter 173.201A WAC.

Appendix E

Transfer of Ownership of Stormwater General Permit(s) For Industrial Facilities

WAC 173.226.210 Transfer of permit coverage. Coverage under a general permit is automatically transferred to a new discharger if:

- (1) A written, signed agreement between the old and new discharger containing a specific date for transfer of permit responsibility, coverage, and liability is submitted to the director; and
- (2) The director does not notify the old and new discharger of the director's intent to revoke coverage under the general permit. If this notice is not given, the transfer is effective on the date specified in the agreement mentioned in subsection (1) of this section.

Answer only the questions which apply:

Yes No

- ☐ ☐ Will any of the activities change at the facility or construction site? If yes, explain.

(Attach sheet if additional explanation necessary)

- ☐ ☐ Is the facility or construction site currently out of compliance with the stormwater permit (including non-payment of permit fees)? If yes, explain _____

(Attach sheet if additional explanation necessary.)

- ☐ ☐ Has the Department of Ecology determined that the owner of the facility must obtain an individual National Pollutant Discharge Elimination System (NPDES) or industry-specific general permit?

- ☐ ☐ If the facility has an individual or industry-specific general NPDES permit, has that permit been revised to include stormwater discharges?

The new owner shall complete and submit a new Notice of Intent. Post the current permit number and mark the Change of Information box in the upper right hand corner of the application.

Permit Number: SO3-_____

Facility Name _____

Location: _____



This document will be considered incomplete unless both the previous owner/representative and new owner/representative sign it.

Previous Owner Information:	
Company Name:	_____
Mailing Address:	_____
Telephone No:	(____) ____ - _____
Owner/Company Representative's Name:	_____
	Printed Name/Title
Owner/Company Representative's Name:	_____
	Signature

New Owner Information:	
Company Name:	_____
Mailing Address:	_____
Telephone No:	(____) ____ - _____
Owner/Company Representative's Name:	_____
	Printed Name/Title
Owner/Company Representative's Name:	_____
	Signature
Date new owner assumed responsibility and liability for permit coverage:	____/____/____ Month Day Year

Please send the completed Transfer of Ownership form and Notice of Intent Application to:

Washington State Department of Ecology
Water Quality Program
Stormwater Unit
P O Box 47696
Olympia, WA 98504-7696 _____

cc: Permit Fee Administrator, Ecology inspector

Appendix F

Ecology Contacts for Technical Assistance

Joyce Smith, Environmental Specialist

(360) 407-6858

For assistance with Notice of Intent application, record keeping, change of information for site, transfer of ownership, terminating permit, general best management practices for stormwater.

Bev Poston, Permit Fee Administrator

(360) 407-6425

Contact person for fee billing statements, current status of fee account, delinquent accounts, balance owed on fee account.

Fax Machine No. for above staff:

(360) 407-6426

Mail Box Request Line:

(360) 407-7156

Ecology Regional Water Quality Permit Managers

Refer to the Ecology regional staff names and counties outlined below (see map below) for assistance in answering questions to the following type of questions: What technique to use for stormwater runoff from your site; for assistance determining whether your stormwater pollution prevention plan (SWPPP) is adequate; what type of source control to use for stormwater; or, whether or not your permit may be terminated.

Northwest Region – Bellevue

<i>King</i>	(425) 649-7028
<i>Island, San Juan, Skagit, Whatcom</i>	(425) 649-7060
<i>Snohomish and Kitsap</i>	(425) 649-7046

Southwest Region – Lacey (Olympia)

<i>Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Lewis, Mason, Pacific, Pierce, Skamania, Thurston, Wahkiakum</i>	
Industrial Stormwater Permits Only (all above counties)	(360) 407-6273
Construction Only (all above counties)	(360) 407-6294

Eastern Region – Spokane

<i>Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman</i>	
(All above counties, both industrial and construction)	(509) 625-5181 (509) 456-6309

Central Region – Yakima

<i>Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, Yakima</i>	
(All above counties, both industrial and construction)	((509) 575-2807

Glossary and Acronyms

AKART. All known, available, and reasonable methods of prevention, control, and treatment: It shall represent the most current methodology that can be reasonable required for preventing, controlling, or abating the pollutants associated with a stormwater discharge.

APHA. American Public Health Association

BMP – Best Management Practices. Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of Washington State.

CFR. Code of Federal Regulations

Dike/berm. A containment physical barrier, usually concrete, or earthen with impervious plastic liner for the containment of fluids.

DMR. Discharge monitoring report

NPDES – National Pollutant Discharge Elimination System. The national program for issuing, modifying, revoking, terminating, monitoring, and enforcing permits for discharges to surface water.

Oil. Includes gasoline, crude oil, fuel oil, diesel oil, lubricating oil, oily refuse and sludge, liquid natural gas, propane, butane, oils distilled from coal, and other liquid hydrocarbons regardless of specific gravity, or any petroleum related product. (Chapter 90.48 RCW)

Operational BMPs. Schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the contamination of stormwater.

OSHA. Occupational Safety and Health Administration

Pollutant. Solid waste, including wood and bark waste, incinerator residue, garbage; oil leaks; filter backwash; sewage; sewage sludge; chemical wastes; biological materials; and industrial, municipal, and agricultural waste discharged into water, or any other material that can cause pollution of water.

Pollution. Contamination or other alteration of the physical, chemical, or biological properties of waters of the state of Washington; including changes in temperature, taste, color, turbidity, or odor of the waters; or such discharge of any liquid, solid, gaseous, radioactive or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to the public health, safety or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish or other aquatic life.

RCW. Revised Code of Washington

Significant Amount. Amount of pollutant that is amenable to treatment or prevention or that has the potential to cause or contribute to a violation of surface, ground water quality, or sediment management standards. In this permit, a significant amount will be defined as exceeding a “benchmark value.”

Structural Source Control BMPs. Physical, structural, mechanical devices, or facilities that are designed to prevent pollutants from entering stormwater.

Stormwater Runoff. Water originating from rainfall or snowmelt that is found in drainage or conveyance facilities at industrial sites.

SWMM – Stormwater Management Manual for Western WA. The technical manual revised by Ecology in August 2001 that contains BMPs to prevent, control, or treat stormwater pollutants. A Comparable Manual for eastern WA will be available when published. (*References 4 and 5*)

SWPPP – Stormwater Pollution Prevention Plan. A documented plan to implement measures to identify, prevent, and control the contamination of stormwater and its discharge to ground or surface water.

Total Maximum Daily Load – TMDL Plan. A description of the type, amount, and sources of water pollution in a water body with strategies to control pollution.

Treatment BMPs. Structural BMPs that are intended to remove pollutants from stormwater, such as oil/water separation, biofiltration, and detention/retention basins. Emerging technologies such as media filtration and manufactured storm drain structures can also be considered. (See Section 6)

USEPA. U. S. Environmental Protection Agency

WAC. Washington Administrative Code

Water Quality Standards. State of WA water quality standards for surface waters of the state, which are codified in Chapter 173-201.

Waters of the State. Waters within the geographic boundaries of the state of Washington, including lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters or watercourses.

WISHA. Washington Industrial Safety and Health Act