

City of Sunnyside

**Stormwater Pollution
Prevention**

Operations and Maintenance Plan



City of Sunnyside
818 E. Edison Avenue
Sunnyside, WA 98944
December 2022

CITY OF SUNNYSIDE

STORMWATER POLLUTION PREVENTION OPERATIONS AND MAINTENANCE PLAN

Prepared by:



PROJECT NO. 22015

December 2022

Acknowledgements

The template for this Stormwater Pollution Prevention Operations and Maintenance Plan was developed by Otak, Inc. for the Wenatchee Valley Stormwater Technical Advisory Committee, consisting of representatives from the City of Wenatchee, the City of East Wenatchee, Chelan County, and Douglas County. Contributions to the project were made by other Eastern Washington communities, including stormwater program managers from the Cities of Kennewick, Moses Lake, Richland, Spokane, and Spokane Valley, Spokane and Walla Walla Counties, and the Eastmont Metropolitan Park District. The Operations and Maintenance Plan Template project was funded by a grant from the Washington State Department of Ecology.

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Most of the definitions below are sourced from the Washington State Department of Ecology (Ecology) Eastern Washington Phase II Municipal Stormwater Permit (Phase II Permit). Definitions not provided from the Phase II Permit are from other sources, including Ecology's Stormwater Management Manual for Eastern Washington and EPA's NPDES website glossary.

Best Management Practices (BMPs) The activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to downstream or down gradient systems.

Catch Basin A drainage structure which collects water. May be either a structure where water enters from the side or through a grate.

Conveyance System The drainage facilities, both natural and man-made which collect and carry surface and stormwater flow. Includes gutters, drainage inlets, pipes, catch basins, manholes, channels, swales, ditches, small drainage courses, streams, and rivers.

Drywell A stormwater disposal system that is designed to disperse water below the land surface. Drywells are regulated by Ecology under the Underground Injection Control (UIC) program.

Erosion and Sedimentation Control (ESC) Any temporary or permanent measures taken to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, and sediment traps and ponds. Erosion sediment control BMPs are synonymous with stabilization and structural BMPs.

Groundwater Water in a saturated zone or stratum beneath the land surface.

Glossary

Continued

- Hazardous Substance** 1) Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive. 2) Any substance designated by the Environmental Protection Agency (EPA) to be reported if a designated quantity of the substance is spilled in the waters of the United States or otherwise released into the environment.
- Hyperchlorinated** Water that contains more than 10 mg/Liter chlorine. Disinfection of water mains and appurtenances requires a chlorine residual of 10 mg/L at the end of the disinfection period. This level is well above the Maximum Residual Disinfectant Level of an annual average of 4 mg/Liter chlorine for potable water.
- Illicit Discharge** Any discharge to the municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.
- Maintenance** Activities conducted to extend the life cycle and ensure proper operation of existing facilities. Maintenance should not expand the use or capacity of a facility beyond the existing or designed use and results in no significant adverse hydrologic impact.
- Maintenance Standard** Describes the condition when cleaning, repair, or other maintenance is required for a given facility.
- Manhole** An entrance provided to a drainage facility for the purpose of inspection and cleaning. This may consist of a circular manhole shaft, frame and round cover or an opening into a structure where the top of the structure is at the surface. The opening may be round or rectangular.
- Material Storage Facility** An uncovered area where bulk materials (liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means.

- National Pollutant Discharge Elimination System** The national program for issuing, modifying, revoking, and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the State from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.
- Oil/Water Separator** A vault, usually underground, designed to provide a quiescent environment to separate oil from water.
- Phase II Permit** Eastern Washington Phase II Municipal Stormwater Permit issued by the Department of Ecology on January 17, 2007, and modified June 17, 2009.
- Pollutant** A waste material that pollutes wind, water, or soil. A non-stormwater discharge that enters the stormwater collection and conveyance system.
- Receiving Waters** Any water body receiving stormwater runoff, including surface water, groundwater, and the stormwater collection and conveyance system.
- Sediment** A naturally occurring material broken down by weathering and erosion and transported by wind, water, or other fluids.
- Stormwater** Rainwater runoff, snowmelt runoff, and surface runoff and drainage.
- Swale** A shallow drainage conveyance with relatively gentle side slopes, generally manmade.
- Water Quality** The chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

Glossary

Continued

Waters of the State Those waters as defined as “waters of the United States” in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and “waters of the State” as defined in Chapter 90.48 RCW, which include lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

BMPs	Best Management Practices
CONSTRUCTION PERMIT	General NPDES Permit for Stormwater Discharges Associated with Construction Activities
ECOLOGY	Washington State Department of Ecology
EPA	Environmental Protection Agency
FTE	Full Time Equivalent
INDUSTRIAL PERMIT	General NPDES Permit for Stormwater Discharges Associated with Industrial Activities
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
PHASE II PERMIT	Eastern Washington Phase II Municipal Stormwater Permit
RCRA	Resource Conservation and Recovery Act
SWPPP	Stormwater Pollution Prevention Plan
UIC	Underground Injection Control

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Section 1—Introduction

Purpose

The City of Sunnyside is currently subject to the requirements of both the National Pollutant Discharge Elimination System (NPDES) Eastern Washington Phase II Municipal Stormwater Permit (Phase II Permit) and the Underground Injection Control (UIC) Rule. Under the Phase II Permit, the City of Sunnyside is required to develop and implement a municipal Operations and Maintenance (O&M) Plan to protect water quality and reduce the discharge of pollutants into receiving waters. Receiving waters include surface waters, groundwater, and the stormwater collection and conveyance system.

The City of Sunnyside's municipal employees engage in several activities that may positively or negatively impact water quality. This O&M Plan includes stormwater pollution prevention and good housekeeping practices that should be followed during municipal maintenance activities in the below areas:

- Stormwater Collection and Conveyance System.
- Roads, Highways, and Parking Lots.
- Vehicle Fleets.
- Municipal Buildings.
- Parks and Open Space.
- Flood Management Projects.
- Other Facilities and Activities.

This O&M Plan also addresses stormwater pollution prevention during Construction Projects and Industrial Activities. Appendix D has a site-specific Stormwater Pollution Prevention Plan for the City of Sunnyside's parks and city owned buildings; *Parks and City Owned Facilities Stormwater Pollution Prevention Plan (SWPPP)*.

A stand alone SWPPP for the Sunnyside Municipal Airport is located in Appendix E of this report.

O&M Plan Development

This Stormwater Pollution Prevention O&M Plan was prepared based on a Stormwater Pollution Prevention O&M Plan Template developed by Otak Inc. for the Wenatchee Valley Stormwater Technical Advisory Committee using funding provided by a Washington State Department of Ecology (Ecology) Grant. The inspection schedules, maintenance standards and Best Management Practices (BMPs) included in this plan are based on Ecology's *Stormwater Management*

Section 1—Introduction

Continued

Manual for Eastern Washington (2019), the Model Municipal Stormwater Program for Eastern Washington, and other guidance documents from Ecology and EPA.

Common Pollutants, Sources, and Impacts

Stormwater runoff contains pollutants that can harm human health, degrade water quality and habitat, and impair ecosystem functions. These pollutants originate from vehicles, businesses, homeowner activities, and municipal activities, and include oil, hydrocarbons, heavy metals, de-icers, sediment, pesticides/herbicides, fertilizer, and bacteria. During rain and snow melting events, stormwater runoff may accumulate these pollutants which are then washed into the receiving waters. Table 1-1 shows the sources of common stormwater pollutants and the potential impacts.

Table 1-1 Common Stormwater Pollutants, Sources, and Impacts		
Pollutant	Sources	Impacts
Sediment	Construction sites; eroding stream banks and lakeshores; winter sand and salt application; vehicle/boat washing; agricultural sites.	Destruction of plant and fish habitat; transportation of attached oils, nutrients, and other pollutants; increased maintenance costs, plugged conveyance systems, flooding.
Nutrients (phosphorus, nitrogen)	Fertilizers; malfunctioning septic systems; livestock, bird and pet waste; vehicle/boat washing; grey water; decaying grass and leaves; sewer overflows; leaking trash containers, leaking sewer lines.	Increased potential for nuisance or toxic algal blooms; increased potential for hypoxia/anoxia (low levels of dissolved oxygen which can kill aquatic organisms).
Hydrocarbons (petroleum compounds)	Vehicle and equipment leaks; vehicle and equipment emissions; pesticides; fuel spills; equipment cleaning; improper fuel storage and disposal.	Toxic to humans and aquatic life at low levels.
Heavy Metals	Vehicle brake and tire wear; vehicle/equipment exhaust; batteries; galvanized metal; paint and wood preservatives; fuels; pesticides; cleaners.	Toxic at low levels; drinking water contamination.

Pollutant	Sources	Impacts
Pathogens (bacteria)	Livestock, bird, and pet wastes; malfunctioning septic systems; sewer overflows; damaged sanitary lines.	Risk to human health leading to closure of shellfish areas and swimming areas; drinking water contamination.
Toxic Chemicals	Pesticides; dioxins; Polychlorinated Biphenyls (PCBs); spills, illegal discharges, and leaks.	Toxic to human and aquatic life at low levels.
Debris/Litter	Improper waste disposal and storage; fishing gear; leaking rubbish containers; cigarette butts; littering.	Potential risk to human and aquatic life, aesthetically displeasing, can cause plugged conveyance systems and flooding.

Source: Rabasca and Rinehart, 2006

What are Best Management Practices (BMPs)?

BMPs are the activities, actions, procedures, prohibitions of practices, structural facilities, and/or managerial practices that, when used singly or in combination, prevent or reduce the release of pollutants into receiving waters.

There are three broad categories of BMPs:

- Operational BMPs are those activities and actions municipal staff should perform on a regular basis to prevent the release of pollutants into the stormwater system. For example, street sweeping is an operational BMP. Placing tarps over material stockpiles at the end of each day is an operational BMP.
- Structural BMPs are permanent facilities or structures constructed to prevent pollutants from coming into contact with stormwater. For example, constructing a roof over a material storage area is a structural BMP.
- Treatment BMPs are the facilities used to remove pollutants from stormwater before it is released downstream into the surface waters or groundwaters. For example, oil/water separators and vegetated swales are Treatment BMPs.

This O&M Plan is focused on operational and structural BMPs utilized to protect the City of Sunnyside’s receiving waters. Section 3 also describes the maintenance of the City of Sunnyside’s existing stormwater treatment BMPs, as regular maintenance required to keep treatment BMPs functioning as intended.

Section 1—Introduction

Continued

Management Considerations

Preventing stormwater pollution during maintenance activities is a significant responsibility that impacts nearly every department in the City of Sunnyside. Maintenance activities must be carefully planned, coordinated, and documented to meet the requirements of the Phase II Permit, avoid duplication, and make best use of limited staff time and resources. Section 14 of this O&M Plan describes the planning, budgeting, and recordkeeping associated with stormwater pollution prevention and effective housekeeping during municipal maintenance activities.



Section 2—Program Overview

Organization/Structure

The City of Sunnyside Public Works Department is primarily responsible for the maintenance of the City of Sunnyside's stormwater infrastructure. This includes inspecting and cleaning catch basins and manholes, clearing roadside ditches, and maintaining stormwater treatment and disposal facilities.

In addition, other City of Sunnyside departments conduct municipal activities that have the potential to introduce pollutants into stormwater. To protect receiving waters from stormwater pollution, the following City of Sunnyside departments are covered under this Stormwater Pollution Prevention O&M Plan:

- Roads, Streets, Parking Lots
- Parks and Open Spaces
- Municipal Buildings
- Sunnyside Municipal Airport (under separate SWPPP)
- Police Services
- Fire and Ambulance Services

Stormwater Infrastructure Inventory

The City of Sunnyside completed a mapped inventory of the public stormwater infrastructure. The inventory is GIS based and is continually updated as new structures and facilities are added to the system. As of December 1, 2022, the City of Sunnyside's stormwater system for Parks and Public Buildings was provided by the following major facility types:

- Catch Basins
- Dry Wells
- Surface Swales
- Subsurface Infiltration Systems

In addition to the stormwater system owned and operated by the City of Sunnyside, there are several private stormwater management facilities owned and operated by commercial/industrial businesses or residential homeowners' associations. The City's program related to private facility maintenance is discussed in Section 3.

Section 2—Program Overview

Continued

Facilities, Equipment, and Storage Areas

The City of Sunnyside is responsible for the operation and maintenance of several municipal facilities as shown on the Municipal Facilities Exhibits. These facilities include:

- City Hall
- Public Works Service Center
- Fire Station
- Law and Justice Center
- Wastewater Treatment Plant
- Water Department
- Sunnyside Municipal Airport
- Lower Valley Parkway
- Various Parks and Ballfields



Contracted Activities

Private construction contractors performing work on behalf of the City of Sunnyside are also subject to the provisions protecting stormwater runoff. This O&M Plan should be referenced when preparing construction contract documents.

Section 3—Stormwater Collection and Conveyance System

Section 3—Stormwater Collection and Conveyance System

Table 3-1 Implementation Checklist for Stormwater Collection and Conveyance System				
Potential Pollutants: Sediment, Nutrients, Hydrocarbons, Heavy Metals, Pathogens, Toxic Chemicals, Debris/Litter.				
	Current Activity	Required New Activity*	Optional	Responsibility
Catch Basin Inspection and Cleaning – Facilities on Arterials inspected and cleaned biannually, if necessary	X			Public Works Crews
Catch Basin Inspection and Cleaning – ALL catch basins inspected annually and cleaned, if necessary	X			Public Works Crews
Stormwater Facility Inspections – 100% Inspected Annually	X			Public Works Crews
FUTURE - Hire Stormwater Maintenance Lead to improve and enforce inspection and cleaning program			X	Public Works Director
FUTURE - Purchase vactor truck for catch basin and pipe cleaning			X	Public Works Director

*All required new activities must be implemented to be compliant with the Phase II Permit.

Overview

The Public Works Department is responsible for maintenance of the stormwater collection and conveyance system, including catch basins and manholes, pipes, ditches, and stormwater management/treatment facilities. Maintenance activities focus on removing sediment, debris, and pollutants from the stormwater system, before they are flushed downstream into receiving waters, resulting in adverse effects on aquatic life and water quality. Regular maintenance is also needed to keep stormwater management facilities (e.g., detention and retention ponds, detention pipes, etc.) functioning as they were designed.

Maintenance for the stormwater collection and conveyance system consists of inspection, cleaning, repairs, and replacement. The Phase II Permit requires a shift from responsive maintenance to preventative, standards-based maintenance. Regular inspections will be used to identify when cleaning or repairs are needed to

Section 3—Stormwater Collection and Conveyance System

Continued

keep the stormwater system functioning at an optimal level. The maintenance activities should then be performed, utilizing the BMPs in this section.

The activities related to stormwater collection and conveyance system maintenance covered in this O&M Plan include:

- Facility Inspections
- Conveyance System Maintenance
- Stormwater Management Facility Maintenance
- Small Construction Activities
- Waste Disposal
- Private Facilities
- Recordkeeping



Facility Inspections

The Phase II Permit requires regular inspection of the City of Sunnyside’s stormwater facilities to check system performance and identify maintenance needs. Stormwater facility inspections will be scheduled by the Public Works Director’s Designee and performed by Public Works Crews.

Inspection Schedule

Table 3-2 shows the proposed inspection frequencies for each type of stormwater management facility. Most stormwater management facilities will be inspected on an annual basis. Drywells and other UICs will be inspected twice yearly. Catch basin and roadside ditch inspections are scheduled based on priority areas. High priority areas are those areas subject to major sanding or neighborhoods with significant tree cover. High priority areas will be inspected annually, and low priority areas will be inspected every three years on a rotating schedule.

Section 3—Stormwater Collection and Conveyance System

Continued

Table 3-2 Stormwater Facility Inspection Frequencies		
Facility Type	Inspection Frequency	Timing
Management Facilities		
Oil Water Separators	Monthly	October through March
Drywells	Twice Yearly	April and August
Infiltration Basins and Trenches	Twice Yearly	April and August
Treatment Swales	Annually	Spring
Vaults	Annually	Spring
Ponds (Detention/Retention, Water Quality, Evaporation, Infiltration)	Annually	Spring
Detention Pipes	Annually	Summer
Conveyance System		
Catch Basins: Along Arterials	Bi-annually	Spring and Fall
Catch Basins: All others	Annually	Spring/Summer/Fall
Roadside Ditches	Annually	Spring/Summer/Fall
Culverts	Annually	Summer

Inspection Activities

During inspections, City crews should utilize the inspection checklists in Appendix A to document the condition of each facility and identify any required maintenance activities. All identified maintenance needs should be reported to the Public Works Director, so work orders can be developed to complete the required repair or cleaning.

In addition to documenting the condition of each stormwater facility, crews should continually verify and update (as needed) the City of Sunnyside’s inventory map. Each year, the City shall provide these updates to the City’s contracted Engineer to revise the City’s basemap. Field inspectors should immediately report any spills or illicit discharge concerns to the Public Works Director.

Section 3—Stormwater Collection and Conveyance System

Continued

Standards and BMP Selection

The Stormwater Management Manual for Eastern Washington includes required facility maintenance standards related to the physical condition and function of each type of stormwater management facility. The maintenance standards cover topics such as sediment depth, erosion, vegetation growth, accumulated trash and debris, and structural integrity. For example, one of the maintenance standards for catch basins states that a structure should be cleaned when sediment has accumulated to within 6 inches of the lowest pipe invert.

The inspection checklists in Appendix A list the required maintenance standards for each type of stormwater management facility. Field inspectors should use the checklists during regular inspection to report when cleaning or repairs are needed. The Phase II Permit then requires the City of Sunnyside correct an observed problem "...as soon as practicable" after the condition is identified during a regularly scheduled inspection or spot check.

Beyond the inspection requirements, the Phase II Permit requires the City of Sunnyside to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. The following operational and structural BMPs will help the City of Sunnyside meet the permit requirements.

Conveyance System Maintenance

The following BMPs apply to the maintenance of the stormwater collection and conveyance system, including catch basins and manholes, outfalls, pipes, ditches, and drywells. Regular inspection and cleaning of catch basins and manholes should reduce the need for frequent cleaning of storm sewer pipes.

Operational BMPs

- Regularly inspect catch basins and outfalls according to the inspection schedule outlined in this O&M Plan to determine maintenance. Complete maintenance activities as identified during inspections.
- Clean catch basins and manholes when sediment and debris are present in the basin or sump.
- Clean storm sewer pipes when accumulated sediment and debris exceeds 1/4 of the pipe diameter.
- Clean roadside ditches when accumulated sediment and debris exceeds 1/4 of the ditch depth.
- Conduct ditch cleaning during low water periods, minimizing the disturbance of existing vegetation.
- Test and dispose of sediment and debris according to the Waste Disposal Protocol in Appendix B.
- If vegetation is removed during ditch cleaning, the ditch side slopes should be seeded and mulched as soon as possible after cleaning.
- Develop a “hot spot” list of frequent flooding locations. Conduct spot checks of those locations following major precipitation events, exceeding 1.4 inches of rainfall in any 24-hour period.
- Utilize the City of Sunnyside’s Illicit Discharge Detection and Elimination Program to regularly inspect outfalls for evidence of unreported spills, illicit connections, or illegal dumping.
- Register all UIC wells with Ecology. Required information includes the following: operator/owner information, site location (latitude and longitude), BMPs used to protect groundwater quality, and a UIC well description.
- Complete a UIC well assessment, evaluating the potential for pollutants to enter the stormwater runoff that flows to each UIC well. The well assessment



Section 3—Stormwater Collection and Conveyance System

Continued

should consider land use and groundwater protection areas and may consider local geology and depth to groundwater for wells that are considered a high threat to groundwater.

Structural BMPs

- Stencil drywell and catch basin grates with, “Dump No Waste - Drains to Stream/Groundwater.”
- Prioritize, budget, schedule, and complete repairs and replace damaged components of the stormwater conveyance system identified during inspections. Based on the severity of the repair, budget for the improvements through the Capital Improvement Program.



Stormwater Management Facility Maintenance

The following BMPs apply to the maintenance of stormwater management facilities, including detention and infiltration ponds, underground tanks and vaults, treatment swales, oil/water separators, and proprietary treatment devices.

Operational BMPs

- Regularly inspect stormwater management facilities according to the inspection schedule outlined in this O&M Plan to determine maintenance. Complete maintenance activities as identified during inspections.
- Remove sediment when it exceeds the sediment storage depth (typically 12 inches) in ponds or when it exceeds 15 percent of the vault storage depth or tank diameter.
- Remove sediment when it exceeds a depth of 2 inches in treatment swales.
- Test and dispose of sediment and debris according to the Waste Disposal Protocol in Appendix B.
- Develop a “hot spot” list of major stormwater retention facilities. Conduct spot checks of those locations following major precipitation events, exceeding 1.4 inches of rainfall in any 24-hour period.

Section 3—Stormwater Collection and Conveyance System

Continued

Structural BMPs

- Prioritize, budget, schedule, and complete repairs and replace damaged components of the stormwater conveyance system identified during inspections. Based on the severity of the repair, budget for the improvements through the Capital Improvement Program.

Vegetation Management BMPs

- Maintain vegetation in ponds and swales by mowing or trimming at least once per year to prevent the establishment of woody vegetation.
- If vegetation is removed during sediment removal, seed and mulch the area as soon as possible after clearing.
- Use integrated best management practices that consider cultural, biological, mechanical, or engineering controls before chemical controls.
- Use mechanical methods of vegetation removal rather than herbicides.

Small Construction Activities

Sediment and erosion control measures should be implemented when stormwater system repair or replacement projects include grading, soil transfer, or vegetation removal, and shall be in accordance with the City of Sunnyside requirements. The following BMPs apply when making structural repairs or replacing components of the stormwater infrastructure.

Small Construction BMPs

- Minimize land disturbance and exposed slope length.
- Whenever possible, avoid land disturbance during the wet season.
- Implement erosion control techniques or devices to stabilize disturbed areas.
- Use mulch or other erosion control measures when soils are exposed for more than one week.
- Install storm drain inlet protection on all inlets within 500 feet downstream or down gradient of the project site to prevent coarse sediment from entering the drainage system. Inlet protection methods include block and gravel inlet protection, gravel and wire inlet protection, and catch basin inserts. Inspect inlet protections frequently during construction.
- Remove excess soil from the site as soon as possible after backfilling to eliminate sediment loss from surplus fill.

Section 3—Stormwater Collection and Conveyance System

Continued

- Obtain a General *NPDES Permit for Stormwater Discharges Associated with Construction Activities* from Ecology for any project that disturbs one or more acres and has the potential to discharge to waters of the State.

For larger construction projects that include the addition of new stormwater system components or the replacement of culverts in streams or other perennial water bodies, follow the construction activity guidelines in Section 8.

Waste Disposal

Waste generated from cleaning of catch basins and other stormwater management and treatment facilities must be disposed of according to the requirements of the City of Sunnyside. In some cases, the waste material must be tested to determine the proper disposal method. Material in catch basins with obvious contamination (unusual color, staining, corrosion, unusual odors, fumes, and oily sheen) should be left in place or segregated from other wastes until testing results can identify the nature of the contaminants. The City of Sunnyside's waste testing and disposal protocol is included in Appendix B.

Private Facilities

In addition to the stormwater system owned and operated by the City of Sunnyside, there are several stormwater facilities that manage stormwater runoff from private property. These facilities are owned and operated by private property owners – either commercial/industrial businesses or residential homeowner associations. While the maintenance and inspection of these systems is the responsibility of the private owner, the City of Sunnyside is required to establish a private facilities maintenance program for facilities that discharge to the City of Sunnyside's stormwater collection and conveyance system or to local receiving waters. The purpose of the program is to verify maintenance is performed and the private facilities are functioning to manage and protect water quality.

The private facility maintenance program is administered by the Public Works Department, but owners of private facilities are responsible for performing facility inspections, completing reports, and maintaining records. Details of the program are described in Appendix C, including the applicable City of Sunnyside, *Municipal Code*.

Recordkeeping

Recordkeeping is a condition of the Phase II Permit. The Public Works Director's Designee is responsible for keeping records of stormwater collection and conveyance system maintenance activities. In accordance with the Phase II Permit, the following documentation must be maintained for at least five years following work activity:

- Inspection schedules and checklists for stormwater treatment and flow control facilities.
- Records of spot checks performed following major storm events.
- Repairs or maintenance actions completed resulting from inspections and spot checks.
- Number and type of enforcement actions related to private facilities.
- Number and type of illicit discharges detected and eliminated.

In addition, tracking the following information may be helpful in planning and budgeting for future maintenance activities. See Section 14 for additional information.

- Catch basins cleaned each year.
- Amount of sediment collected and date of removal.
- Results of sediment testing

Hard copy reports should be stored in the Public Works Office. Records of inspections, catch basin cleaning, and facility maintenance should also be maintained.

In addition, material or liquid spills should be promptly reported to the Public Works Director and all paperwork related to the spill and cleanup activities should be maintained at City Hall. Spills of significance should be reported to the Fire Department, or as directed in Appendix D of the City's *SWPPP* depending on the nature of the Spill. All paperwork related to the spill and cleanup activities should be maintained at the Fire Department and/or the Public Works Office. Typically, the Public Works Department involvement in spills is limited and is at the discretion of the Fire Department if assistance is needed in cleaning up the isolated waste. For smaller spills (typically 2-foot diameter and/or 5 gallons or less), Public Works Crews should forego reporting the spill to the Fire Department and use the Public Works spill kit to clean up the spill.

Section 3—Stormwater Collection and Conveyance System

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Section 4—Roads, Highways and Parking Lots

Section 4—Roads, Highways and Parking Lots

Table 4-1 Implementation Checklist for Roads, Highways, and Parking Lots				
Potential Pollutants: Sediment, Hydrocarbons, Heavy Metals, Toxic Chemicals, Debris/Litter				
	Current Activity	Required New Activity*	Optional	Responsibility
Sweep major arterials annually	X			Public Works Crews
Sweep major arterials quarterly	X			Public Works Crews
Sweep all residential streets annually prior to the wet season	X			Public Works Crews
Store sand stockpile under cover, see applicable BMPs below	X			Public Works
Sweep large municipal parking lots (greater than 5,000 square feet)	X			Public Works Crews
Purchase catch basin porous inserts		X		Public Works

*All required new activities must be implemented to be compliant with the Phase II Permit.

Overview

Pollutants accumulate on roadway surfaces and parking lots from pavement and vehicle wear, atmospheric deposition, and littering. Hydrocarbons, copper, and other heavy metals are deposited on roads from clutch and brake wear, vehicle exhaust, and leaking motor fluids. Degrading road surfaces, litter, and trash, also adds pollutants to stormwater runoff. Anti-icing chemicals that include acetate can deplete dissolved oxygen, increase conductivity, and increase pH of receiving waters. Sand used for winter traction can accumulate in the stormwater collection and conveyance system, carrying pollutants into receiving waters. If not properly managed, regular municipal street maintenance activities can negatively impact the health of local aquatic resources.

Section 4—Roads, Highways and Parking Lots

Continued

The Public Works Department is responsible for implementing this O&M Plan during maintenance of the City of Sunnyside's roads, highways, and parking lots over 5,000 square feet. This includes:

- City Hall
- Fire Station
- Law and Justice Center
- Central Park and Sunnyside Pool
- South Hill Park and Community Center
- Sunnyview Park
- Tina Knoth Park
- Sunnyside Municipal Airport
- Wastewater Treatment Plant
- Water Department
- Public Works Service Center
- Lower Valley Parkway

Stormwater pollution prevention during roadway and parking lot maintenance focuses on collecting sediment, debris, and pollutants before they enter the stormwater collection and conveyance system. This plan also covers proper vegetation management and application and storage of materials used for snow and ice control.

Standards and BMP Selection

The Phase II Permit does not include specific maintenance standards or BMPs related to the maintenance of roads, highways, and parking lots. The City of Sunnyside's obligation is to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. To meet that goal, the City of Sunnyside has identified BMPs related to each of the following activities:

- Street Sweeping
- Winter Activities
- Street Repair and Maintenance
- Vegetation Management
- Recordkeeping



Section 4—Roads, Highways and Parking Lots

Continued

In general, the focus on selecting road, highway, and parking lot BMPs is to reduce the amount of sediment and debris that is washed from the roadways into the stormwater collection and conveyance system. Implementing these BMPs will help prevent the discharge of pollutants into receiving waters and reduce the cost of maintaining the stormwater collection and conveyance system.

Street Sweeping

The City of Sunnyside conducts street sweeping for aesthetic, safety, and public health reasons. Effective sweeping removes pollutants before they are carried into the stormwater collection and conveyance system and may reduce the frequency of catch basin cleaning.

Street Sweeping Schedule

The City of Sunnyside's street sweeping schedule was developed to produce the most cost-effective reduction of pollutants, considering pollutant loads and weather patterns (sweeping before the onset of wet weather). High priority areas subject to winter sanding will be swept on a more frequent basis. Table 4-2 shows the proposed street sweeping schedule. In general, the City of Sunnyside aims to sweep most arterials at least once per quarter and most residential streets annually.

Table 4-2 Street Sweeping Schedule		
Location/Neighborhood	Sweeping Frequency	Timing
Management Facilities		
Major Arterials	Quarterly	Following snow melt, prior to wet season
Residential Streets	Annually	Throughout year as necessary, following snow melt, prior to wet season
All streets following snow removal	Monthly	Winter and Spring

Street Sweeping BMPs

- Use regenerative air sweepers on curb and gutter streets.
- Maintain sweeping equipment in good working condition.
- Store swept material in a covered and contained site until it can be disposed of following the City of Sunnyside's Waste Disposal Protocol in Appendix B.

Section 4—Roads, Highways and Parking Lots

Continued

- Coordinate street sweeping schedules to coincide with important pollution prevention events such as the end of curbside leaf collection, winter sanding operations, and peak pollen production in the spring.
- Whenever possible, coordinate street sweeping to occur just prior to catch basin cleaning.
- Schedule additional street sweeping following special events that generate higher than normal pollutant loadings (i.e., Sunnyside Sunshine Days).
- Train operator on factors that influence pollutant removal, including sweeper speed, brush adjustment, rotation rate, sweeping pattern, and maneuvering around parked vehicles.
- Consider periodic parking restrictions to ensure curbs are cleared before sweeping takes place.
- Track street sweeping waste (total volume or weight per mile of road swept) and modify sweeping schedules based on accumulated sediment loads.
- Avoid wet cleaning or flushing and utilize dry methods whenever possible.
- If wet cleaning or flushing is absolutely necessary, sweep and remove debris prior to flushing; plug storm drain inlets and direct wash water to sanitary sewer.



Waste Disposal

Street waste is generally not considered dangerous waste. However, high traffic loads or spills can lead to waste that requires special handling and disposal. Waste generated from street sweeping must be disposed of according to the requirements of City of Sunnyside Public Works Department. In some cases, the waste material must be tested to determine the proper disposal method. The City of Sunnyside's waste testing and disposal protocol is included in Appendix B.

Winter Activities

The City of Sunnyside conducts winter activities such as anti-icing, de-icing, sanding, snow plowing, and snow removal to enhance public safety during inclement winter weather. Proper selection and application of de-icing chemicals is important to prevent negative environmental impacts to water quality and plants.

Anti-icing, De-icing, and Sanding

- Use anti-icers and de-icers that cause the least adverse environmental impact while still providing adequate public safety. The following materials are preferred:
 - Anti-icers (Magnesium Chloride and Calcium Chloride)
 - De-icers (Magnesium Chloride and Calcium Chloride)
 - Road salt (Calcium Chloride)
 - Sand
- Follow manufacturer's recommendations when applying chemical de-icer.
- Calibrate equipment to optimum levels according to manufacturer's instructions.
- Apply materials at the lowest rate necessary to provide vehicle traction; avoid excessive application.
- Sweep streets in early spring to collect accumulated sand after the winter season.
- Place barriers to route de-icing material away from water bodies.

Snow Removal

- Whenever possible, avoid covering inlets of the stormwater collection and conveyance system during plowing, so snowmelt can drain.
- Snow removed from City of Sunnyside streets will be plowed when snow accumulation is significant or the forecast calls for more snow, snow may be plowed to the center of the roadway.
- Snow shall not be disposed of within 25 feet of surface waters, 75 feet of private water supplies, 200 feet from any community water supply, or 400 feet from any municipal well.

Material Storage

Uncovered material storage stockpiles are a major source of pollutants such as sand, cinder, salts, or other road maintenance materials that can be carried into the



stormwater system during rain or snow melt events. Vehicle, equipment, and material storage areas should be maintained according to the City's *SWPPP*. The following operational BMPs should be implemented to limit the transport of materials into the stormwater collection and conveyance system:

- Limit material purchases to the amount expected to be needed for the upcoming season.

Section 4—Roads, Highways and Parking Lots

Continued

- Whenever possible, store material stockpiles in a building or within a paved and bermed covered area.
- Store chemical anti-icing and de-icing materials following manufacturer recommendations.
- Sweep parking lots, material storage areas, and driveways regularly to collect dirt, waste, debris, and loose stockpile materials. Do not hose down the areas toward a storm drain inlet or ditch.
- Whenever possible, collect and recycle stored materials back into the stockpile.
- Place temporary plastic sheeting over uncovered stockpiles, if within 25 feet of storm drain inlets.

Street Repair and Maintenance

Street repair and maintenance activities include road surfacing (repairing potholes, sealing cracks, overlaying roads, and paving shoulders), pavement marking, signage and signal repairs, and small construction projects. The BMPs related to these activities are below.

Street Repair and Maintenance BMPs

- When possible, avoid working in wet weather.
- Carry a spill kit during maintenance activities.
- Prevent paving materials, paint, pavement markings, and waste from entering the storm drainage system.
- When placing chip seals, limit spreading aggregate to the sealed surface and sweep up excess aggregate once cured and each day thereafter until aggregate loss is insignificant.
- Collect any loose sand, gravel, asphalt, or other material as soon as possible after repair activities.
- Sweep or vacuum dust and debris before using water to clean up work sites.
- Avoid striping operations when the pavement is wet or if rain is likely.
- When striping, use water-based paints or thermoplastics rather than solvent-based materials.
- When possible, use portable drip trays under equipment to catch spills.
- Use dry cutting techniques with proper dust control when saw cutting and sweep or vacuum up residue. If wet cutting techniques are required, use as little cooling water as possible and switch the water off when the saw is not in use. Use downstream inlet protection to keep cutting waste out of the stormwater collection and conveyance system.

- Properly contain and dispose of unused paint, cleaning materials, and debris following repair activities.

Small Construction BMPs

The following BMPs apply when making small roadway repairs that include grading, soil transfer, or vegetation removal:

- Minimize land disturbance and exposed slope length.
- Whenever possible, avoid land disturbance during the wet season.
- Implement erosion control techniques or devices to stabilize disturbed areas.
- Use mulch or other erosion control measures when soils are exposed for more than one week.
- Install storm drain inlet protection on all inlets within 500 feet downstream or down gradient of the project site to prevent coarse sediment from entering the drainage system. Inlet protection methods include block and gravel inlet protection, gravel and wire inlet protection, and catch basin inserts. Inspect inlet protections frequently during construction.
- Remove excess soil from the site as soon as possible after backfilling to eliminate sediment loss from surplus fill.
- Obtain a *General NPDES Permit for Stormwater Discharges Associated with Construction Activities* from Ecology for any project that disturbs one or more acre and has the potential to discharge to a waters of the State.

For larger construction projects that create new impervious surfaces or have the potential to disturb large areas of soil, follow the construction activity guidelines in Section 8.

Vegetation Management

Vegetation management includes maintaining landscaping for roadway right-of-ways and medians and controlling noxious weeds, pests, and unwanted vegetation growth. Disturbed soil, removed vegetation, and chemicals can all negatively impact receiving waters.

Landscaping and Irrigation BMPs

- Maintain vegetative cover on medians and embankments to prevent soil erosion. When vegetation is removed, apply mulch or other cover measures to prevent soil erosion.
- Dispose of lawn clippings, leaves, branches, and other vegetative material at an appropriate landfill or transfer station; landscape material should not be disposed of in streams or storm drains.

Section 4—Roads, Highways and Parking Lots

Continued

- Avoid loosening the soil during weed control.
- Inspect the irrigation system regularly to minimize excess watering and prevent the runoff of fertilizer.
- Repair leaks to the irrigation system as soon as they are observed or reported.
- Minimize the use of chemical fertilizers and calibrate the distributor to avoid excessive application.
- Store fertilizers in enclosed areas or in covered impervious containment in accordance with the City of Sunnyside's *SWPPP*. Store and maintain appropriate spill cleanup materials in a location known to all staff near the storage area.

Pesticide and Herbicide BMPs

- Use integrated best management practices that consider cultural, biological, mechanical, or engineering controls before chemical controls.
- Use mechanical methods of vegetation removal rather than herbicides.
- Use pesticides only if there is an actual pest problem (not as a regularly scheduled preventative maintenance measure).
- Use the least toxic pesticide possible; avoid the use of copper-based pesticides if alternatives are available; select products with low water solubility and low persistence.
- Do not use pesticides or herbicides if rain is expected.
- Do not mix or prepare pesticides near storm drain inlets.
- Follow product labels for proper application of any pesticide.
- Use the minimum amount of chemicals needed for the job.
- Avoid pesticide applications within 100 feet of a water body and avoid application on or near most stormwater collection and conveyance facilities, excluding dry roadside ditches.
- Use products specifically labeled for dry ditches when treating roadside ditches.

Storage and Disposal

- Follow Federal, State, and local laws governing the storage and disposal of pesticides and herbicides.
- Store herbicides/pesticides in enclosed areas or in covered impervious containment in accordance with the City of Sunnyside's *SWPPP*. Store and maintain appropriate spill cleanup materials in a location known to all staff near the storage area.

Section 4—Roads, Highways and Parking Lots

Continued

- Rinse water from equipment cleaning and/or from herbicide/pesticide/fertilizer containers should be used as product, recycled into product, or disposed of properly.
- Following use, dispose of unused pesticide as hazardous waste.

Recordkeeping

Recordkeeping is a condition of the Phase II Permit. The Public Works Director's Designee is responsible for keeping records of road and parking lot maintenance activities that have the potential to impact stormwater. The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the stormwater collection and conveyance system. Spills should be reported to the Public Works Director and all paperwork related to the spill and cleanup activities should be maintained at City Hall. Spills of significance should be reported to the Fire Department, or as directed in Appendix D of the City's *SWPPP* depending on the nature of the Spill. All paperwork related to the spill and cleanup activities should be maintained at the Fire Department and/or the Public Works Office. Typically, the Public Works Department involvement in spills is limited, and is at the discretion of the Fire Department if assistance is needed in cleaning up the isolated waste. For smaller spills (typically 2-foot diameter and/or 5 gallons or less), Public Works Crews should forego reporting the spill to the Fire Department and use the Public Works spill kit to clean up the spill.

The following records may also assist the Public Works Director's Designee in planning for future maintenance activities:

- Street sweeping – location, frequency.
- Total volume/weight of materials collected per mile of road swept.
- Winter de-icing/sanding activities – location, type, frequency.
- Amount of street waste removed.
- Results of sediment testing.

Hard copy records should maintained at City Hall.

Section 4—Roads, Highways and Parking Lots

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Section 5—Vehicle Fleets

Section 5—Vehicle Fleets

Table 5-1 Implementation Checklist for Vehicle Fleets				
Potential Pollutants: Sediment, Hydrocarbons, Heavy Metals, Toxic Chemicals, Debris/Litter				
	Current Activity	Required New Activity*	Optional	Responsibility
Sweep vehicle storage parking lot monthly	X			Public Works Crews
Maintain spill kit on-site at all times	X			Public Works
Conduct vehicle washing at the Public Works Service Center washing facility	X			Public Works Crews

*All required new activities must be implemented to be compliant with the Phase II Permit.

Overview

The Public Works Department is primarily responsible for maintaining City of Sunnyside vehicles and equipment in proper working order. Most vehicle maintenance is conducted at the Public Works Service Center, except for larger repairs that are contracted out to licensed repair shops. Vehicle maintenance activities have the potential to spill or leak fluids, fuel, or other polluting liquids. Vehicle washing can also contribute soap, debris, and pollutants into the stormwater collection and conveyance system.

Standards and BMP Selection

The Phase II Permit does not include specific maintenance standards or BMPs related to the maintenance of vehicle fleets. The City of Sunnyside's obligation is to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. To meet that goal, the City of Sunnyside has identified BMPs related to each of the following activities:

- Vehicle Storage Areas
- Vehicle Maintenance
- Vehicle Washing
- Recordkeeping

In general, the focus on selecting vehicle fleet BMPs is to prevent spills and reduce the potential for non-stormwater discharges into the stormwater collection and

Section 5—Vehicle Fleets

Continued

conveyance system. Implementing these BMPs will help prevent the discharge of pollutants into receiving waters.

Vehicle Storage

When vehicles and equipment are parked or stored outside without cover, they have the potential to leak or drip hazardous fluids that can be carried to the stormwater system during a rain or snow melt event. The City of Sunnyside's primary vehicle storage area is located at the Public Works Service Center. Fire response vehicles are stored at the Fire Department. Police vehicles are typically taken home at night and otherwise stored at the Law and Justice Center. In addition to the following BMPs, the Public Works Service Center should be maintained according to the City's *SWPPP* included in Appendix D.

Operational BMPs

- Sweep parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris. Do not hose down the areas to a stormwater conveyance system.
- Use drip pans or containers under vehicles and equipment that drip or are likely to drip liquids.
- Remove liquids from vehicles retired for scrap.



Structural BMPs

- Implement Structural BMPs to address vehicle storage areas in accordance with the City of Sunnyside's *SWPPP*.
- Maintain an oil removal system (API, baffle type, or coalescing plate oil water separator, catch basin filter, or equivalent structural BMP) at the vehicle storage area.

Vehicle Maintenance

Vehicle and equipment maintenance and repair conducted by the City of Sunnyside may include vehicle fluid removal, engine and parts cleaning, body repair and painting. If conducted outdoors, all these activities have the potential to discharge pollutants into the stormwater system.

Operational BMPs

- Whenever possible, conduct vehicle maintenance indoors or within a paved, bermed and covered area.
- Outdoor vehicle and equipment maintenance shall not be performed during rain events or prior to predicted rain events unless required by emergency conditions.
- Maintenance activity areas should be kept clean, well-organized and equipped with cleanup supplies.
- Inspect all incoming vehicles, parts, and equipment stored temporarily outside for leaks.
- Use absorbent pads, drip pans or absorbent material as appropriate. If rags and absorbents are saturated or contaminated with high concentrations of regulated hazardous materials, dispose of rags and absorbents according to hazardous waste disposal guidelines.
- Vehicle maintenance activities (fluid removal, engine and parts cleaning, and body repair and painting) should be performed in accordance with the City of Sunnyside's *SWPPP*.

Vehicle Washing

In accordance with the City of Sunnyside's Illicit Discharge Ordinance, SMC Chapter 13.30A, vehicle wash water is prohibited from entering the stormwater collection and conveyance system. In addition to the potential impacts from soapy water, wash water may contain other hazardous vehicle fluids. The City of Sunnyside primarily washes vehicles at the Public Works Service Center.



Operational BMPs

- Vehicle and equipment washing areas should be inspected daily and cleaned as necessary.
- Use phosphate-free biodegradable soaps and detergents whenever practical.
- Do not remove the original product label from cleaning containers as it contains important spill cleanup and disposal information. Use the entire product before disposing of the container.
- Minimize water usage.

Section 5—Vehicle Fleets

Continued

- Conduct vehicle/equipment washing primarily at the Public Works Service Center.

Structural BMPs

- Vehicle washing to be conducted at the Public Works Service Center shall utilize the designated vehicle wash location, including the covered wash pad, containment berms, and shall drain to the sanitary sewer system.

Recordkeeping

The Phase II Permit requires long term recordkeeping of events and activities that have the potential to impact stormwater. The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the stormwater collection and conveyance system. Material or liquid spills should be promptly reported to the Public Works Director and all paperwork related to the spill and cleanup activities should be maintained at City Hall.

Section 6—Municipal Buildings

Section 6—Municipal Buildings

Table 6-1 Implementation Checklist for Municipal Buildings				
Potential Pollutants: Sediment, Nutrients, Hydrocarbons, Heavy Metals, Toxic Chemicals, Debris/Litter				
	Current Activity	Required New Activity*	Optional	Responsibility
Maintain a spill kit on-site at all times	X			Public Works
Cover storm drain inlets prior to pressure washing	X			Public Works Crews
Inspect the irrigation system monthly during the watering season	X			Public Works Crews

*All required new activities must be implemented to be compliant with the Phase II Permit.

Overview

Municipal building maintenance includes cleaning, washing, painting, and landscape maintenance. Potential pollutants from these activities include organic compounds, oil and grease, soap, heavy metals, and particulate matter. The Public Works Department is primarily responsible for the maintenance of the City of Sunnyside’s municipal buildings including:

- City Hall
- Public Works Office/Service Center
- Community Center
- Law and Justice Center
- Fire Department
- Well Houses
- Reservoir Sites
- Wastewater Treatment Plant
- Water Department
- Park Restrooms
- Sunnyside Pool

The Fire Department is primarily responsible for the maintenance of the City of Sunnyside’s fire station.

Section 6—Municipal Buildings

Continued

Standards and BMP Selection

The Phase II Permit does not include specific maintenance standards or BMPs related to the maintenance of municipal buildings. The City of Sunnyside's obligation is to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. To meet that goal, the City of Sunnyside has identified BMPs related to each of the following activities:

- General Facility Housekeeping
- Building Cleaning and Washing
- Painting
- Vegetation Maintenance
- Winter Activities
- Recordkeeping

In general, the goals of selecting municipal building maintenance BMPs are to prevent spills, to reduce the potential for a non-stormwater discharge into the stormwater collection and conveyance system, and to reduce the amount of sediment and debris washed into the stormwater collection and conveyance system. Implementing these BMPs will help prevent the discharge of pollutants into receiving waters and reduce the cost of maintaining the stormwater collection and conveyance system.

General Facility Housekeeping

The purpose of general facility housekeeping is to keep municipal areas clean and free of debris and other pollutants that could be washed into the stormwater collection and conveyance system during a rainfall event. General facility housekeeping also includes storing materials under cover and handling materials and waste products in a way that minimizes the risk to stormwater.

Operational BMPs

- Keep open areas clean and orderly.
- Pick-up litter.
- Promptly contain and clean up solid and liquid pollutant leaks and spills.
- Sweep paved material handling and storage areas regularly.
- Inspect all structural BMPs regularly, particularly after a significant storm.
- Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids.

- Promptly remove debris and old equipment.
- Store hazardous materials as specified by the manufacturer.
- Conduct regular employee training to reinforce proper housekeeping actions.

Building Cleaning and Washing

Municipal building cleaning and washing activities may include washing of carpet and other interior items and/or conducting pressure washing of buildings, rooftops, and other large structures associated with a municipal building. Wash water from municipal building washing practices has the potential to be contaminated with pollutants harmful to stormwater such as sediment and chemicals.

Operational BMPs

- Dispose of carpet or interior wash water to the sanitary sewer. Do not dispose of any wash water outdoors or to a storm drain system.
- Report any accidental discharges to the storm drain system to the Public Works Department.
- Collect wash water from building structures and convey it to an appropriate treatment device, such as the sanitary sewer system. If wash water contains oils, soaps, or detergents, it may be directed to soils that have sufficient natural attenuation capacity for dust and sediment. A sump pump, wet vacuum, or similarly effective device may be used to collect the runoff and loose materials.
- Use storm drain covers for any inlets in the vicinity of the work area when conducting pressure washing activities. The cover(s) must be in place prior to engaging in the washing activity. Collect any accumulated runoff and solids with a wet vacuum or broom, and properly dispose of waste before removing the cover(s) at the end of the workday.



Painting

Painting activities associated with interior or exterior municipal buildings include surface preparation and application of paints, stains, finishes and other coatings. Paints, stains, and finishes contain harsh chemicals and will contaminate stormwater if allowed to comingle.

Section 6—Municipal Buildings

Continued

Operational BMPs

- Never dump any toxic substance or liquid waste on the pavement or the ground.
- Report any accidental discharges to the storm drain system to the Public Works Department.
- Train employees in the careful application of paints, finishes, stains, and coatings to reduce misuse and overspray.
- Use ground cloths or drop cloths underneath outdoor painting, scraping, sandblasting work, paint mixing, and tool cleaning.
- Wipe up spills with rags and other absorbent materials immediately. Do not hose down the area to a storm drain, receiving water, or conveyance ditch that drains to a receiving 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, etc.) 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 BMPs

- Enclose and/or contain all work while using a spray gun or conducting sand blasting in compliance with applicable air pollution control, Occupational Safety and Health Administration, and Washington Industrial Safety and Health Act.

Vegetation Management

Vegetation management includes maintaining landscaped areas associated with municipal buildings and controlling noxious weeds, pests, and unwanted vegetation growth. Disturbed soil, removed vegetation, and chemicals can all negatively impact receiving waters.

Landscaping and Irrigation BMPs

- Dispose of lawn clippings, leaves, branches, and other vegetative material at an appropriate landfill or transfer facility; landscape material should not be disposed of in streams or storm drains.
- Inspect the irrigation system regularly to minimize excess watering and prevent the runoff of fertilizer.
- Repair leaks to the irrigation system as soon as they are observed or reported.

- Minimize the use of chemical fertilizers and calibrate the distributor to avoid excessive application.
- Store fertilizers in enclosed areas or in covered impervious containment in accordance with the City of Sunnyside's *SWPPP*. Store and maintain appropriate spill cleanup materials in a location known to all staff near the storage area.

Pesticide and Herbicide BMPs

- Use integrated best management practices that consider cultural, biological, mechanical, or engineering controls before chemical controls.
- Use mechanical methods of vegetation removal rather than herbicides.
- Use pesticides only if there is an actual pest problem (not as a regularly scheduled preventative maintenance measure).
- Use the least toxic pesticide possible; avoid the use of copper-based pesticides if alternatives are available; select products with low water solubility and low persistence.
- Do not use pesticides or herbicides if rain is expected.
- Do not mix or prepare pesticides near storm drain inlets.
- Follow product labels for proper application of any pesticide.
- Use the minimum amount of chemicals needed.
- Avoid pesticide applications within 100 feet of a water body and avoid application on or near most stormwater collection and conveyance facilities.

Storage and Disposal

- Follow Federal, State, and local laws governing the storage and disposal of pesticides and herbicides.
- Store herbicides/pesticides in enclosed areas or in covered impervious containment in accordance with the City of Sunnyside's *SWPPP*. Store and maintain appropriate spill cleanup materials in a location known to all staff near the storage area.
- Rinse water from equipment cleaning and/or from herbicide/pesticide/fertilizer containers should be used as product, recycled into product, or disposed of properly.
- Following use, dispose of unused pesticide as hazardous waste.

Winter Activities

Winter activities around municipal buildings include anti-icing, de-icing, sanding, and snow removal on sidewalks and small parking lots. (Winter activities related to large

Section 6—Municipal Buildings

Continued

parking lots are discussed in Section 4.) These activities enhance public safety during inclement winter weather. In addition to the BMPs described below, see Section 4 for BMPs related to storage of sand and de-icer.

De-icing and Sanding

- Whenever possible, limit the use of chemical de-icers. When chemical application is needed, select products with the least adverse environmental impact while still providing for public safety. The following materials are preferred:
 - Anti-icers (Magnesium Chloride and Calcium Chloride)
 - De-icers (Magnesium Chloride and Calcium Chloride)
 - Road salt (Calcium Chloride)
 - Sand
- Apply materials at the lowest rate necessary to provide for public safety; avoid excessive application.
- Sweep parking lots in early spring to collect accumulated debris after the winter season.

Snow Removal

- Whenever possible, avoid piling snow over inlets of the stormwater collection and conveyance system so snow melt can drain.
- Snow removed from sidewalks and municipal parking lots shall be placed on adjacent landscaped areas or within a seldom used parking stall.
- Avoid depositing snow within 25 feet of surface waters, 75 feet of private water supplies, 200 feet from any community water supply, or 400 feet from any municipal well.

Other Maintenance Activities

Additional maintenance activities associated with municipal buildings include building repair, remodeling, and construction projects.

Operational BMPs

- Use a storm drain cover if dust, grit, wash water, or other pollutants have the potential to enter a storm drain inlet. Collect any accumulated runoff and solids with wet vacuums and brooms as needed.
- Use ground cloths or drop cloths underneath outdoor painting, scraping, and sandblasting work and properly dispose of collected material daily.
- Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- Store and maintain a spill control kit and ensure employees are familiar with proper spill control procedures.
- Report accidental discharges to the stormwater conveyance system to the Public Works Department.

Structural BMPs

- Stencil drywell and catch basin grates with, “Dump No Waste - Drains to River/Groundwater”.

Recordkeeping

The Phase II Permit requires long term recordkeeping of events and activities that have the potential to impact stormwater. The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the stormwater collection and conveyance system. Spills of significance should be reported to the Fire Department, or as directed in Appendix D of the City’s *SWPPP* depending on the nature of the Spill. All paperwork related to the spill and cleanup activities should be maintained at the Fire Department and/or the Public Works Office. Typically, the Public Works Department involvement in spills is limited, and it is at the discretion of the Fire Department if assistance is needed in cleaning up the isolated waste. For smaller spills (typically 2-foot diameter and/or 5 gallons or less), Public Works Crews should forego reporting the spill to the Fire Department and use the Public Works spill kit to clean up the spill. Material or liquid spills should be promptly reported to the Public Works Director and all paperwork related to the spill and cleanup activities should be maintained at City Hall.

Section 6—Municipal Buildings

Continued

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Section 7—Parks and Open Space

Section 7—Parks and Open Space

Table 7-1 Implementation Checklist for Parks and Open Space				
Potential Pollutants: Sediment, Nutrients, Heavy Metals, Pathogens, Toxic Chemicals, Debris/Litter				
	Current Activity	Required New Activity*	Optional	Responsibility
Minimize use of chemical fertilizers	X			Public Works Crews
Inspect irrigation systems monthly during the watering season	X			Public Works Crews
Cover trash containers in all parks for containers smaller than 2 yards	X			Public Works Crews
Cover large trash containers (greater than 2 yards) with tarps if no structural cover	X			Public Works Crews
Maintain pet waste dispensers in all parks	X			Public Works Crews

*All required new activities must be implemented to be compliant with the Phase II Permit.

Overview

The maintenance of parks and open space areas frequently includes fertilization, mowing, pesticide application, and supplemental irrigation. Potential pollutants from these activities include nutrients, chemicals, organic debris, and sediment. Improving the way park and open space maintenance activities are conducted can reduce the amount of stormwater pollution conveyed to local aquatic resources.

The Public Works Department is responsible for the maintenance of the following park properties:

- Don Hughes Park
- Kiwanis Youth Park
- South Hill Park
- Central Park
- Sunnyview Park
- Upland Park
- Centennial Square Park
- Denny-Blaine Park
- Tina Knoth Park

Section 7—Parks and Open Space

Continued

The Public Works Department is responsible for maintaining open space and undeveloped properties owned by the City of Sunnyside. These properties include:

- Veteran’s Memorial
- Lower Valley Pathway

Standards and BMP Selection

Unless park areas include stormwater management facilities, the Phase II Permit does not include specific maintenance standards or BMPs related to the maintenance of parks and open space. (BMPs for maintenance of stormwater management facilities are included in Section 3). The City of Sunnyside’s obligation is to prevent the discharge of pollutants to the stormwater system and protect water quality to the maximum extent practicable. To meet that goal, the City of Sunnyside has identified BMPs related to each of the following activities:

- Vegetation Management
- Trash and Debris
- Small Construction Projects
- Buildings and Structures
- Stormwater Facilities
- Storage Areas
- Recordkeeping

In general, the goals in selecting park and open space maintenance BMPs are to prevent spills, to reduce the potential for a non-stormwater discharge into the stormwater collection and conveyance system, and to reduce the amount of sediment and debris that is washed into the stormwater collection and conveyance system. Implementing these BMPs will help prevent the discharge of pollutants into receiving waters and reduce the cost of maintaining the stormwater collection and conveyance system.

Vegetation Management

Proper vegetation management and landscape maintenance practices have the potential to reduce the amount of stormwater runoff and the amount of pollutants that drain to receiving waters. Vegetated spaces provide an excellent opportunity to infiltrate precipitation as it falls and filter pollutants before they can be washed downstream. Vegetation management includes maintaining landscaping throughout

parks and open space areas, and controlling noxious weeds, pests, and unwanted vegetation growth. BMPs should be used to prevent disturbed soil, removed vegetation, and chemicals from causing a negative impact to receiving waters.

Vegetation Management BMPs

- Maintain vegetative cover on medians and embankments to prevent soil erosion. When vegetation is removed, apply mulch or other cover measures to prevent soil erosion.
- Allow natural revegetation in suitable areas and clearly designate “no mow” areas.
- Use mulching type mowers to dispose of lawn clippings on site.
- Dispose of vegetated waste (collected lawn clippings, leaves, branches) at an appropriate landfill or transfer station; landscape material should not be disposed of in streams or storm drains.
- Avoid loosening the soil during weed control.
- Do not use leaf blowers to blow waste into streets, storm drains, or ditches.
- Minimize the use of chemical fertilizers and calibrate the distributor to avoid excessive application.
- Never apply fertilizer within 5 feet of impervious surfaces, 25 feet of a storm drain inlet, or 50 feet of a stream or water body.
- Store fertilizers in enclosed areas or in covered impervious containment in accordance with the City of Sunnyside’s *SWPPP*. Store and maintain appropriate spill cleanup materials near the storage area in a location known to all staff.

Irrigation BMPs

- Inspect the irrigation system regularly to minimize excess watering and prevent the runoff of fertilizer.
- Repair leaks to the irrigation system as soon as they are observed or reported.
- Monitor soil for moisture content and adjust irrigation times accordingly.

Pesticide and Herbicide BMPs

- Use integrated best management practices that consider cultural, biological, mechanical, or engineering controls before chemical controls.
- Use mechanical methods of vegetation removal rather than herbicides.
- Use pesticides only if there is an actual pest problem (not as a regularly scheduled preventative maintenance measure).

Section 7—Parks and Open Space

Continued

- Use the least toxic pesticide possible; avoid the use of copper-based pesticides if alternatives are available; select products with low water solubility and low persistence.
- Do not use pesticides or herbicides if rain is expected.
- Do not mix or prepare pesticides near storm drain inlets.
- Follow product labels for proper application of any pesticide.
- Use the minimum amount of chemicals needed for the job.
- Avoid pesticide applications within 100 feet of a water body and avoid application on or near most stormwater collection and conveyance facilities, excluding dry roadside ditches.
- Use products specifically labeled for dry ditches when treating roadside ditches.



Storage and Disposal

- Follow Federal, State, and local laws governing the storage and disposal of pesticides and herbicides.
- Store herbicides/pesticides in enclosed areas or in covered impervious containment in accordance with the City of Sunnyside's *SWPPP*. Store and maintain appropriate spill cleanup materials in a location known to all staff near the storage area.
- Rinse water from equipment and/or herbicide, pesticide, or fertilizer containers not to be reused and added to the product container, shall be disposed of properly.
- Following use, dispose of unused pesticide as hazardous waste.

Trash and Debris

Trash and debris collection is important to maintain the aesthetic and livability of the City of Sunnyside's parks. Prompt trash removal also helps prevent garbage and leachate from entering the stormwater conveyance system and polluting receiving waters.

Trash and Debris Removal BMPs

- Cover garbage containers to prevent contact with precipitation. When possible, store garbage containers beneath covered structures.
- Locate dumpsters on a flat, concrete surface that does not slope or drain into the storm drain system.
- Regularly inspect garbage and recycling containers for cracks and leaks; make repairs promptly.
- Properly dispose of hazardous waste, gasoline, oil, and other chemical liquids. Never dispose of hazardous waste in park dumpsters or garbage containers.
- Maintain pet waste dispensers, providing signage and collection bags, to encourage responsible pet waste clean-up.

Small Construction Activities

The following BMPs apply when small construction or repair activities include grading, soil transfer, or vegetation removal.

Small Construction BMPs

- Minimize land disturbance and exposed slope length.
- Whenever possible, avoid land disturbance during the wet season.
- Implement erosion control techniques or devices to stabilize disturbed areas. Use mulch or other erosion control measures when soils are exposed for more than one week.
- Install storm drain inlet protection on all inlets within 500 feet downstream or down gradient of the project site to prevent coarse sediment from entering the drainage system. Inlet protection methods include block and gravel inlet protection, gravel and wire inlet protection, and catch basin inserts. Inspect inlet protections frequently during construction.
- Remove excess soil from the site as soon as possible after backfilling to eliminate sediment loss from surplus fill.
- Obtain a *General NPDES Permit for Stormwater Discharges Associated with Construction Activities* from Ecology for any project that disturbs one or more acres and has the potential to discharge to waters of the State.

For larger construction projects that add new impervious surfaces, modify components of the stormwater system, disturb large areas of soil, or include any in-water work, follow the construction activity guidelines in Section 8.

Section 7—Parks and Open Space

Continued

Buildings and Structures

The building facilities in all City of Sunnyside parks shall be maintained according to the BMPs in Section 6 of this O&M Plan.

Stormwater Facilities

The Public Works Department is responsible for the maintenance of stormwater management facilities in all parks and open spaces. Stormwater management facilities should be inspected and maintained according to the schedules and maintenance standards in Section 3.



Storage Areas

Maintenance vehicles, equipment, and uncovered material stockpiles have the potential to leak or contribute pollutants to the stormwater system during rain or snow melt events. Vehicle, equipment, and material storage areas should be maintained according to the City's *SWPPP* included in Appendix D. The following operational BMPs should be implemented to limit the transport of materials into the stormwater collection and conveyance system:

- Sweep parking lots, material storage areas, and driveways regularly to collect dirt, waste, debris, and loose stockpile materials. Do not hose down the areas to a stormwater conveyance system.
- Whenever possible, store material stockpiles in a building or within a paved and bermed covered area.
- Whenever possible, collect and recycle stored materials back into the stockpiles.
- Park/store all vehicles and equipment in a designated covered area.
- Use drip pans or containers under vehicles and equipment that drip or are likely to drip liquids.

Recordkeeping

Recordkeeping is a condition of the Phase II Permit. The Public Works Department is responsible for keeping records of stormwater collection and conveyance system maintenance activities within City of Sunnyside parks. In accordance with the Phase II Permit, the following documentation must be maintained for at least five years following work activity:

Section 7—Parks and Open Space

Continued

- Inspection schedules and checklists for stormwater management facilities.
- Records of spot checks performed following major storm events.
- Repairs or maintenance actions completed due to inspections and spot checks.

The recordkeeping required by the Phase II Permit is limited to documenting any liquid or material spills that could carry pollutants into the stormwater collection and conveyance system. Material or liquid spills should be promptly reported the Public Works Director and all paperwork related to the spill and cleanup activities should be maintained at City Hall. Spills of significance should be reported to the Fire Department, or as directed in Appendix D of the City's *SWPPP*, depending on the nature of the Spill. All paperwork related to the spill and cleanup activities should be maintained at the Fire Department and/or the Public Works Office. Typically, the Public Works Department involvement in spills is limited, and it is at the discretion of the Fire Department if assistance is needed in cleaning up the isolated waste. For smaller spills (typically 2-foot diameter and/or 5 gallons or less), Public Works Crews should forego reporting the spill to the Fire Department and use the Public Works spill kit to clean up the spill.

Section 7—Parks and Open Space

Continued

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Section 8—Construction Projects

Section 8—Construction Projects

Municipal construction projects are subject to the same requirements as those projects proposed by private developers. During construction, proper erosion and sediment controls should be used to prevent sediment-laden stormwater from flowing away from the site and into the stormwater collection and conveyance system. Ecology requires construction sites of a certain size to document their planned sediment and erosion control techniques and to obtain separate NPDES Permit coverage.

The following construction projects are required to have a *General NPDES Permit for Stormwater Discharges Associated with Construction Activities* (Construction Permit). Refer to Ecology's website or regional office for additional information.

- Clearing, grading and/or excavation (including forest practices) that results in the disturbance of one or more acres and discharges stormwater to surface waters of the State.
- Clearing, grading and/or excavation on sites smaller than one or more acres that are part of a larger common plan of development or sale that will ultimately disturb one acre or more, and discharge stormwater to surface waters of the State.
- Any size construction activity discharging stormwater to waters of the State that Ecology determines to be a significant contributor of pollutants to waters of the State of Washington or that Ecology reasonably expects to cause a violation of any water quality standard.

The following construction activities are exempt from NPDES permit coverage:

- Construction activities that discharge all stormwater and non-stormwater to ground water and have no point source discharge to either surface water or a storm sewer system that drains to surface waters of the State.
- Construction activities covered under an Erosivity Waiver (Condition S2.C).
- Routine maintenance performed to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Municipal projects that are subject to the NPDES Construction permit should refer to Ecology's website for information regarding the required erosion and sediment control practices.

Section 8—Construction Projects

Continued

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Section 9—Industrial Activities

Section 9—Industrial Activities

The Department of Ecology issues the *General NPDES Permit for Stormwater Discharges Associated with Industrial Activities* (Industrial Permit) to authorize stormwater discharges associated with industrial activities. The current permit was put into effect as of January 1, 2010. The permit requires the development and implementation of a *SWPPP* and a sampling plan specific to the permitted facility. The City of Sunnyside currently has no facilities covered under the Industrial Permit, however, some activities at the Sunnyside Municipal Airport are industrial in nature. A separate *SWPPP* document has been prepared for the airport and is located in Appendix E of this report.

Any facility listed in Table 9-1 that discharges to surface water or into a storm drainage system that later discharges to a surface water is subject to the Industrial Permit and must obtain permit coverage from Ecology. This guidance table was adopted from Ecology’s *Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities*.

Table 9-1 Examples of Facilities that Require an Industrial Permit	
Municipal Industrial Facilities	Description and SIC Codes
Hazardous Waste Treatment, Storage, or Disposal Sites	Including those operating under interim status or a permit under Subtitle C of the Resource Conservation and Recovery Act (RCRA).
Landfills, Land Application Sites, and Open Dumps	Facilities receive or have received any industrial wastes (waste that is received from any industrial facilities, including those subject to regulation under Subtitle D of RCRA).
Recycling Facilities	Facilities involved in recycling of materials, including metal scrap yards, battery reclaimers, salvage yards, and automobile recyclers, including but not limited to those classified as SIC 5015 and 5093.
Transportation Facilities	Those classified under the following SICs which have vehicle maintenance shops, equipment cleaning operations, or airport de-icing operations: 40 – Railroad Transportation, 41 – Local and Interurban Passenger Transportation, 45 – Transportation by Air.
Sewage Treatment Plants	Those with a design flow of one million gallons per day or more.

Source: *Stormwater Pollution Prevention and Good Housekeeping*, Yakima County, 2010.

The following types of facilities do not need an Industrial Permit:

- Facilities that discharge all stormwater associated with industrial activity into the ground (e.g., infiltration basins, dry wells, drain fields), with some exemptions.

Section 9—Industrial Activities

Continued

- Facilities that discharge all stormwater to a combined sewer system.
- Facilities owned and operated by the Federal government or are on Tribal land, or facilities that discharge directly to Tribal waters meeting Environmental Protection Agency (EPA) approved water quality standards.
- Facilities that qualify for “Conditional No Exposure.” However, facilities must re-apply every five years or 30 days after the effective date reissuance of the Industrial Permit, whichever comes first.

Section 10—Storage Areas

Section 10—Storage Areas

The NPDES Permit requires all material storage areas, heavy equipment storage areas, and maintenance areas to develop and implement a *SWPPP* to protect water quality and prevent the discharge of contaminated stormwater to surface or groundwater. The City's *SWPPP* describes both operational and structural BMPs that will be implemented at each facility.

The following City of Sunnyside properties are covered by the *SWPPP* which is included in Appendix D.

- Public Works Service Center

A copy of the City's *SWPPP* must also be maintained on site at each of the facilities listed above.

Section 10—Storage Areas

Continued

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Section 11—Flood Management Projects

Section 11—Flood Management Projects

Overview

The City of Sunnyside does not currently own or operate any flood management facilities but reserves this section in the event the City should construct or acquire such a facility.

Section 11—Flood Management Projects

Continued

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Section 12—Other Activities

Section 12—Other Activities

**Table 12-1
Implementation Checklist for
Other Facilities and Activities**

Potential Pollutants: Sediment, Nutrients, Heavy Metals, Pathogens, Toxic Chemicals, Debris/Litter				
	Current Activity	New Activity	Optional	Responsibility
Water/Sewer System				
Inspect well sites twice per year	X			Public Works Crews
Inspect booster pump stations and lift stations twice per year	X			Public Works Crews
Inspect reservoir sites twice per year	X			Public Works Crews
Dust Control				
Inspect high dust-prone areas/streets, respond as needed	X			Public Works Crews
Respond to customer calls regarding stormwater issues	X			Public Works Crews
Emergency stormwater hotline	X			Public Works Crews

The City of Sunnyside also conducts several other maintenance activities that have the potential to impact stormwater runoff. This section covers the following municipal activities:

- Water System/Sewer System
- Dust Control
- Fire Fighting
- Swimming Pools

The BMPs associated with each activity are provided in the individual sections below.

Water System/Sewer System

The City of Sunnyside is responsible for the operation and maintenance of a water system and a sewer system. Maintenance and repairs to the water and sewer utility systems have the potential to impact receiving waters.

Section 12—Other Activities

Continued

Water Line (& Hydrant) Flushing

The Phase II Permit allows planned discharges from potable water sources into the stormwater collection and conveyance system under certain conditions. These conditions apply to potable water line flushing, fire hydrant system flushing, and pipeline hydrostatic testing.

The velocity and volume of discharges must be controlled so as not to mobilize sediment deposits or cause soil erosion around the storm drain system.

Discharges must be dechlorinated to a concentration of 0.1 ppm or less and be pH-adjusted. Excessive chlorine concentrations may kill nitrifying bacteria and other aquatic life necessary for sustenance for the aquatic food chain. At the same time, overuse of common chemicals used for the dichlorination process has the potential to deplete dissolved oxygen or alter the pH of receiving waters.



The chlorine field test kit is kept at Public Works Service Center. Every field personnel responsible for dichlorination activities shall be trained in proper use of the test kit. When water line flushing is likely to drain into the stormwater collection and conveyance system, the preferred dichlorination method is:

- Installing a venture-based dichlorination device on the end of a fire hose to feed chemical solutions into the chlorinated water flow.
- Using a dichlorination diffuser and chemical tablet chamber.
- Laying a dichlorination mat or strip across the flow path and over the nearby storm drains to diffuse sodium sulfite into the chlorinated flow prior to discharge into the stormwater system.

Small Construction Activities

Sediment and erosion control measures should be implemented when water or sewer repair or replacement projects include grading, soil transfer, or vegetation removal. The following BMPs apply when making structural repairs or replacing components of the water or sewer utility infrastructure.

- Minimize land disturbance and exposed slope length.
- Whenever possible, avoid land disturbance during the wet season.
- Implement erosion control techniques or devices to stabilize disturbed areas. Use mulch or other erosion control measures when soils are exposed for more than one week.

- Install storm drain inlet protection on all inlets within 500 feet downstream or down gradient of the project site to prevent coarse sediment from entering the drainage system. Inlet protection methods include block and gravel inlet protection, gravel and wire inlet protection, and catch basin inserts. Inspect inlet protections frequently during construction.
- Remove excess soil from the site as soon as possible after backfilling to eliminate sediment loss from surplus fill.
- Obtain a General *NPDES Permit for Stormwater Discharges Associated with Construction Activities* from Ecology for any project that disturbs one or more acre and has the potential to discharge to waters of the State.

For larger construction projects that include the addition of new stormwater system components or the replacement of culverts in streams or other perennial water bodies, follow the construction activity guidelines in Section 8.

Dust Control

Chemical-based dust suppressants can be used to control dust and stabilize road surfaces. However, the chemicals used can have negative environmental impacts by decreasing dissolved oxygen in surface waters or increasing concentrations of iron, sulfur compounds, and other pollutants in groundwater.

Dust Control BMPs

- Follow product labels and maintain equipment for proper application of dust suppression chemicals.
- The City of Sunnyside prefers the following dust suppression products:
 - Freshwater
- Do not apply product during wet weather or prior to predicted rainfall that may wash the product from the surface.
- Restrict the use of product within 25 feet of a water body.
- Calibrate application equipment to evenly distribute product at the optimal rate to bind surfaces.
- Minimize dust generation and apply environmentally friendly and government approved dust suppressant chemicals, if necessary. Sprinkle or wet down soil or dust with water as long as it does not result in a wastewater discharge.

Section 12—Other Activities

Continued

Fire Fighting

Emergency firefighting activities are exempt from the conditions of the Phase II Permit. However, day-to-day operations are subject to the pollution prevention requirements. Vehicle and building maintenance activities at fire stations should implement the BMPs for vehicle fleets in Section 5 and the BMPs for municipal buildings in Section 6. For training exercises and fire hydrant system flushing, the Phase II Permit does allow planned discharges from potable water sources into the stormwater collection and conveyance system under certain conditions.

The velocity and volume of discharges must be controlled so as not to mobilize sediment deposits or cause soil erosion around the storm drain system.

Discharges must be dechlorinated to a concentration of 0.1 ppm or less and be pH-adjusted. Excessive chlorine concentrations may kill nitrifying bacteria and other aquatic life necessary for sustenance for the aquatic food chain. At the same time, overuse of common chemicals used for the dichlorination process has the potential to deplete dissolved oxygen or alter the pH of receiving waters.

The chlorine field test kit is kept at Public Works Service Center. Every field personnel responsible for dichlorination activities shall be trained in proper use of the test kit. When water line flushing is likely to drain into the stormwater collection and conveyance system, the preferred dichlorination method is:

- Installing a venture-based dichlorination device on the end of a fire hose to feed chemical solutions into the chlorinated water flow.
- Using a dichlorination diffuser and chemical tablet chamber.
- Laying a dichlorination mat or strip across the flow path and over the nearby storm drains to diffuse sodium sulfite into the chlorinated flow prior to discharge into the stormwater system.

Section 13—Other Facilities

Swimming Pools

Building maintenance activities at the Sunnyside City Pool should implement the BMPs for municipal buildings in Section 6. In addition to the potential impacts from building maintenance, chlorinated pool water poses an additional threat to aquatic species. Excessive chlorine concentrations may kill nitrifying bacteria and other aquatic life necessary for sustenance for the aquatic food chain.

Swimming Pool Maintenance BMPs

- Pool water shall be discharged to the sanitary sewer.
- Should the City desire to discharge the pool water to the stormwater conveyance system, pool water must be dechlorinated to a concentration of 0.1 ppm or less, volumetrically controlled to prevent the mobilization of sediments, and pH adjusted.
- During pool maintenance, discharge filter backwash and wastewater from pool maintenance (i.e., acid cleaning) to the sanitary sewer system.

Section 13—Other Facilities

Continued

Section 1 Facility Description and Contact Information

1.1 Facility Information

Name of Facility: Sunnyside City Pool

Street: 719 E Edison Ave (559 South 4th Street)

City: Sunnyside State: WA ZIP Code: 98944

County: Yakima

Permit Number: _____

Latitude/Longitude - Use **one** of three possible formats, and specify method (Optional)

Latitude: _____ Longitude: _____

1. 46 ° 19 ' 21" N (degrees, minutes, seconds) 1. 120 ° 0 ' 55" W (degrees, minutes, seconds)

Estimated area of industrial activity at site exposed to stormwater: N/A (acres)

Discharge Information

Does this facility discharge stormwater into surface waters? Yes No

SIC Code(s): _____

1.2 Contact Information/Responsible Parties

Facility Operator (s):

Name: City of Sunnyside

Address: 818 E Edison Avenue

City, State, Zip Code: Sunnyside, WA 98944

Telephone Number: (509) 837-5399

Email address: sfisher@sunnyside-wa.gov

Fax number: (509) 837-3268

Facility Owner (s):

Name: City of Sunnyside

Address: 818 E Edison Avenue

City, State, Zip Code: Sunnyside, WA 98944

Telephone Number: (509) 837-5399

Email address: sfisher@sunnyside-wa.gov

Fax number: (509) 837-3268

SWPPP Contact:

Name: Shane Fisher, Airport Manager/Public Works Director

Telephone number: (509) 837-5399

Email address: sfisher@sunnyside-wa.gov

Fax number: (509) 837-3268

Section 14—Planning, Budgeting and Recordkeeping

Section 14—Planning, Budgeting and Recordkeeping

The focus of this O&M Plan is to implement activities and practices that will protect receiving waters. Most of the BMPs included in this plan require minor adjustments to existing maintenance activities. The Public Works Department is responsible for budgeting and implementing the new activities associated with the stormwater collection and conveyance system inspections and maintenance requirements outlined in Section 3. Some implementation items will be phased in as City of Sunnyside financial resources allow. The Public Works Department will also need to adjust street sweeping practices and winter activities to comply with the BMPs included in Section 4.

Management Philosophy

This O&M Plan was developed to meet the requirements of the NPDES Phase II Permit. The Permit includes required inspection schedules and maintenance standards for the stormwater collection and conveyance system. Beyond that, the Permit is prescriptive when it comes to implementing BMPs for other City of Sunnyside departments. Instead, the BMPs in this plan have been selected based on the requirements to "...reduce the discharge of pollutants to the maximum extent practicable (MEP)" (Permit Section S4.C) and to "...use all known, available, and reasonable methods of prevention, control and treatment (AKART) to prevent and control pollution of waters of the State of Washington." (Permit Section S4.D)

The BMPs and activity schedules in this O&M Plan were also developed based on:

- The level of service expected by local citizens.
- The level of service requested by the City Council.
- The maintenance frequencies needed to prevent costly repairs of the stormwater collection and conveyance system.

For example, the Phase II Permit does not have required street sweeping frequencies, so the frequencies listed in this plan are those necessary to maintain aesthetics, prevent excessive build-up of sediment in catch basins, and prevent significant trash, debris, and sediment accumulation in bike lanes.

The Staffing and Equipment spreadsheet included in Appendix F shows a detailed breakdown of the staff hours, equipment needs, and overall costs to implement the activities and frequencies presented in this O&M Plan. Program costs may be adjusted by changing the desired level of service for various aspects of the City of Sunnyside's infrastructure and municipal facilities.

Section 14—Planning, Budgeting and Recordkeeping

Continued

Staff Assignments and Work Orders.

Based on the Staffing and Equipment calculations, the staff time required for stormwater pollution prevention breaks down into the following major activities:

- Stormwater Conveyance and Collection: 2 Full Time Equivalents (FTE)
- Roads, Highways, and Parking Lots: 1.2 FTE
- Vehicle Fleets: 0.05 FTE
- Municipal Buildings: 0.05 FTE
- Parks and Open Space: 0.1 FTE
- Other Maintenance-Related Activities: 0.5 FTE

Note that the above staff requirements are only for the stormwater pollution prevention activities related to each maintenance area. For example, the 1.2 FTE(s) for roads, highways, and parking lots include the time for street sweeping, sanding, and plowing, but does not include the time for pothole repair, sign replacement, etc.

The Public Works Designee is responsible for developing weekly work orders and making crew assignments to implement the practices and activities outlined in this O&M Plan. Public Works Crews will perform most of the stormwater pollution prevention activities. Additional staffing will be required to perform all the maintenance activities listed in this plan at the direction of the Public Works Director.

Annual Budget

The cost of implementing this O&M Plan for all City of Sunnyside facilities and operations is expected to be \$300,000 on an annual basis. The cost of the maintenance activities can be phased in over the next five years.

Of the total cost, approximately 70% of the total will be needed to maintain the stormwater collection and conveyance system in accordance with the Phase II Permit requirements. The majority of the cost increase over current expenditures is needed to conduct annual inspections (and cleaning) of all components of the stormwater system. In addition, equipment purchases will be necessary to implement the required cleaning elements of this O&M Plan. Over time, the annual inspections will allow the City of Sunnyside to adjust crew assignments to focus maintenance activities on neighborhoods and facilities that experience the most problems. Recurring problem areas can also be identified for long term retrofit to address the challenges.

Equipment Needs

The City of Sunnyside is generally well-equipped to address the maintenance needs identified in this O&M Plan. A vactor truck and a sweeper will be required in the next 1 – 2 years to perform cleaning activities.

In the longer term, the City of Sunnyside will need to replace maintenance vehicles in the next 5 – 10 years and the street sweeper in approximately 10 – 20 years.

Coordination with Phase II Permit

This O&M Plan is focused on meeting the requirements of Section S5.B.6 of the Phase II Permit. However, several other permit requirements are intertwined with the City of Sunnyside's operations and maintenance activities. Implementing this O&M Plan will assist the City of Sunnyside with compliance with the following:

Illicit Discharge Detection and Elimination

Field inspectors play a key role in verifying and updating information in the City of Sunnyside's stormwater system inventory. Field inspectors and maintenance crews are also the front lines for identifying spills and potential illicit discharge concerns. Illicit discharge issues will be promptly reported to the Public Works Director and all paperwork related to the spill and cleanup activities should be maintained at City Hall. In addition, the spill clean-up training required under Section S5.B.3 is applicable to spills of potential pollutants during municipal maintenance activities.

Recordkeeping

The Phase II Permit focuses primarily on keeping records of activities related to inspection, maintenance, and repair of the stormwater collection and conveyance system. The inspection checklists in Appendix A are a key component to the City of Sunnyside's recordkeeping system. As described in Section 3, the Phase II Permit requires that the following documentation be maintained for at least five years following work activity:

- Inspection schedules and checklists for stormwater treatment and flow control facilities.
- Records of spot checks performed following major storm events.
- Repairs or maintenance actions completed because of inspections and spot checks.
- Number and type of enforcement actions related to private facilities.
- Number and type of illicit discharges detected and eliminated.

Section 14—Planning, Budgeting and Recordkeeping

Continued

In addition, tracking the following information may be helpful in planning and budgeting for future maintenance activities:

- Catch basins cleaned each year.
- Amount of sediment collected, and date removed.
- Result of sediment testing.
- Street sweeping – location, frequency.
- Total volume/weight of materials collected per mile of road swept.
- Winter de-icing/sanding activities – location, type, frequency.
- Amount of street waste removed.

The Public Works Designee is also responsible for keeping records of crew activities for the overall maintenance program. This information can be compared against the staffing and equipment spreadsheet (Appendix F) on a quarterly or annual basis to evaluate whether staffing and equipment predictions are accurate. To facilitate this comparison, it may be necessary to add new timesheet codes to the City of Sunnyside's reporting system.

Annual Report

Inspection checklists and maintenance records developed during the implementation of this O&M Plan will assist the City of Sunnyside in completing the Phase II Permit annual report that must be submitted to Ecology by March 31 of each year. While the maintenance records do not need submitted with the annual report, the City of Sunnyside does have an obligation to supply Ecology with the records if requested.

Appendix A

Stormwater Facility Inspection Checklists



City of Sunnyside Inspection and Maintenance Checklist Catch Basins and Manholes

Date of Inspection/Maintenance: _____

Inspection/Maintenance Area (Stormwater Book Grid): _____

Field Personnel Name: _____

Facility Type	Location	Sediment?		Trash, Debris, Vegetation Blocking Inlet?		Evidence of Petroleum Contaminants?		Condition of Structure	
		Yes	No	Yes	No	Yes	No	Good/Fair/Poor	Comment
Circle One	Address, Street, House Number, etc.								
CB Manhole									
CB Manhole									
CB Manhole									
CB Manhole									
CB Manhole									
CB Manhole									
CB Manhole									
CB Manhole									
CB Manhole									

If Yes on any items, perform required maintenance to restore structure(s) to working condition.



City of Sunnyside Inspection and Maintenance Checklist Pipes and Ditches

Date of Inspection/Maintenance: _____

Inspection/Maintenance Area (Stormwater Book Grid): _____

Field Personnel Name: _____

Facility Type	Location	Sediment Exceeds 1/4 of Pipe Diameter or Ditch Depth?		Trash, Debris, Vegetation Blocking Flow?		Evidence of Petroleum Contaminants?		Condition of Pipe/Shape of Ditch	
		Yes	No	Yes	No	Yes	No	Good/Fair/Poor	Comment
Circle One Pipe Ditch	Address, Street, Block, etc.								
Pipe Ditch									
Pipe Ditch									
Pipe Ditch									
Pipe Ditch									
Pipe Ditch									
Pipe Ditch									
Pipe Ditch									
Pipe Ditch									

If Yes on any items, perform required maintenance to restore structure(s) to working condition.



City of Sunnyside Inspection and Maintenance Checklist Drywells

Date of Inspection/Maintenance: _____

Inspection/Maintenance Area (Stormwater Book Grid): _____

Field Personnel Name: _____

Location Address, Street, House Number, etc.	Standing Water?		Sediment within 2 Feet of Grate?		Trash, Debris, Vegetation Blocking Inlet?		Evidence of Petroleum Contaminants?		Condition of Structure	
	Yes	No	Yes	No	Yes	No	Yes	No	Good/Fair/ Poor	Comment

If Yes on any items, perform required maintenance to restore structure(s) to working condition.



City of Sunnyside Inspection and Maintenance Checklist Pretreatment Manholes and Infiltration Trench Systems

Date of Inspection/Maintenance: _____

Inspection/Maintenance Area (Stormwater Book Grid): _____

Field Personnel Name: _____

Location	Standing Water in Pretreatment Manhole?		Sediment in Manhole Sump?		Trash, Debris, Vegetation Blocking Inlet/Outlet Pipes?		Evidence of Petroleum Contaminants?		Condition of Manhole		
	Address, Street, House Number, etc.	Yes	No	Yes	No	Yes	No	Yes	No	Good/Fair/Poor	Comment

If Yes on any items, perform required maintenance to restore structure(s)/system(s) to working condition.



City of Sunnyside Inspection and Maintenance Checklist

Ponds: Retention and Detention

Date of Inspection/Maintenance: _____

Inspection/Maintenance Area (Stormwater Book Grid): _____

Field Personnel Name: _____

Location Address, Street, House Number, etc.	Standing Water in Pond?		Grass Taller than 1 Foot?		Sediment Blocking Inlet/Outlet Pipes?		Trash, Debris, Vegetation in Pond?		Evidence of Petroleum Contaminants?		Condition of Manhole	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Good/Fair/ Poor	Comment

If Yes on any items, perform required maintenance to restore structure(s) to working condition.



City of Sunnyside Inspection and Maintenance Checklist 7th Street and Decatur Avenue Treatment Vault

Date of Inspection/Maintenance: _____

Field Personnel Name: _____

Sediment?		Trash, Debris, Vegetation Blocking Inlet/Outlet Pipes?		Oil layer exceeds 1-inch?		Condition of Structure	
Yes	No	Yes	No	Yes	No	Good/Fair/Poor	Comment

If Yes on any items, perform required maintenance to restore structure to working condition.



City of Sunnyside Inspection and Maintenance Checklist Stormwater Pumping Station

Date of Inspection/Maintenance: _____

Field Personnel Name: _____

Sediment?		Trash, Debris, Vegetation Blocking Inlet/Outlet Pipes?		Oil layer exceeds 1-inch?		Condition of Structure	
						Good/Fair/ Poor	Comment
Yes	No	Yes	No	Yes	No		

If Yes on any items, perform required maintenance to restore structure to working condition.

Appendix B

Waste Disposal Protocol

Waste Disposal Protocol for Streets and Stormwater Management Facilities

CITY OF SUNNYSIDE

This Waste Disposal Protocol addresses waste generated from stormwater maintenance activities such as street sweeping, the cleaning of catch basins, and the cleaning of other stormwater conveyance and treatment facilities such as retention/detention ponds, swales, and pretreatment devices. Proper disposal of cleaning wastes from roadways, highways, parking lots and other impervious surfaces is crucial to prevent pollutants from entering the stormwater conveyance system or surface waters and to keep solid wastes from impeding stormwater runoff flow or causing damage to the stormwater system.

This Protocol outlines the City of Sunnyside's procedure for characterization, reuse, and disposal of sediment and debris from street sweeping and stormwater facility cleaning and maintenance. These procedures are consistent with applicable federal and state requirements and the requirements of Yakima County Public Services – Solid Waste Division.

Definition

For the purposes of this Protocol, "street waste" is defined as liquid and solid waste collected during the maintenance and cleaning of stormwater catch basins, detention/retention ponds, ditches and similar stormwater treatment and conveyance structures, and solid waste collected during street and parking lot sweeping. Street waste does not include solids and liquids from street washing using detergents, cleaning of electrical vaults, vehicle wash sediment traps, restaurant grease traps, industrial process waste, sanitary sewage, combined sewage/stormwater wastes, or waste from oil/water separators at sites that load fuel.

Collection and Storage

Street waste, including sediment collected from stormwater facilities, should be collected and stored at the Public Works Service Center. Solid waste and debris should be stored in appropriate containers, temporary covered storage sites, or other methods in a manner that prevents discharge to a storm drain.

Dangerous Waste

Dangerous waste is defined as those solid wastes that is dangerous or extremely hazardous to the public health and environment. Per Chapter 173-303-9904 WAC, characteristics of dangerous waste are: Ignitable, corrosive, reactive, or toxic. Dangerous wastes may be identified by: Unusual color, staining, corrosion, unusual odor, fumes, and oily sheen. Street waste that is suspected of being dangerous waste should not be collected or stored with other street waste. Material in catch basins with obvious contamination should be left in place or segregated until tested. Potentially dangerous waste should be handled and stored separately until a determination as to proper disposal is made. Potentially dangerous waste should be handled following the Dangerous Waste Regulations (Chapter 173-303 WAC) unless testing determines it is not dangerous waste.

Disposal and Reuse of Liquid Materials

Wastes collected during street sweeping and stormwater treatment facility cleaning and maintenance must be dewatered. Decant water may be disposed of into the municipal sanitary sewer. Do not dewater near a storm drain or canal.

Decant liquid collected from cleaning catch basins and de-watering liquid from street cleaning activities should be discharged to the lagoon at the Wastewater Treatment Plant.

Ecology allows discharge back into the storm sewer as an acceptable option IF:

- Other practical means are not reasonably available.
 - Pretreatment is provided by discharging to a modified Type 2 catch basin (with a flow restrictor or oil/water separator) or water quality vault.
 - The discharge is upstream of a basic or enhanced stormwater treatment facility.
- Otherwise, discharge must be to the sludge drying beds or sanitary sewer system.

Re-Use and Disposal of Solid Waste

Street waste that exceeds the maximum values in Table 1 should be handled as dangerous waste and must be disposed of at the Terrace Heights Landfill.

Street and stormwater system wastes that are not contaminated and do not exceed the maximum values in Table 1 should be disposed of at the Public Works Service Center or reused in one of the following ways:

- Wastes that consist primarily of leaves, pine needles, branches, and grass cuttings should be disposed of at the Terrace Heights Landfill.
- Coarse sand from street sweeping after recent road sanding should be screened from trash. Sediments may be stockpiled at the Public Works Service Center and reused for future street sanding.
- Soil that has been screened to remove litter and vegetation should be stockpiled at the Public Works Service Center and reused as:
 - Feedstock material for topsoil operations.
 - Fill in parks and recreational settings, provided it is covered with grass, sod, or other capping material.
 - Construction fill for industrial or commercial sites, roadways, or parking lots.

The following tables are taken from the Department of Ecology 2019 Eastern Washington Stormwater Manual.

Table 1 Recommended Parameters and Suggested Values for Determining Reuse and Disposal Options	
Parameter	Suggested Maximum Value
Arsenic, total	20.0 mg/kg
Cadmium, total	2.0 mg/kg
Chromium, total	19 mg/kg
Lead, total	220 mg/kg
Nickel	100 mg/kg
Zinc	270 mg/kg
Mercury (inorganic)	2.0 mg/kg
PAHs (Carcinogenic)	none
TPH (heavy fuel oil)	200 mg/kg
TPH (diesel)	200 mg/kg
TPH (gasoline)	100 mg/kg
Benzene	0.03 mg/kg
Ethylbenzene	6 mg/kg
Toluene	7 mg/kg
Xylenes (total)	9 mg/kg

Table Notes:

- (a) Arsenic: from MTCA Method A - Table 740-1: Soil cleanup levels for unrestricted land uses.
- (b) Cadmium: from MTCA Method A – Table 740-1: Soil cleanup levels for unrestricted land uses.
- (c) Chromium; from MTCA Method A - Table 740-1: Soil cleanup levels for unrestricted land uses.
- (d) Lead; from MTCA Method A – Table 740-1: Soil cleanup levels for unrestricted land uses.
- (e) Nickel and Zinc; from MTCA Table 749-2: Protection of Terrestrial Plants and Animals.
- (f) Mercury; from MTCA Method A – Table 740-1: Soil cleanup levels for unrestricted land uses.
- (g) PAH-Carcinogenic; from MTCA Method A – Table 740-1: Soil cleanup levels for unrestricted land uses and Table 745-1, industrial properties, based on cancer risk via direct contact with contaminated soil (ingestion of soil) in residential land use situations and commercial/industrial land uses. Note: The local health department may permit higher levels as part of a Plan of Operation, where they determine that the proposed end use poses little risk of direct human contact or ingestion of soil.
- (h) TPH: from MTCA Tables 749-2 & 749-3: Protection of Terrestrial Plants and Animals. Values up to 460 mg/kg may be acceptable where the soils are capped or covered to reduce or prevent exposure to terrestrial plants and animals. Where the laboratory results report no 'fingerprint' or chromatographic match to known petroleum hydrocarbons, the soils will not be considered to be petroleum contaminated soils.
- (i) BETX; from MTCA Method A - Table 740-1: Soil cleanup levels for unrestricted land uses.

Please note that some of the suggested maximum values in Table 1 are based on soil cleanup criteria for unrestricted land uses.

Table 2 provides recommended sampling frequency for street waste solids based on cubic yards of solids. The City of Sunnyside does not currently test street wastes but may eventually test wastes as additional Public Works crews are made available.

Table 2	
Recommended Sampling Frequency for Street Waste Solids	
Cubic Yards of Solids	Minimum Number of Samples
0 – 100	3
101 – 500	5
501 – 1000	7
1001 – 2000	10
<2000	10 + 1 for each additional 500 cubic yard

Appendix C
Private Facility Inspection and
Enforcement Protocol

Private Facility Inspection and Enforcement Protocol

City of Sunnyside

The Eastern Washington Phase II Municipal Stormwater Permit (Permit) requires that the City of Sunnyside protect water quality and reduce the discharge of pollutants into receiving waters. As part of the Permit, the City of Sunnyside must reduce pollutant discharges from stormwater management facilities through implementation of the City of Sunnyside Municipal Code, Chapters 13.30, 13.30A, 15.54, and 15.54A, the City of Sunnyside Stormwater Pollution Prevention Operations and Maintenance Plan, and Program Plan.



This protocol outlines the City of Sunnyside's procedures for ensuring private stormwater facilities are maintained according to City of Sunnyside standards. The facilities may be impacted include privately owned and maintained ponds, tanks, vaults, swales, and other stormwater management facilities that drain to the public municipal separate storm sewer system (MS4). The MS4 includes the public storm sewer pipe system, as well as ditches, creeks, and rivers.

Transfer of Ownership

The City of Sunnyside may assume ownership of privately-owned facilities where there is a regional benefit to the utility and the facilities adhere to certain conditions stated in the City of Sunnyside Municipal Code.

Inspection and Enforcement

The City of Sunnyside's Municipal Code state all privately-owned stormwater facilities which discharge to the public stormwater collection and conveyance system (including pipes, ditches, creeks, and rivers) shall be subject to inspection by the City of Sunnyside if deemed necessary beyond the normal protocol outlined below. These facilities must be maintained in accordance with the City of Sunnyside's Stormwater Pollution Prevention Operations and Maintenance Plan. The following protocol describes the City of Sunnyside's procedures for inspecting and enforcing maintenance standards for private facilities.

Protocol

Owners of private stormwater facilities assume the responsibility of inspecting and maintaining their facilities in a manner that prevents stormwater pollution and maintains the original function of the facility. Maintenance activities include annual inspections, record keeping, and reporting.

The City of Sunnyside inspection program includes the following procedures:

- The private facility inspection program is the responsibility of the property owners.
- Property owners must inspect private facilities annually and record all observations. At a minimum, stormwater facilities are to be inspected for the following:
 - Sediment in facility, and amount
 - Trash, debris, or vegetation blocking inlets/outlets
 - Evidence of petroleum products
 - Condition of structure(s)
 - Standing water in structure
- Private facilities can be inspected annually by a third-party hired by the facility owner. Identified maintenance activities must be completed within one year. Inspection and maintenance records must be kept for a minimum of five years by the property owner. These records shall be made available to the City of Sunnyside Public Works within a three-day notice of request.
- Should the City of Sunnyside suspect an illicit connection to the MS4, the City shall be permitted to enter and inspect facilities subject to regulation under the City of Sunnyside Municipal Code.

Appendix D
Parks and City Owned Facilities SWPPP

CITY OF SUNNYSIDE

Stormwater Pollution Prevention Plan (SWPPP)

Parks and City Owned Facilities
(Airport under Separate SWPPP)



City of Sunnyside
818 E Edison Avenue
Sunnyside, WA 98944
December 2022

**KEEP THIS SWPPP
ON-SITE AT ALL
TIMES**

**THIS SWPPP IS TO
BE MADE AVAILABLE
TO THE PUBLIC
UPON REQUEST**

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Section 1—Introduction

Acronyms and Abbreviations

BMPs	Best Management Practices
Ecology	Washington State Department of Ecology
EPA	Environmental Protection Agency
ISGP	Industrial Stormwater General Permit
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollution Discharge Elimination System
Phase II Permit	NPDES Phase II Municipal Stormwater Permit
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
UIC	Underground Injection Control

List of Definitions

Most of the definitions below are sourced from the Washington Department of Ecology (Ecology) Eastern Washington Phase II Municipal Stormwater Permit (Phase II Permit). Definitions not provided from the Phase II Permit were taken from other sources, including Ecology's Stormwater Management Manual for Eastern Washington, Environmental Protection Agency (EPA) National Pollution Discharge Elimination System (NPDES) website glossary, and the Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments.

Best Management Practices (BMPs) are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices approved by Ecology that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

Combined Sewer means a sewer which has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinances.

Discoloration is a means by which to characterize stormwater. Typically, stormwater is yellowish in color. Discoloration however, other than turbidity, can indicate whether there is rust from iron pipes or iron bacteria, as seen by a yellowish/red color or if paint or cleaning agent emulsions have entered the stormwater system, as indicated by a white cloudy color.

Erosion and Sediment Control BMPs mean BMPs that are intended to prevent erosion and sedimentation, such as preserving natural vegetation, seeding, mulching and matting, plastic covering, and sediment traps and ponds. Erosion sediment control BMPs are synonymous with stabilization and structural BMPs.

Floatables is a means by which to characterize stormwater. A floatable is used as an indicator if obvious trash or other controllable debris, such as landscaping material, leaf litter, etc., has entered the storm system.

Section 1—Introduction

Continued

Foam is a means by which to characterize stormwater. Foam is used as an indicator that possibly soap or other cleaning products have entered the storm system. However, stormwater can often be slightly foamy from pollen and other natural organic material. The way to tell the difference is by touch and smell. If the foam is persistent and accompanied by a fragrant odor, it is most probably coming from a cleaning product. If the suds break up quickly, then it is most likely from turbulence and/or natural conditions.

Hazardous Substance is: 1) Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive. 2) Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or is otherwise released into the environment.

Hyperchlorinated means water that contains more than 10 mg/Liter chlorine. Disinfection of water mains and appurtenances requires a chlorine residual of 10 mg/L at the end of the disinfection period. This level is well above the Maximum Residual Disinfectant Level of an annual average of 4 mg/Liter chlorine for potable water.

Illegal Dumping means intentional and non-permitted disposal of any substance other than stormwater into the municipal separate storm sewer system, unless otherwise called out as an allowed non-stormwater discharge.

Illicit Connection means any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the municipal separate storm sewer system.

Illicit Discharge means any discharge to the municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

Industrial Stormwater General Permit (ISGP) means the NPDES Industrial Stormwater General Permit, issued by Ecology for stormwater discharges associated with industrial activities (Issued 2002, modified 2004, effective January 2005).

Material Storage Facilities means an uncovered area where bulk materials (liquid, solid, granular, etc.) are stored in piles, barrels, tanks, bins, crates, or other means.

Section 1—Introduction

Continued

Municipal Separate Storm Sewer System (MS4) means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains):

- 1) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.
- 2) Designed or used for collecting or conveying stormwater.
- 3) Which is not a combined sewer.
- 4) Which is not part of a Publicly Owned Treatment Works, as defined at 40 CFR 122.2.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking, and reissuing, terminating, monitoring, and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the Federal Clean Water Act, for the discharge of pollutants to surface waters of the state from point sources. These permits are referred to as NPDES permits and, in Washington State, are administered by the Washington Department of Ecology.

Non-Stormwater Discharges are discharges of process wastewaters, vehicle washwaters, cooling waters, or any other wastewaters associated with the facility into the stormwater collection system. Other discharges must be addressed in a separate NPDES permit. See also **Illicit Discharge**. Certain non-stormwater discharges are conditionally approved under the ISGP but are subject to specific provisions, including identifying the location, flow volumes, quality, potential for water quality issues and ability to apply appropriate BMPs. Examples of conditionally approved non-stormwater discharges under an ISGP include:

- Discharges from fire fighting activities.
- Fire protection system flushing, testing, and maintenance.
- Discharges of potable water including water line flushing, provided the water line flushing is de-chlorinated prior to discharge.
- Uncontaminated air conditioning or compressor condensate.
- Irrigation drainage.
- Uncontaminated ground water or spring water.
- Discharges associated with dewatering of foundations, footing drains, or utility vaults where flows are not contaminated with process materials such as solvents.

Stormwater Management Program (SWMP) means a set of actions and activities designed to reduce the discharge of pollutants from the regulated small MS4 to the maximum extent practicable and to protect water quality, and comprising the components listed in S5 of S6 of the Eastern Washington Phase II Municipal Stormwater Permit and any additional actions necessary to meet the requirements of applicable requirements.

Section 1—Introduction

Continued

Structural source control BMPs are physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. Structural source control BMPs typically include:

- Enclosing and/or covering the pollutant source (building or other enclosure, a roof over storage and working areas, temporary tarp, etc.).
- Segregating the pollutant source to prevent run-on of stormwater, and to direct only contaminated stormwater to appropriate treatment BMPs.

Treatment BMPs are intended to remove pollutants from stormwater. A few examples of treatment BMPs are Wetponds, oil/water separators, biofiltration swales, and constructed wetlands.

Turbidity is a means by which to characterize stormwater. The dispersion or scattering of light in a liquid, caused by suspended solids and other factors; commonly used as a measure of suspended solids in a liquid.

Vehicle Maintenance or Storage Facility means an uncovered area where any vehicles are regularly washed or maintained, or where at least 10 vehicles are stored.

Water Quality means the chemical, physical, and biological characteristics of water, usually with respect to its suitability for a particular purpose.

Waters of the State includes those waters as defined as “waters of the United States” in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and “waters of the state” as defined in Chapter 90.48 RCW, which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

Pollution Prevention Team

The Pollution Prevention Team is responsible for ensuring that the recommended BMPs are implemented to control stormwater pollution at the site. Team members are responsible for inspections, operation and maintenance, operational source controls, employee training, emergency and spill response, and other activities necessary to implement the Stormwater Pollution Prevention Plan (SWPPP).

The Pollution Prevention Team for the City of Sunnyside consists of the following staff members:

Name	Job Title	Contact Number
Shane Fisher	Public Works Director	(509) 837-5399
Raul Sanchez	Project Manager	(509) 836-6311

The City of Sunnyside is currently subject to the requirements of the National Pollution Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit (Phase II Permit) and the Underground Injection Control (UIC) Rule. The NPDES Phase II Permit was issued by the Washington State Department of Ecology (Ecology) on July 1, 2019, and became effective on August 1, 2019.

Section 1—Introduction

Continued

The City of Sunnyside is required to develop and implement Stormwater Pollution Prevention Plans (SWPPPs) to protect water quality at municipally owned and operated facilities, including material storage areas, heavy equipment storage areas, and maintenance areas, that are not currently covered under another NPDES stormwater permit (e.g., the General NPDES Permit for Stormwater Discharges Associated with Industrial Activities).

This document presents the SWPPP developed for the following facilities:

- Public Works Service Center
- Wastewater Treatment Plant
- Water Department
- City Parks
- Community Center
- City Hall

1.1 SWPPP Objective

The objective of this SWPPP is to implement measures to prevent and control the contamination of discharges of stormwater to surface or ground waters.

1.2 Recordkeeping

All records related to this SWPPP shall be maintained for at least five years. All records related to this SWPPP shall be kept with the SWPPP, preferably in the same binder.

1.3 SWPPP Availability

All records related to this SWPPP shall be made available to the public at reasonable times during business hours. Members of the public who request SWPPP records in person shall be allowed to view documents on-site. SWPPP records shall not be removed from the site. Copies of SWPPP records may be obtained by sending a written request to the Public Works Director.

All records related to the SWPPP shall be made available to Ecology upon request.

1.4 SWPPP Development and Implementation Process

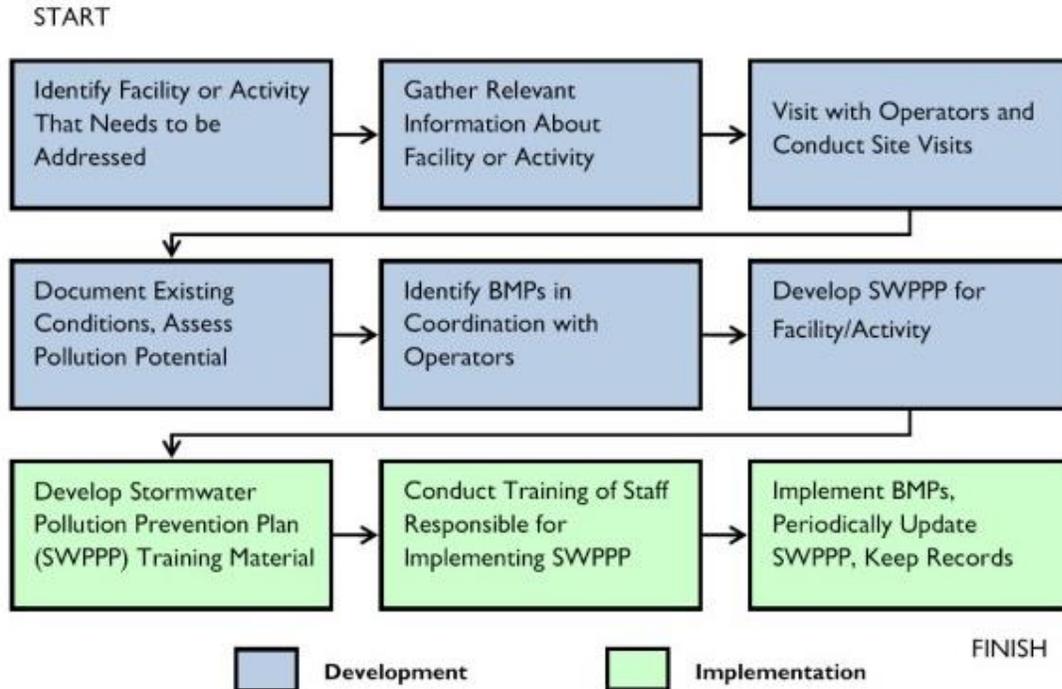
This SWPPP was prepared based on a SWPPP Template developed by Otak, Inc. for the Wenatchee Valley Stormwater Technical Advisory Committee using funding provided by a grant from Ecology.

The methods used to develop this SWPPP included site visits, identification of facility specific Best Management Practices (BMPs), and coordination with facility operators. Implementation of the SWPPP will include employee training and BMP application.

Section 1—Introduction

Continued

Figure 1 – Flow Chart of SWPPP Development and Implementation Process



1.5 SWPPP Revisions

The SWPPP will need to be modified under the following conditions:

- Significant changes occur at the facility which affect current BMPs and could affect stormwater quality;
- The City of Sunnyside purchases or develops a new property to be used for municipal storage activities;
- The City of Sunnyside changes site use (adds or ceases a major activity) at an existing municipal storage site; and/or
- On an annual basis to reflect any administrative changes, including Pollution Prevention team members.

Section 2—Site Assessment & Best Management Practices

2.1 Facility Description

The City of Sunnyside Public Works Service Center is located at 1509 S 6th Street, Sunnyside, Washington 98944. The site shares a border with the Union Pacific Railroad and a commercial lot. There are residential lots across the street surrounding the site on two sides, with commercial lots across the road on the other sides. The site is approximately eight acres in area, which consists of two paved parking lots, two enclosed buildings, and five open covered storage areas. Most of the ground is gravel roadways, with several rock piles. A site map for the facility is shown in Appendix A.

The Wastewater Treatment Plant is located at 1336 S 4th Street, Sunnyside, Washington 98944. The site shares a border with the City Water Department, and a commercial lot. A canal runs along the western border of the property. There are residential lots across the canal, and commercial lots across the street from the site. The Union Pacific Railroad is also adjacent to the property. The site is approximately 10 acres in area, which consists of multiple buildings, clarifiers, drying beds, paved roads, and parking areas. A site map for the facility is shown in Appendix A.

The City Water Department is located at 409 E Lincoln Avenue, Sunnyside, Washington 98944. The site shares a border with the Wastewater Treatment Plant and a commercial lot. A canal runs along the western border of the property. There are residential lots across the street on one side and a commercial lot on the other side. The Union Pacific Railroad is adjacent to the property. The site is approximately three acres in area, and includes two buildings, paved roadways, and gravel areas. A site map for the facility is shown in Appendix A.

The City of Sunnyside Fire Department is located at 513 S 8th Street, Sunnyside, Washington 98944. The site shares a border with several commercial buildings and the Post Office. Across the street are more commercial businesses. The site is approximately 0.75 acres in area, and includes one building with a large, attached garage, landscaping, and a paved parking area. A site map for the facility is shown in Appendix A.

The City of Sunnyside City Hall is located at 818 E Edison Avenue, Sunnyside, Washington 98944. The site shares a border with commercial and residential lots. Across the street are more commercial lots and a church. The site is comprised of three parcels totaling approximately 0.67 acres in area and consists of one building and a paved parking area. A site map for the facility is shown in Appendix A.

The Law and Justice Center is located at 401 Homer Street, Sunnyside, Washington 98944. The site shares a border with Tina Knoth Park and a commercial lot. The Burlington Northern Railroad is adjacent to the property to the south. There are commercial lots across the street. The site is approximately 10 acres in area, which is shared between the Law and Justice Center and Tina Knoth Park. The site is comprised of two buildings, paved parking areas, infiltration swales, and grass landscaping. A site map for the facility is shown in Appendix A.

Centennial Square Park is located at the corner of 6th Street and Edison Avenue, in Sunnyside, Washington 98944. The site shares a border with government owned buildings and commercial lots. Across the street are more commercial lots. The site is four parcels totaling approximately

Section 2—Site Assessment & Best Management Practices

Continued

0.5 acres in area and comprised of a paved path, building, grass landscaping, and a gazebo stage. A site map for the facility is shown in Appendix A.

The Veteran's Memorial is located down the center of S 9th Street between E Edison Avenue and E Franklin Avenue, in Sunnyside, Washington 98944. The Memorial is surrounded by residential and commercial lots. The site is in the right of way of 9th Street and is approximately 0.25 acres in area and consists of paver stones with upright monuments. A site map for the facility is shown in Appendix A.

South Hill Park and the Community Center are located at 1521 S 1st Street, Sunnyside, Washington 98944. The Park is surrounded by residential lots, with commercial lots across the street. The site is approximately 18 acres in size and is comprised of baseball fields, picnic areas, tennis courts, public restroom facility, grass areas, a paved parking area, and the Community Center building. A site map for the facility is shown in Appendix A.

Central Park is located at 559 S 4th Street, Sunnyside, Washington 98944. The Park is surrounded by residential lots and a church and is adjacent to the Union Pacific Railroad. Across the street are residential and commercial lots. The site is approximately 9 acres in area, and comprised of a skate park, a concrete stage, paved parking area, picnic areas, the City Pool, and grass areas. A site map for the facility is shown in Appendix A.

Don Hughes Park is located at 1410 E Lincoln Avenue, Sunnyside, Washington 98944. The Park is bordered by commercial and residential lots. Across the street is a church and more residential lots. The site is approximately 1 acre in area and comprised of grass, a paved basketball court, sandy volleyball court, and a playground. A site map for the facility is shown in Appendix A.

Kiwanis Youth Park is located at 509 Doolittle Street, Sunnyside, Washington 98944. The Park is bordered by residential and commercial lots. Across the street are more commercial and residential lots. The site is approximately 3.5 acres in area and comprised of a paved basketball court, picnic areas, public restroom facilities, a playground, grass areas, and a paved parking area. A site map for the facility is shown in Appendix A.

Sunnyview Park is located at 31211 Yakima Valley Highway Sunnyside, Washington 98944. The Park is bordered by commercial lots. Across the street are residential, commercial, and agricultural lots. The site is approximately 32 acres in area and comprised of baseball fields, a skate park, picnic areas, paved parking areas, a playground, public restroom facilities, and grassy areas. The Sunnyside Valley Irrigation District (SVID) also has a maintenance shed located on the corner of the Park property. A site map for the facility is shown in Appendix A.

Upland Park is located at 1200 Grandview Avenue, Sunnyside, Washington 98944. The Park is bordered by residential lots, with residential lots across the street. The site is three parcels totaling approximately one acre in area and is comprised of a gazebo, paved basketball court, playground, and grass areas. A site map for the facility is shown in Appendix A.

Section 2—Site Assessment & Best Management Practices

Continued

Denny-Blaine Park is located at the corner of 7th Street and Blaine Avenue in Sunnyside, Washington 98944. The Park is bordered by the Post Office and shares its parcel with a municipal well site. Across the street are residential lots. The site is approximately one acre in area, of which approximately one-third is the Park. The site is comprised of a paved basketball court, playground, and grass areas. The municipal well site consists of gravel areas, a pump building, and a water tank. A site map for the facility is shown in Appendix A.

Tina Knoth Park is located at 401 Homer Street, Sunnyside, Washington 98944. The Park shares its parcel with the Law and Justice Center. The Park is adjacent to the Burlington Northern Railroad and has commercial lots across the street. The parcel is approximately 10 acres in area, with 3 acres of that dedicated as the Park. The site is comprised of a grass field used for soccer and a gravel parking area. A site map for the facility is shown in Appendix A.

The Lower Valley Pathway is a pedestrian pathway that runs alongside Yakima Valley Highway from Sunnyside to Grandview. The paved parking area for the Pathway is located at the intersection of S 16th Street and E Yakima Valley Highway in Sunnyside, Washington 98944. Sunnyside's responsible portion ends at the city limits, next to Sunnyview Park. The Pathway is paved and runs adjacent to the Burlington Northern Railroad, passing many commercial and agricultural lots along its path. The Pathway is approximately 2.3 miles long in Sunnyside, Washington 98944, consisting of an 8-foot asphalt pathway. A site map for the facility is shown in Appendix A.

2.1.1 History of Spills and Leaks

There is no recorded history of any major spills or leaks at these facilities.

2.1.2 Production and Application Activities

No production or application activities (such as vehicle painting or sign fabrication) are currently performed on-site.

2.2 Best Management Practices

BMPs are the schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices that, when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to receiving waters.

There are three general classes of BMPs: Operational Source Control BMPs, Structural Source Control BMPs, and Treatment BMPs. Operational BMPs are those that involve specific activities or one-time actions on the part of the facility staff. If Operational BMPs do not adequately prevent the potential contamination of stormwater, Structural BMPs, such as constructing new covered shelters to prevent stormwater from coming into contact with potential pollutants, may be a reasonable solution. Treatment BMPs are only used as a last resort to remove containments from stormwater before discharging to a stormwater conveyance system or to surface or ground waters.

Section 2—Site Assessment & Best Management Practices

Continued

2.2.1 General Operational BMPs

General Operational BMPs are good housekeeping activities that should be applied to day-to-day activities at the facility to prevent contaminants from entering stormwater at their source. The purpose of good housekeeping is to keep the facility area clean and free of debris, storage materials under cover, and handling materials and waste products in a way that minimizes the risk to stormwater. The good housekeeping BMPs are:

- Keep open areas clean and orderly.
- Pick-up litter.
- Promptly contain and clean up solid and liquid pollutant leaks and spills.
- Sweep paved material handling and storage areas regularly.
- Inspect all BMPs regularly, particularly after a significant storm.
- Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids.
- Promptly remove debris and old equipment.
- Store hazardous materials as specified by the manufacturer.
- Conduct regular employee training to reinforce proper housekeeping actions.

See Appendix B for additional preventative maintenance BMPs. The BMP descriptions in Appendix B were drawn primarily from Ecology's *Stormwater Management Manual for Eastern Washington* (2019) and the California Department of Transportation's *Stormwater Quality Handbook Maintenance Staff Guide* (2003, Revised 2007).

2.2.2 Specific BMPs

A wide variety of activities and areas of concern throughout the facilities may potentially contaminate stormwater. Example pollutant source specific BMPs are included in Appendix C. BMP descriptions were drawn primarily from Ecology's *Stormwater Management Manual for Eastern Washington* (2019) and the California Department of Transportation's *Stormwater Quality Handbook Maintenance Staff Guide* (2003, Revised 2007).

2.4 Employee Training and Education

Training will be provided at staff meetings for all municipal field staff. The Public Works Director will provide training oriented toward prevention of stormwater pollution and implementation of the SWPPP. The goal of this training is to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts. All maintenance facility personnel are recommended to participate in the training to improve understanding of stormwater impacts and ways to prevent stormwater pollution. Additional training should be provided as an annual refresher course, or as new employees are hired.

Section 3—Illicit Non-Stormwater Discharges

The City of Sunnyside is required to develop, implement, and enforce a program to detect and eliminate non-stormwater illicit discharges into the municipal separate storm sewer system (MS4), including spills, illicit connections, and illegal dumping.

3.1 Illicit Connections

An illicit connection is any man-made conveyance of non-stormwater discharges connected to an MS4 without a permit. Examples include sanitary sewer connections, floor drains, and process waters connected directly or indirectly to the MS4. Exemptions include connections from foundation and footing drains, air conditioning condensation, uncontaminated groundwater, and other similar type connections. A complete list of the prohibited and exempt non-stormwater discharges can be found in the City of Sunnyside's Illicit Connections and Discharges to the Municipal Separate Storm Sewer System, specifically Chapter 13.30A of the City of Sunnyside Municipal Code.

If an illicit connection is detected on-site, the Pollution Prevention Team shall take appropriate steps to terminate or redirect the connection to an appropriate discharge location.

3.2 Illicit Discharges

An illicit discharge is any discharge to an MS4 not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the Phase II Permit) and discharges resulting from emergency fire fighting activities.

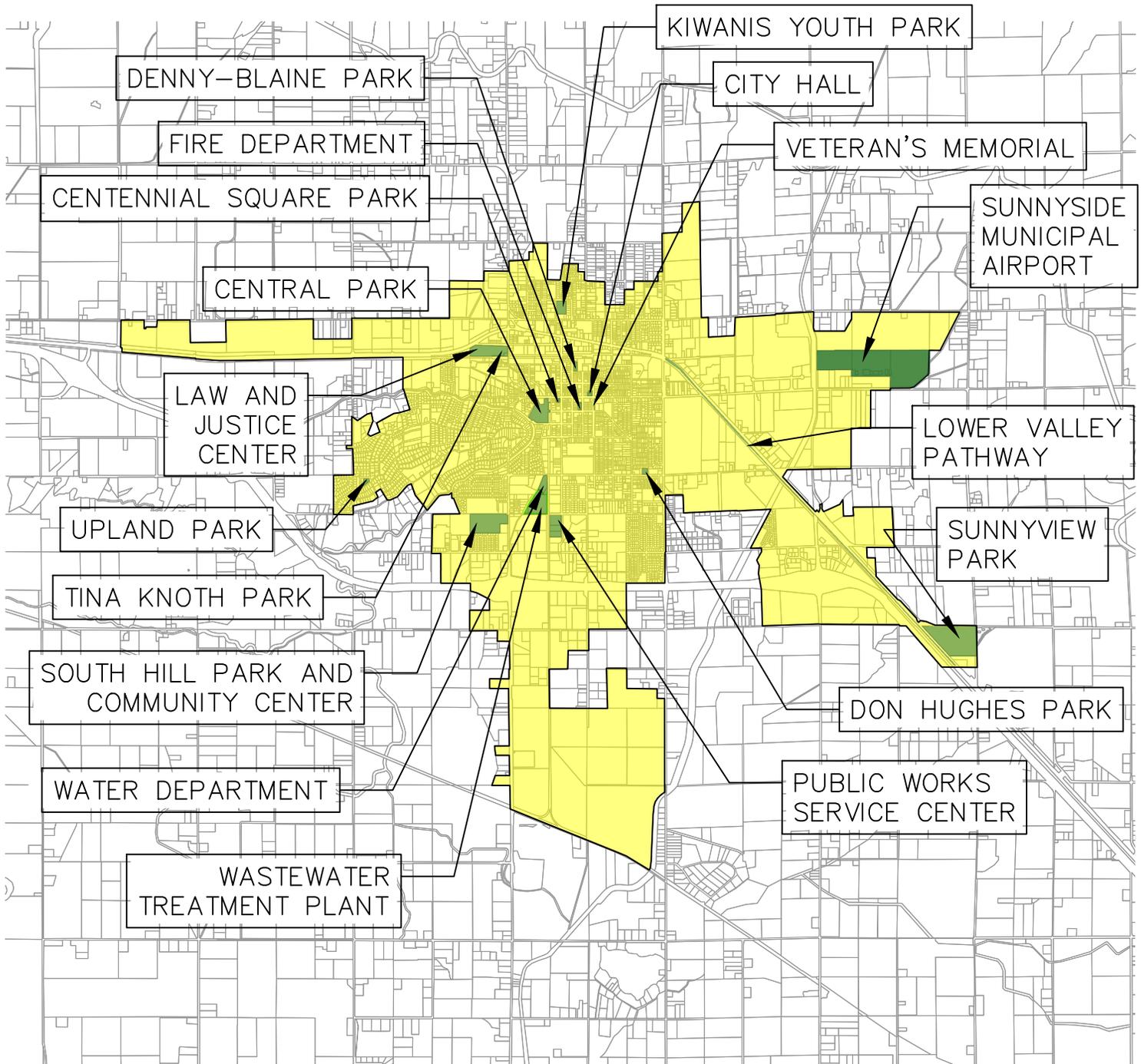
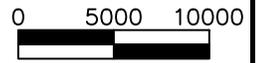
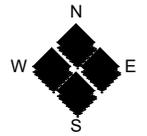
If a prohibited discharge is observed, the Pollution Prevention Team shall take immediate action to terminate the discharge. Depending on the nature of the illicit discharge, it may be necessary to report it as a spill; a three-page summary of basic spill response procedures is included in Appendix D.

3.3 Illegal Dumping

Illegal dumping consists of spilling, dumping, releasing, throwing, depositing, or placing solid waste, litter, pet waste, yard waste, or hazardous materials where there is the potential for those materials or pollutants to end up in the MS4.

If illegal dumping is observed, the Pollution Prevention Team shall take immediate action to identify the responsible party and ensure cleanup of the dumped material.

Appendix A—Site Maps

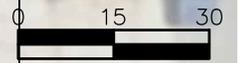
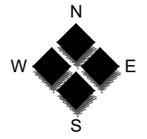


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CITY OF SUNNYSIDE

VICINITY MAP



*ALL STORMWATER INFILTRATES ON SITE



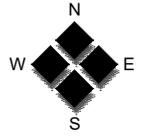
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CITY OF SUNNYSIDE

DON HUGHES PARK

REEVES WAY



BASKETBALL COURT

221024-34013

DOOLITTLE AVE

COVERED PICNIC AREA
*RUNOFF TO VEGETATION

PUBLIC RESTROOMS
*RUNOFF TO VEGETATION

PARKING FACILITY TYP.
ASPHALT PAVEMENT
*DRAINS TO STREET

PLAYGROUND

221024-34025

221024-34014



HLA

Engineering and Land Surveying, Inc.

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KIWANIS YOUTH PARK

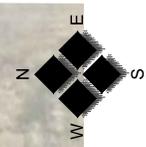


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SOUTH HILL PARK & COMMUNITY CENTER

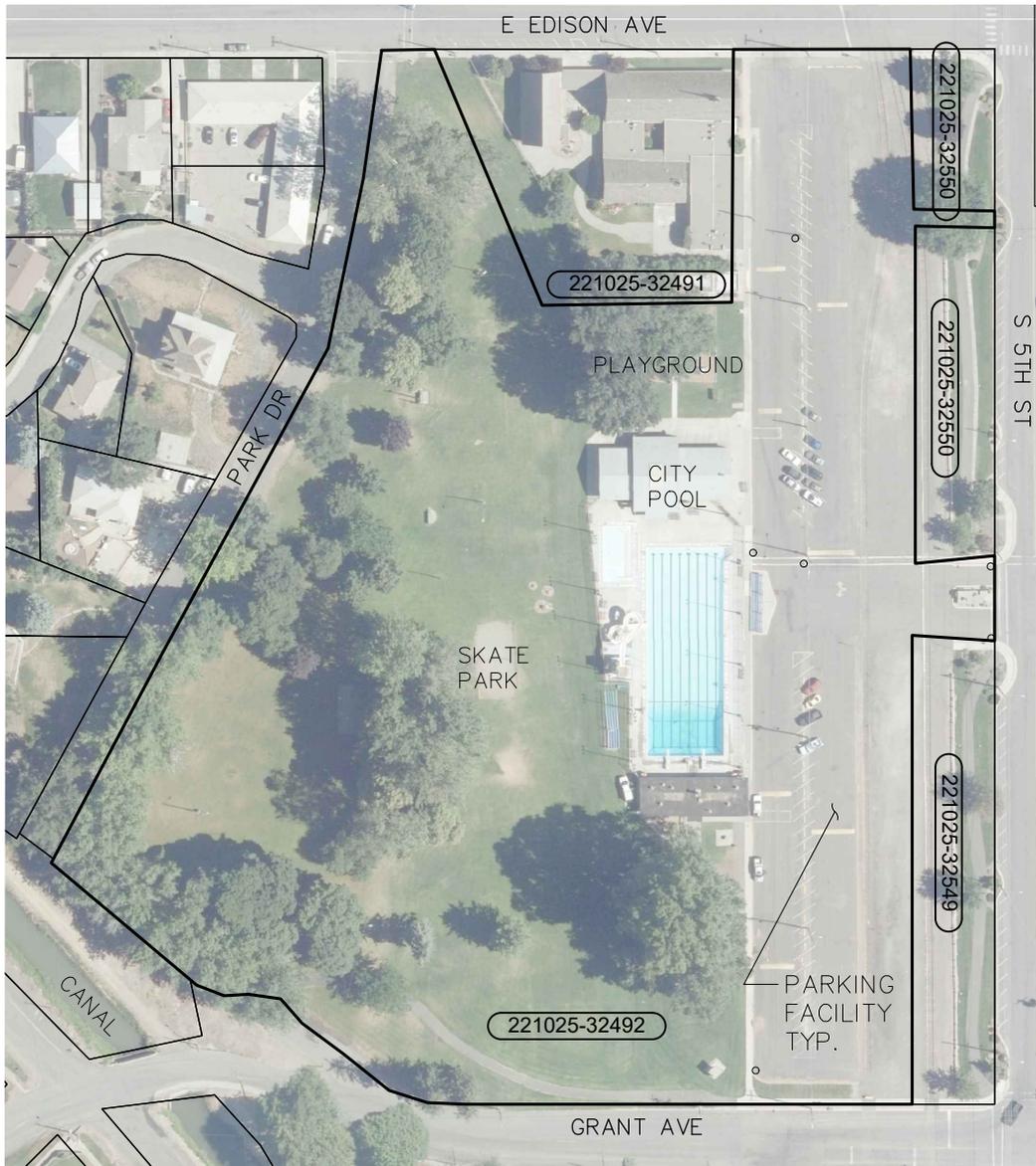
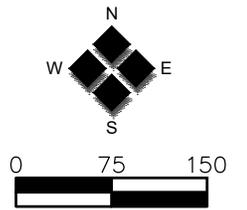


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SOUTH HILL PARK & COMMUNITY CENTER



*STORMWATER DRAINS TO PUBLIC SYSTEM. CONNECTION POINT UNKNOWN.

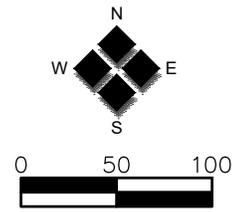


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CITY OF SUNNYSIDE

CENTRAL PARK



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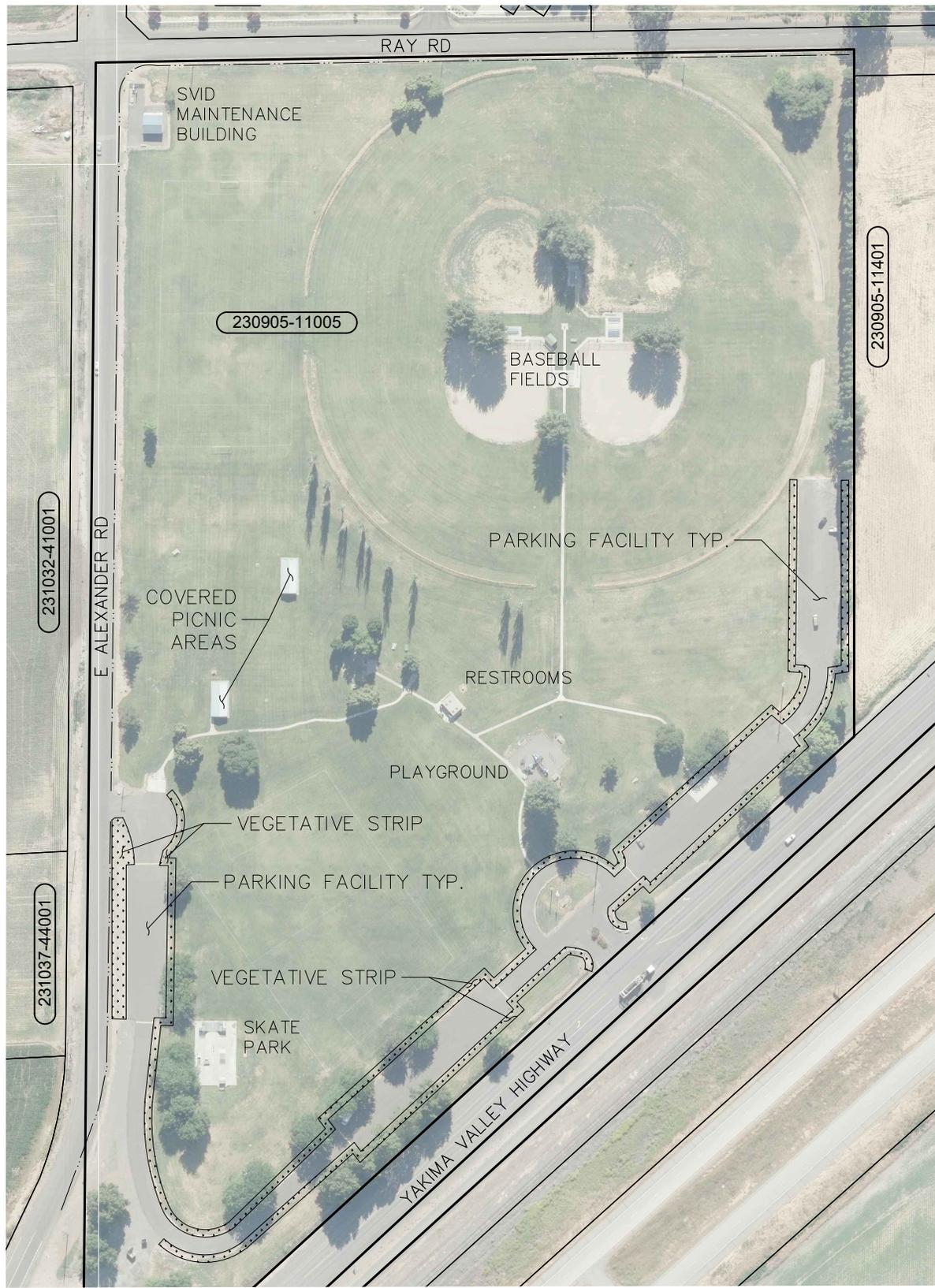
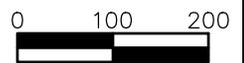
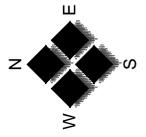


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CENTRAL PARK



*ALL STORMWATER INFILTRATES ON SITE

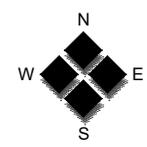
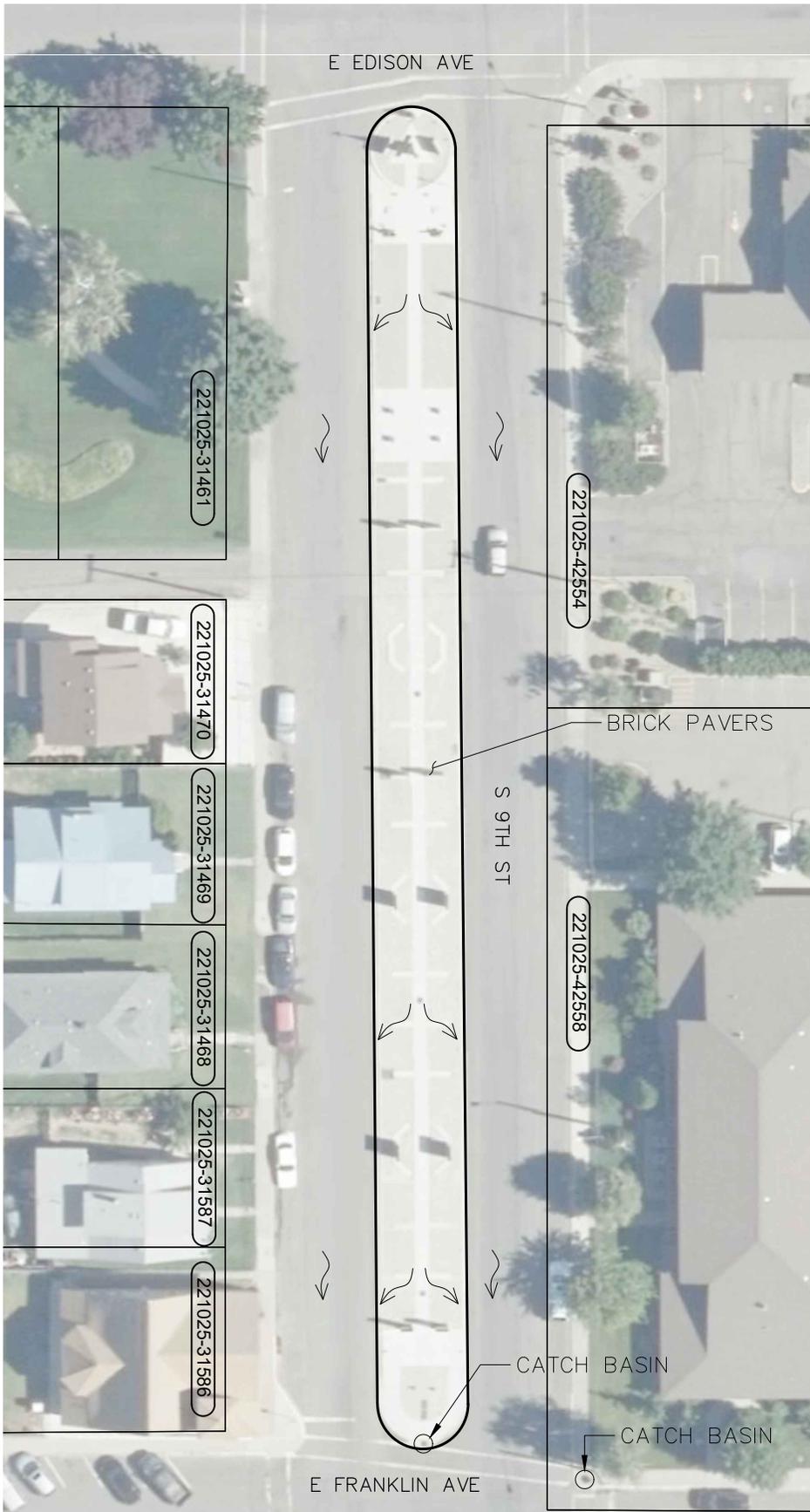


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SUNNYVIEW PARK



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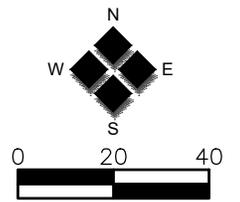


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VETERAN'S MEMORIAL

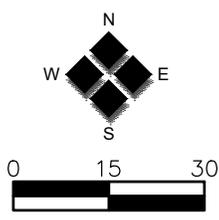


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UPLAND PARK



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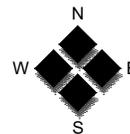


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CENTENNIAL SQUARE PARK



*ALL STORMWATER INFILTRATES ON SITE

**PARKING IS NOT EXCLUSIVE TO PARK FACILITIES

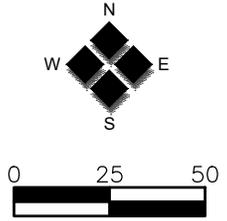


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DENNY-BLAINE PARK



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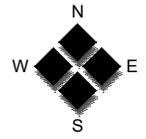


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FIRE DEPARTMENT



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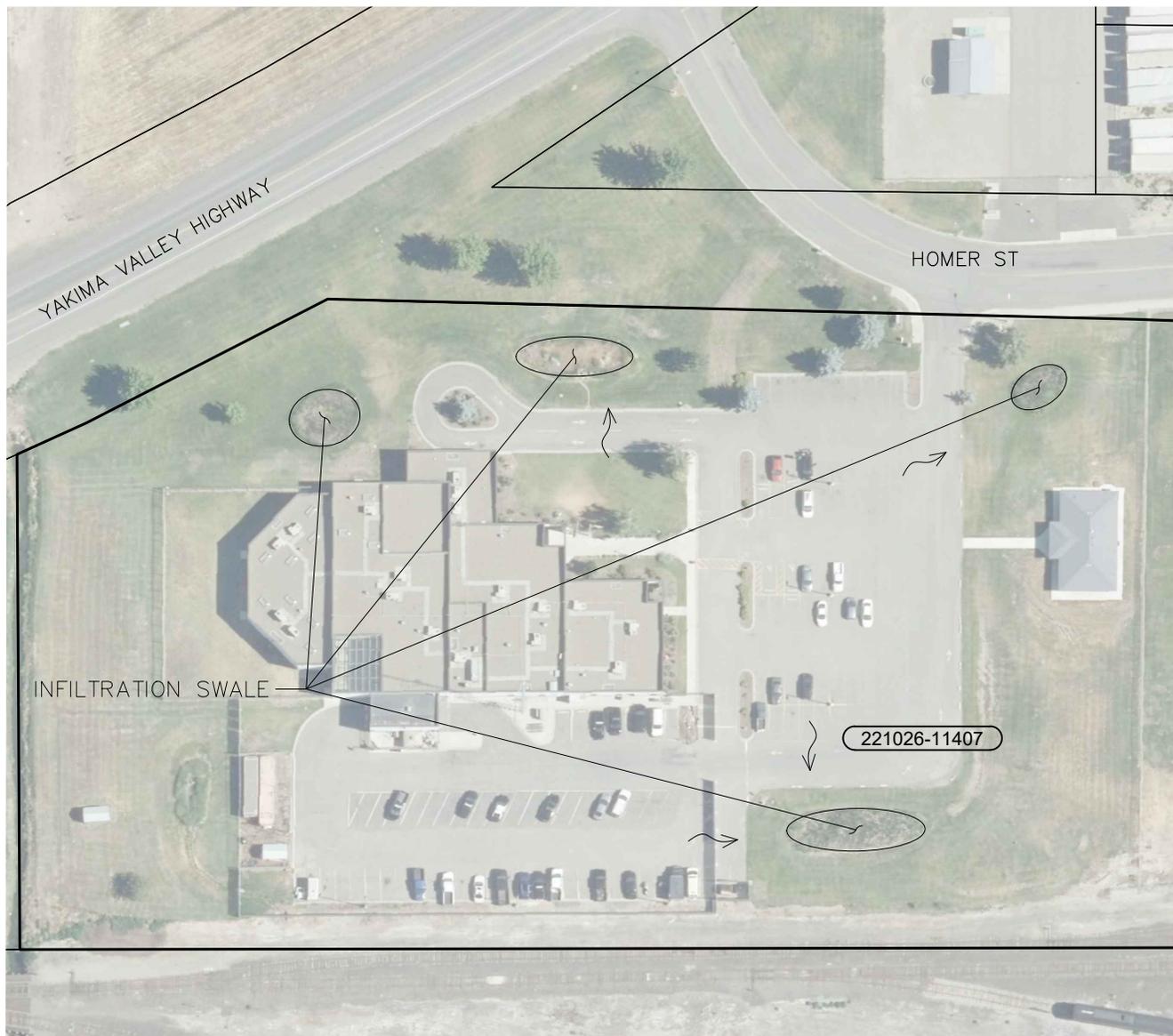
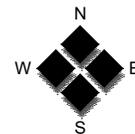


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CITY OF SUNNYSIDE

CITY HALL



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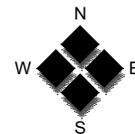


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CITY OF SUNNYSIDE

LAW AND JUSTICE CENTER



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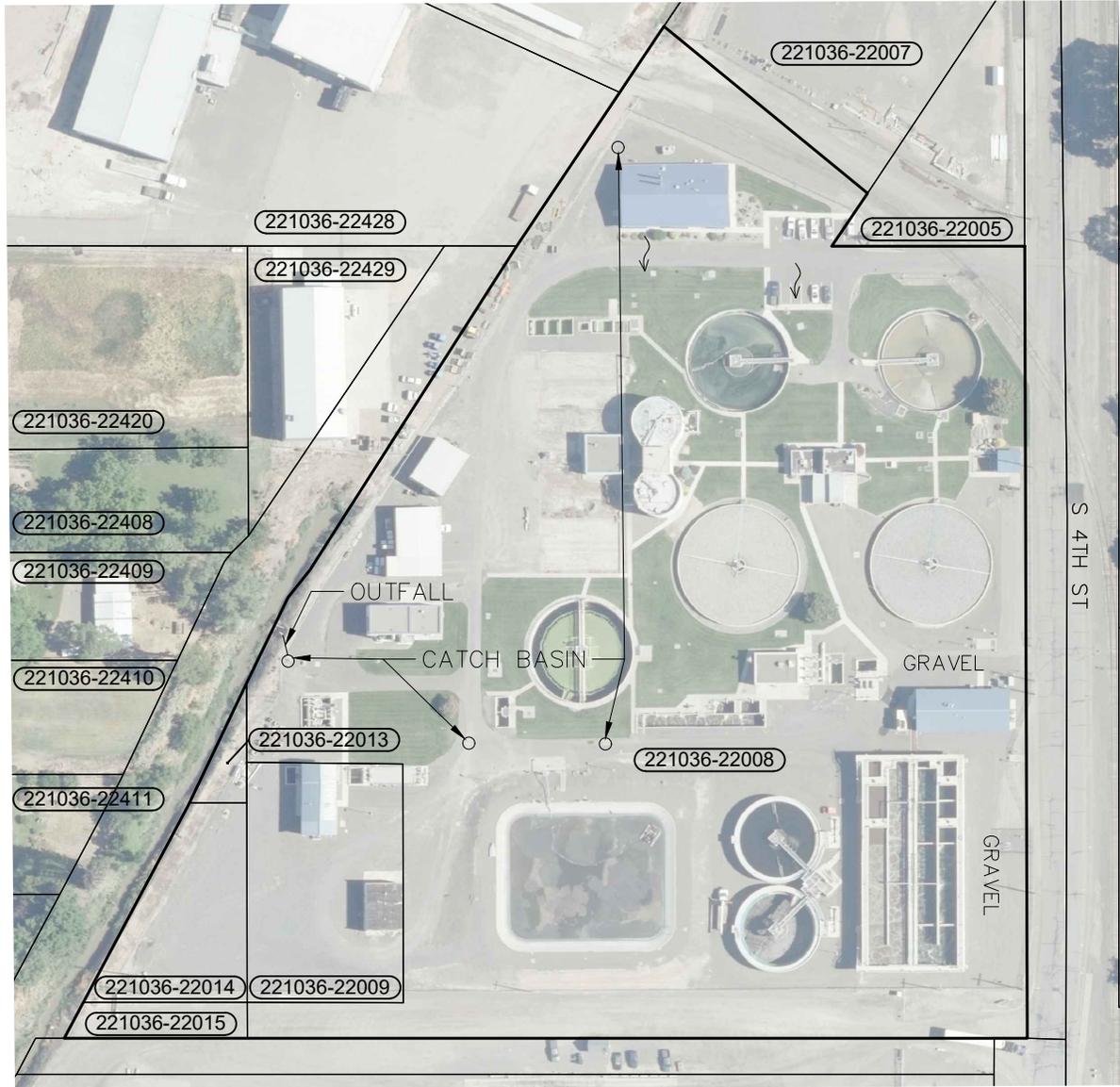
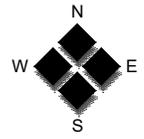


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CITY OF SUNNYSIDE

TINA KNOTH PARK



*OUTFALL DISCHARGES TO SVID CANAL

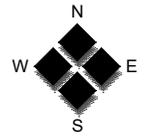


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CITY OF SUNNYSIDE

WASTEWATER TREATMENT PLANT



*ALL STORMWATER IS DIRECTED TO RIGHT OF WAY

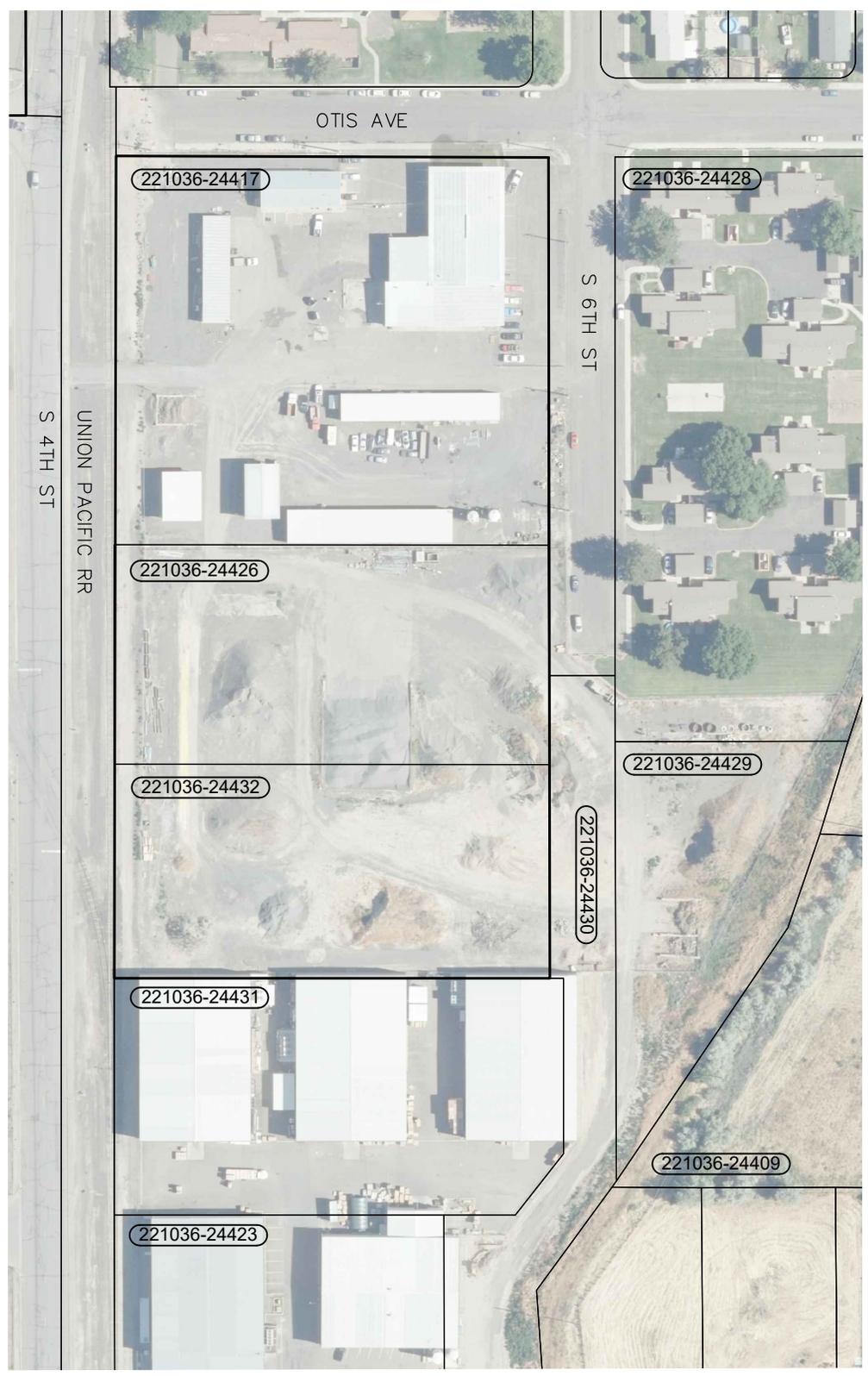
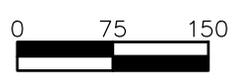
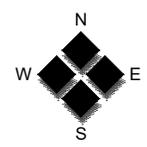


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CITY OF SUNNYSIDE

WATER DEPARTMENT

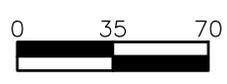
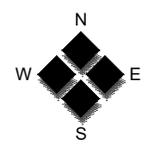


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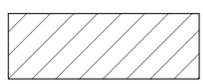
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CITY OF SUNNYSIDE

PUBLIC WORKS SERVICE CENTER



PARKING LOT DRAINS TO STREET



INFILTRATE ONSITE

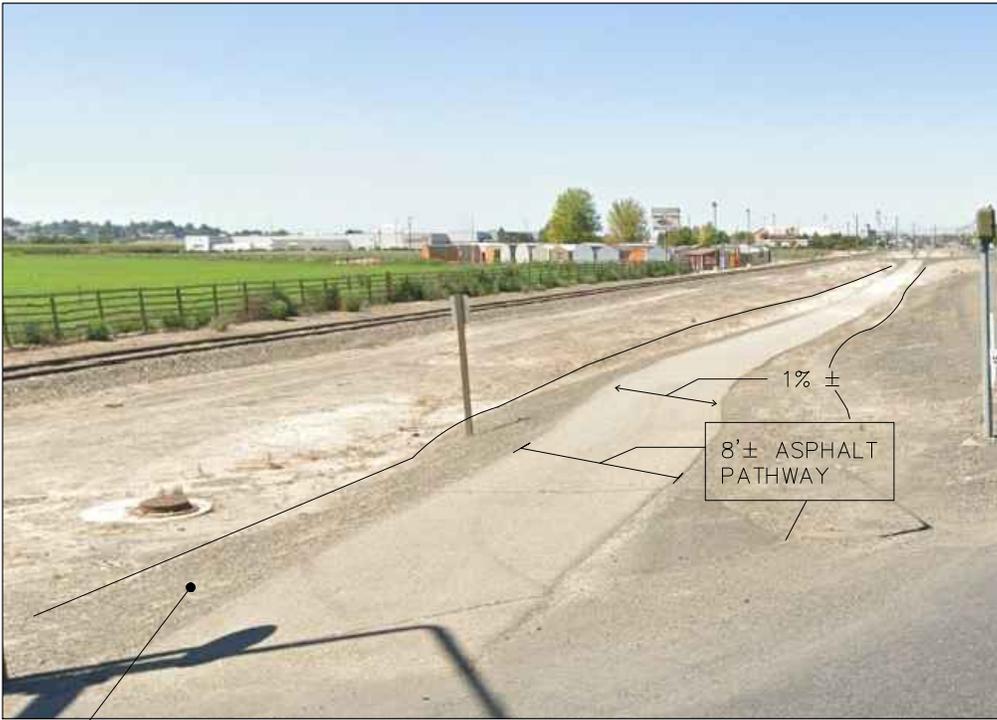
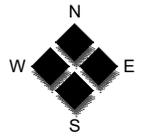


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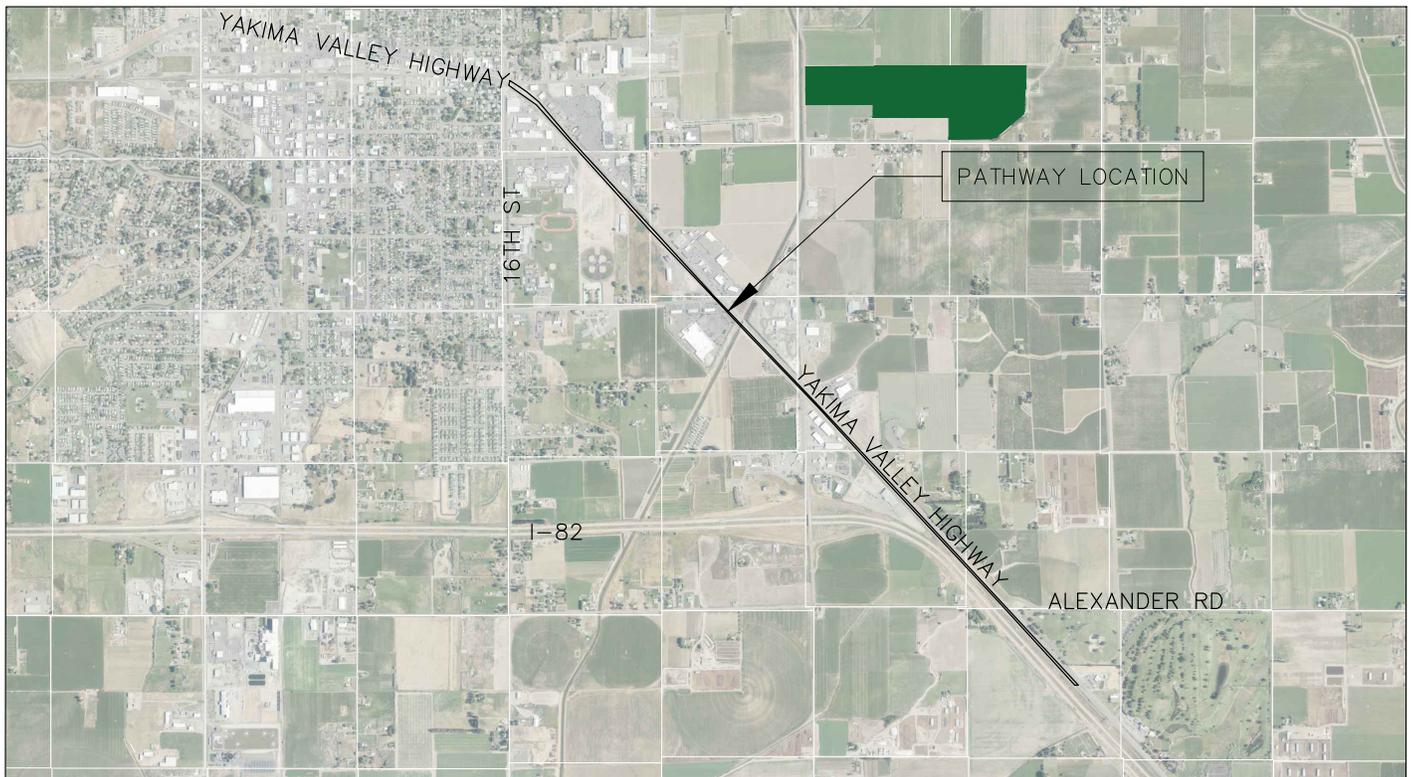
PUBLIC WORKS SERVICE CENTER



PEDESTRIAN PATHWAY FROM SUNNYSIDE TO GRANDVIEW.

TYPICAL PATHWAY SECTION

INFILTRATION AREA. TYPICAL



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CITY OF SUNNYSIDE

LOWER VALLEY PATHWAY

Appendix B—General Operational Source Control BMPs

General Pollution Prevention BMPs Operational Source Control BMPs
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Pollutant Control Approach

Operational Best Management Practices (BMPs) can be commonly applied to day-to-day activities at municipal storage facilities. These General Operational Source Control BMPs focus on retaining stormwater on-site, segregating pollutants from runoff, and preventing the discharge of pollutants to the stormwater collection and conveyance system.

Scheduling and Planning BMPs

1. Plan and schedule all maintenance activities in a manner that considers the use of BMPs. Recognize how the activity will affect stormwater so that the proper BMPs can be placed or utilized at the proper time. Some maintenance activities shall not be performed during rain events or when storms are predicted unless required by emergency conditions.
2. Be aware of where the flow of a leak, spill, or other runoff would go.
3. Set up the work area to minimize tracking of material by vehicles and equipment in or out of the work area.

Good Housekeeping BMPs

1. Promptly contain and clean up solid and liquid pollutant leaks and spills, including oils, solvents, fuels, and dust from operations and maintenance conducted on any exposed soil, vegetation, or paved area.
2. Use solid absorbents, e.g., clay and peat absorbents and rags for cleanup of liquid spills/leaks, where practicable.
3. Properly reuse, recycle, or dispose of cleaned empty containers, excess materials, and equipment or parts.
4. Sweep paved material handling and storage areas regularly, as needed, for the collection and disposal 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.
5. Clean oils, debris, sludge, etc., from all BMP systems regularly, including catch basins, settling/detention basins, oil/water separators, boomed areas, and conveyance systems, to prevent the contamination of stormwater.
6. Promptly repair or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas that are subjected to pollutant material leaks or spills.
7. Promptly repair or replace all leaking connections, pipes, hoses, valves, etc. that can contaminate stormwater.

Preventative Maintenance BMPs

1. Inspect all BMPs regularly, particularly after a significant storm. Identify and correct deficiencies to ensure that the BMPs are functioning as intended.
2. Prevent the discharge of unpermitted liquid or solid wastes, vehicle and equipment wash-water, and sewage to ground or surface water, or to storm drains that discharge to surface water, or to the ground.

SWPPP-Appendix B
General Operational Source Control BMPs
Continued

3. Do not connect floor drains in potential pollutant source areas to storm drains, surface water, or to the ground.
4. Conduct all oily parts cleaning, steam cleaning, or pressure washing of equipment or containers inside a building, or on an impervious contained area, such as a concrete pad. Direct contaminated stormwater from such an area to a sanitary sewer allowed by local jurisdiction, or to other approved treatment.
5. Do not pave over contaminated soil unless it has been determined that groundwater has not been and will not be contaminated by the soil. Call Ecology for assistance.
6. Construct impervious areas that are compatible with the materials handled. Portland cement concrete, asphalt, or equivalent material may be considered.
7. Use drip pans or absorbent pads under leaking vehicles and equipment to capture fluids.
8. Drain oil and 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.
9. 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, watertight, rodent-proof, and equipped with a close-fitting cover.
10. 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, nonabsorbent, non-leaking, and equipped with either a solid cover or screen cover to prevent littering. If covered with a screen, the container should be stored under a lean-to or equivalent structure.
11. Where exposed to stormwater, use containers, piping, tubing, pumps, fittings, and valves that are appropriate for their intended use and for the contained liquid.
12. Where feasible, store potential stormwater pollutant materials inside a building or under a cover, and/or containment.
13. Minimize use of toxic cleaning solvents, such as chlorinated solvents, and other toxic chemicals.
14. Use environmentally safer raw materials, products, additives, etc.
15. Empty drip pans immediately after spills or leaks are collected in an uncovered area.
16. Stencil warning signs at stormwater catch basins and drains, e.g., "Dump no waste."

The specific BMPs applicable from the 2019 Stormwater Management Manual for Eastern Washington including the following:

- S101E: BMPs for Formations of a Pollution Prevention Team
- S102E: BMPs for Preventive Maintenance / Good Housekeeping
- S104E: BMPs for Spill Prevention and Cleanup
- S105E: BMPs for Employee Training
- S106E: BMPs for Inspections
- S107E: BMPs for Record Keeping
- S108E: BMPs for Correcting Illicit Connections to Storm Drains

Appendix C—Example Pollutant Source-Specific BMPs

Pollutant Source Specific BMPs	
1. Building and Ground Maintenance	
<p>Typical Activities</p> <p>Care of landscaped areas around each facility, cleaning of parking areas and pavements, dust control, and maintenance of the stormwater drainage system.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Sediment • Sewage • Litter • Trash • Non-Stormwater Liquids • Herbicides • Vehicle Fuel and Fluids
<p>Pollutant Control Approach</p> <p>Pollutants such as herbicides, eroded soil, and site debris can contaminate stormwater. Employ Operational Source Control Best Management Practices (Operational BMPs) to minimize the contact of stormwater and these pollutants.</p>	

Operational BMPs

1. Dispose of sweepings and cleaning wastes as solid waste.
2. Inspect and clean stormwater conveyance systems as needed.
3. Properly dispose of wash-water generated by building maintenance activities. Dispose of wash-water to the sanitary sewer system.
4. Minimize dust generation and apply environmentally friendly and government approved dust suppressant chemicals, if necessary. Sprinkle or wet down soil or dust with water if it does not result in a wastewater discharge.
5. Limit the exposure of erodible soil, stabilize, or cover erodible soil where necessary to prevent erosion, and/or provide treatment for stormwater contaminated with suspended solids caused by eroded soil.

Structural BMPs

1. Stencil drywell and catch basin grates with, "Dump No Waste - Drains to Stream/Groundwater."

Pollutant Source Specific BMPs

Continued

Pollutant Source Specific BMPs 2. Floor Drains	
<p>Typical Activities</p> <p>Floor drains are found in maintenance shops. Any spills, leaks, or drips of oil, anti-freeze, paint, etc. on the shop floor have the potential to end up in the floor drain.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Fuel • Vehicle/Equipment Fluids • Paint Products • Metals
<p>Pollutant Control Approach</p> <p>Identify and locate the final outfall for the floor drain system. If the floor drains are found to be connected to a drywell or other stormwater conveyance system, or if it is unclear where the floor drain outfall is, do not hose down shop floor with water.</p>	

Operational BMPs

1. Sweeping should be used in place of water to clean the shop floor.
2. Clean up any hazardous material spills immediately.
3. Consider plugging each floor drain to eliminate potential pollutants from entering.

Structural BMPs

1. If a floor drain is found to be connected to a drywell or other stormwater conveyance system, it must be disconnected and routed to the sanitary sewer (if allowed by the local jurisdiction) or to other appropriate treatment BMPs.

Pollutant Source Specific BMPs	
3. Loading and Unloading of Materials	
<p>Typical Activities</p> <p>A variety of products are transferred at maintenance facilities and may cause harm to the environment if they come in to contact with ground or surface waters. The following procedures are used to reduce the potential for discharge of pollutants from loading/unloading areas to the stormwater drainage system or watercourses by minimizing exposure of the materials to stormwater and safeguarding against accidental release of materials.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Asphalt Products • Paint • Epoxy Resins • Cement • Herbicides • Solvents • Vehicle Fluids • Fertilizer • Fuel
<p>Pollutant Control Approach</p> <p>Cover and contain the loading/unloading area, where necessary, to prevent run-on of stormwater and runoff of contaminated stormwater; or, transfer materials in an area that slopes away from storm drains and waterways.</p>	

Operational BMPs

1. Sweep loading/unloading areas frequently to remove material that could otherwise be washed off by stormwater.
2. Place drip pans or other appropriate temporary containment devices at locations where leaks or spills may occur during loading/unloading activities.
3. In the event of a spill or leak, follow the procedures outlined in the facility’s Spill Response Plan.
4. Ensure the cleanup of liquid/solid spills in the loading/unloading area immediately if a significant spill occurs and upon completion of the transfer activity for minor spills.
5. Maintain an appropriate oil spill cleanup kit on-site for rapid cleanup of oil spills.
6. Ensure that an employee trained in spill containment and cleanup is present during loading/unloading activities.

Structural BMPs

1. Consistent with Uniform Fire Code requirements and to the extent practicable, conduct unloading or loading of solids and liquids in a building, under a roof or lean-to, or other appropriate cover.
2. Berm, dike, and/or slope the loading/unloading area to prevent run-on of stormwater and to prevent the runoff or loss of any spilled material from the area.
3. Pave and slope loading/unloading areas to prevent the pooling of water.

Pollutant Source Specific BMPs

Continued

4. Install an automatic shutoff valve in storm drain system in case of unanticipated off-loading interruption (e.g., coupling break, hose rupture, overflow, etc.).

Pollutant Source Specific BMPs	
4. Outdoor Storage of Raw Materials	
<p>Typical Activities</p> <p>Maintenance facilities store a variety of raw materials that may adversely impact water quality if they come in to contact with ground or surface waters. Raw materials may include asphalt, soil, road de-icing salts, compost, unwashed sand and gravel, sawdust, logs, bark, lumber, metal products, etc.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Asphalt Products • Sand and Aggregates • De-icing Agents
<p>Pollutant Control Approach</p> <p>Provide impervious containment with blocks, berms, dikes, etc. and/or cover to prevent run-on and discharge of leachate pollutant(s) and suspended solids. The preferred method for storage of materials is under a covered structure.</p>	

Operational BMPs

1. Store materials away from stormwater drainage systems or watercourses.
2. Protect storm drain inlets and watercourses from potential spills of raw materials.
3. Sweep paved storage areas regularly for collection and disposal of loose solid materials.
4. Do not hose down the contained stockpile area to a storm drain, a conveyance to a storm drain, or to receiving water.

Structural BMPs

1. Areas should be sloped to drain stormwater to the perimeter where it can be collected or to internal drainage “alleyways” where material is not stockpiled.
2. Convey contaminated stormwater from stockpile areas to a wet pond, wet vault, settling basin, media filter, or other appropriate treatment system depending on the contamination.
3. Choose one or more of the structural source control BMP options listed below for stockpiles greater than 5 cubic yards of erodible or water-soluble materials such as soil, road de-icing salts, compost, unwashed sand and gravel, sawdust, etc. Also included are outside storage areas for solid materials, such as logs, bark, lumber, metal products, etc.
4. Store in a building or paved and bermed covered area; or
5. Place temporary plastic sheeting (polyethylene, polypropylene, hypalon, or equivalent) over the material.
6. 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

SWPPP—Appendix C
Pollutant Source Specific BMPs
Continued

between stormwater (e.g., pooling) and leachable materials in compost, logs, bark, wood chips, etc.

7. For large stockpiles that cannot be covered, implement containment practices at the perimeter of the site and at any stormwater conveyance system as needed to prevent erosion and discharge of the stockpiled material off-site or to a storm drain. Ensure that contaminated stormwater is not discharged directly to stormwater conveyance systems without conveying first through a treatment BMP.

Pollutant Source Specific BMPs

Continued

Pollutant Source Specific BMPs 5. Storage of Liquids, Solid Materials, and Hazardous Materials	
<p>Typical Activities</p> <p>A variety of products are stored at maintenance facilities and may be harmful to the environment if they come in contact with ground or surface waters. The following procedures are used to reduce the potential for the discharge of pollutants from hazardous material storage sites to the stormwater drainage system or watercourses by minimizing exposure of the materials to stormwater and safeguarding against accidental release of materials.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Asphalt Products • Paint • Epoxy Resins • Cement • Herbicides • Solvents • Fertilizer • Vehicle Fluids • Fuel
<p>Pollutant Control Approach</p> <p>Store hazardous materials in a designated area containing chemically compatible materials. Do not store incompatible products in the same storage area without a physical barrier separating the containers. For example, do not store strong oxidizers with organics, or flammable/combustible materials. Where feasible, store hazardous materials in a covered area that does not drain to the stormwater drainage system or watercourse. Ensure container covers or caps are secure.</p>	

Operational BMPs

1. Sweep storage areas frequently to remove material that could otherwise be washed off by stormwater.
2. Place drip pans, or other appropriate temporary containment device, at locations where leaks or spills may occur.
3. In the event of a spill or leak, follow the procedures outlined in the facility's Spill Response Plan.
4. Place tight fitting lids on all containers.
5. Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code.
6. Label all cabinets, storage sheds, etc. containing hazardous chemicals with proper Hazardous Material signage.
7. Do not remove original product label from paint or hazardous materials containers as it contains important spill cleanup and disposal information. Use the entire product before properly disposing of the container. Appropriately label all secondary containers.

SWPPP—Appendix C
Pollutant Source Specific BMPs
Continued

8. 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 as needed.
9. Cover dumpsters or keep them under a cover such as a lean-to, to prevent the entry of stormwater. Replace or repair leaking garbage dumpsters.
10. Drain dumpsters and/or dumpster pads to sanitary sewer. Keep dumpster lids closed. Install waterproof liners.

Structural BMPs

1. Keep containers with dangerous waste or other potential pollutant liquids inside a building unless this is impracticable due to site constraints or Uniform Fire Code requirements.
2. Store containers in a designated impervious area that is covered, bermed, diked, or paved to contain leaks and spills. Any secondary containment structures shall be sloped to drain into a dead-end sump for the collection of leaks and small spills.
3. For liquid wastes such as used oil, surround the containers with a secondary containment structure. The secondary containment structure must be of sufficient height to provide a volume of either: 10 percent of the total volume of all containers 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.
4. Place containers mounted for direct removal of a liquid chemical for use by employees inside a secondary containment structure as described above. Use a drip pan during liquid transfer.
5. For contaminated stormwater in the secondary containment structure, connect the sump outlet to a sanitary sewer, if approved by the local jurisdiction, or to appropriate treatment, such as an American Petroleum Institute (API) or Coalescing Plate (CP) oil/water separator, catch basin filter or other appropriate system. Equip the sump outlet with a 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.
6. Another option for discharge of contaminated stormwater is to pump it from a dead-end sump or catchment to a tanker truck or other appropriate vehicle for off-site treatment and/or disposal.

Pollutant Source Specific BMPs

Continued

Pollutant Source Specific BMPs	
6. Vehicle and Equipment Washing	
<p>Typical Activities</p> <p>Vehicles and equipment are typically washed on-site at maintenance facilities. When vehicle and equipment washing is conducted, it is essential that the washwater not be allowed to drain to the stormwater drainage system or watercourses.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Cleaning Agents • Non-Stormwater Fluids • Sediment • Fuel • Vehicle Fluids • Metals
<p>Pollutant Control Approach</p> <p>The preferred approach is to cover and/or contain the vehicle/equipment washing or conduct the washing inside a building or within a designated washing station to contain the washwater and keep it separate from stormwater.</p>	

Operational BMPs

1. Vehicle and equipment washing areas should be inspected daily and cleaned as needed.
2. Approved safer alternative products should be used where practical and effective, such as phosphate-free biodegradable soaps and detergents.
3. Do not remove the original product label from cleaning containers as it contains important spill cleanup and disposal information. Use the entire product before disposing of the container.
4. Water usage should be minimized.
5. If possible, conduct vehicle/equipment washing off-site at a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer.

Structural BMPs

1. Preferably, conduct vehicle/equipment washing in a building or enclosure constructed specifically for washing vehicles and equipment, which drains to the sanitary sewer.
2. Alternatively, conduct outside washing operations in a designated wash area.
3. Operate a closed system with wastewater recycling (like a floor drain discharge to a holding tank).
 - a. Discharge to a municipal sanitary sewer.
 - b. Obtain a groundwater discharge permit.
4. For additional information see the Washington State Department of Ecology “*Vehicle and Equipment Washwater Discharges/Best Management Practices Manual*”, publication number 95-056.

Pollutant Source Specific BMPs	
7. Vehicle and Equipment Fueling	
<p>Typical Activities</p> <p>When vehicle and equipment fueling takes place, there is the potential for fuel to leak or spill at the site. The procedures for vehicle and equipment fueling are designed to minimize contact between stormwater runoff and spilled fuel, oil, or other leaked vehicle fluids at equipment fueling areas.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Fuel • Vehicle Fluids
<p>Pollutant Control Approach</p> <p>Fueling stations must be constructed on an impervious concrete pad under a roof to keep out rainfall and stormwater run-on. A treatment BMP must be used for contaminated stormwater and wastewaters in the fueling containment area. These procedures should be used at all equipment fueling areas.</p>	

Operational BMPs

1. Prepare an emergency spill response plan and assign a designated trained person(s), always available either on-site or on call to properly implement the plan and immediately clean up any spills. Keep suitable cleanup materials, such as dry absorbent materials on-site to allow prompt cleanup of a spill.
2. Train employees on the proper use of fuel dispensers. Proper fueling and spill cleanup instructions shall be posted at fueling areas. Post signs in accordance with the Uniform Fire Code (UFC).
3. Ensure that the automatic shutoff valve on the fuel nozzle is functioning properly.
4. A person must always be present at the fuel pump during fueling.
5. Hosing down leaks, drips, and spills is prohibited.
6. Maintain clean fuel dispensing areas using dry cleanup methods.

Pollutant Source Specific BMPs

Continued

Structural BMPs

1. The fueling pad must be paved with Portland cement concrete, or equivalent. If paved with asphalt, add a protective coating to create an impervious surface, inspect regularly, and street sweep quarterly at a minimum.
2. 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 approved treatment system such as an oil/water separator and a water quality treatment BMP. Discharges from the treatment BMP to storm drains, surface water, or to the ground must not display ongoing or recurring visible sheen and must not contain greater than a significant amount of oil and grease.
3. The fueling island must have a roof or canopy to prevent the direct entry of precipitation onto the fueling area. The roof or canopy should, at a minimum, cover the fueling area (within the grade break or fuel dispensing area) and preferably extend several additional feet to reduce the introduction of windblown rain.
4. The transfer of fuel from the delivery tank truck to the fuel storage tank must be performed in an impervious contained area and appropriate overflow protection must be used. Alternatively, cover nearby storm drains during the filling process and use drip pans under all hose connections.

Pollutant Source Specific BMPs	
8. Vehicle and Equipment Maintenance and Repair	
<p>Typical Activities</p> <p>Vehicle and equipment maintenance and repair may include vehicle fluid removal, engine and parts cleaning, body repair and painting.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Fuel • Vehicle Fluids • Used Oil Filters • Lead-Acid Batteries • Paint Products • Metal
<p>Pollutant Control Approach</p> <p>Reduce the discharge of potential pollutants from areas in which vehicle maintenance and repair activities are conducted by employing controls which minimize contact between stormwater and the activity areas and products used in each activity.</p>	

Operational BMPs

1. Outdoor vehicle and equipment maintenance shall not be performed during rain events or prior to predicted rain events unless required by emergency conditions.
2. Maintenance activity areas should be kept clean, well-organized, and equipped with spill cleanup supplies.
3. Inspect all incoming vehicles, parts, and equipment stored temporarily outside for leaks.
4. Use absorbent pads, drip pans or absorbent material as appropriate. If rags and absorbents are saturated or contaminated with high concentrations of regulated hazardous materials, dispose of rags and absorbents as hazardous waste.

Structural BMPs

1. Use drip pans or containers under parts or vehicles that drip or are likely to drip.
2. Remove batteries and liquids from vehicles and equipment in designated areas which are designed to prevent stormwater contamination. Place cracked batteries in a covered non-leaking secondary containment system.
3. Empty oil and fuel filters before disposal.
4. Recycle greases, used oil, oil filters, anti-freeze, cleaning solutions, automotive batteries, hydraulic fluids, and transmission fluids.
5. Transfer removed vehicle and equipment fluids from drip pans or other temporary containers into recycling storage tanks or drums by the end of each shift (daily).
6. Do not mix dissimilar or incompatible waste liquids stored for recycling.
7. Ensure safeguards such as oil shut-off valves are installed and maintained on recovery equipment.

Pollutant Source Specific BMPs

Continued

Pollutant Source Specific BMPs 9. Vehicle and Equipment Parking and Storage	
<p>Typical Activities</p> <p>Vehicles and equipment have the potential to leak or drip hazardous fluids. When they are parked or stored outside and are exposed to the elements (not parked under a cover), the fluids can be picked up by stormwater and carried to the storm sewer system.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Fuel • Metal • Vehicle Fluids • Lead-Acid Batteries
<p>Pollutant Control Approach</p> <p>Provide impervious containment with berms, dikes, etc. and/or store under cover to prevent run-on and discharge of hazardous pollutants.</p>	

Operational BMPs

1. Sweep parking lots, storage areas, and driveways regularly to collect dirt, waste, and debris. Do not hose down the areas to a stormwater conveyance system.
2. Use drip pans or containers under vehicles and equipment that drip or are likely to drip.
3. Remove liquids from vehicles that are retired for scrap.

Structural BMPs

1. Consider storing damaged vehicles inside a building or paved and bermed covered containment area until all liquids are removed.
2. Park/store all vehicles and equipment in a designated covered area.

Pollutant Source Specific BMPs	
10. Vegetation Management	
<p>Typical Activities</p> <p>This method of landscaping and lawn vegetation management can include grading, soil transfer, vegetation removal, pesticide/herbicide and fertilizer applications, and watering. Lawn and vegetation management can also include control of objectionable weeds, insects, mold, bacteria and other pests with chemical pesticides and herbicides.</p>	<p>Environmental Concerns</p> <p>Discharge of the following materials into the stormwater drainage system or watercourse:</p> <ul style="list-style-type: none"> • Fertilizer • Pesticides • Herbicides • Sediment
<p>Pollutant Control Approach</p> <p>Control fertilizer and pesticide/herbicide applications, soil erosion, and site debris to prevent contamination of stormwater. Stormwater contaminants include toxic organic compounds, heavy metals, oils, sediment, E. coli, fertilizers, and pesticides.</p>	

Operational BMPs

Pesticides, Herbicides, and Fertilizer (below called “Chemicals”)

1. Choose the least toxic pesticide/herbicide available capable of reducing the infestation to acceptable levels. The pesticide/herbicide should readily degrade in the environment and/or have properties that strongly bind it to the soil. Any pest control method 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.
2. Apply chemicals according to label directions. Under no conditions shall chemicals be applied in quantities that exceed the manufacturer’s instructions.
3. Mix chemicals and clean the application equipment in an area where accidental spills will not enter surface or ground waters and will not contaminate the soil.
4. Store chemicals in enclosed areas or in covered impervious containment. Ensure that contaminated stormwater or spills/leaks of the chemicals are not discharged to storm drains. Do not hose down the paved areas to a storm drain or conveyance ditch.
5. Clean up any spilled chemicals and ensure that the contaminated waste materials are kept in designated covered and contained areas.
6. The chemical application equipment must be capable of immediate shutoff in the event of an emergency.
7. Store and maintain appropriate spill cleanup materials in a location known to all staff near the storage area.

Pollutant Source Specific BMPs

Continued

8. Do not spray chemicals 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 City of Sunnyside. All sensitive areas including wells, creeks, and wetlands must be flagged prior to spraying.
9. Spray applications should only be conducted 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.
10. Rinse water from equipment cleaning and/or triple-rinsing of chemical containers should be used as product or recycled into product.

Pesticides

1. Develop and implement an Integrated Pest Management (IPM) plan and use pesticides only as a last resort.
2. 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, recordkeeping, and public notice procedures.
3. Consider alternatives to the use of pesticides such as covering or harvesting weeds, substitute vegetative growth, and manual weed control/moss removal.

Turf Management

1. Consider the use of soil amendments, such as compost, that are known to control common diseases in plants.
2. Use at least an 8-inch "topsoil" layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium.
3. Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Aeration should be conducted while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than 3/4-inch deep.
4. Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.
5. Irrigate less often, but for longer frequency to develop a strong root system within the grass.
6. Turfgrass is most responsive to nitrogen fertilization, followed by potassium and phosphorus.
7. Fertilizers should be applied in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters. Do not fertilize during a drought or when the soil is dry. Alternatively, do not apply fertilizers within three days prior to predicted rainfall. The longer the period between fertilizer application and either rainfall or irrigation, the less fertilizer runoff occurs.
8. Use slow-release fertilizers such as methylene urea, IDBU, or resin coated fertilizers when appropriate, generally in the spring. Use of slow-release fertilizers is especially important in areas with sandy or gravelly soils.
9. Time the fertilizer application to periods of maximum plant uptake. Generally, fall and spring applications are recommended, although WSU turf specialists recommend four fertilizer applications per year.
10. Properly trained staff should apply all fertilizers. Fertilizers should not be applied to grass swales, filter strips, or buffer areas that drain to sensitive water bodies unless approved by the City of Sunnyside.

Appendix D—Spill Response Plan



City of Sunnyside Spill Response Plan

EMERGENCY

In the event of a hazardous material or waste release, fire, or emergency that is a danger to personnel health and safety immediately call:

911

AND

City of Sunnyside Fire Department: (509) 837-3999

AND

City of Sunnyside Police Department: (509) 837-2120

NON-EMERGENCY

In the event of a non-emergency spill or release to water, soil, or air call:

National Response Center: **1 (800) 424-8802**

AND

Washington State Emergency Management Division: **1 (800) 258-5990 OR**
1 (800) OILS-911

AND

Washington State Department of Ecology Eastern Region: **1 (509) 329-3400**

Be prepared to provide the following information (see Spill Reporting Form):

- Where is the spill?
- What spilled?
- How much spilled?
- How concentrated is the spilled material?
- Who spilled the material?
- Is anyone cleaning up the spill?
- Are there resource damages (e.g., dead fish or oiled birds)?
- Who is reporting the spill?
- How can you be reached?

Spill Response Plan

Continued

Required Spill Control and Reporting BMPs:

- 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 it in appropriate disposal containers.
- If any spill has reached or may reach a sanitary or storm sewer, groundwater 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 regarding the event within thirty (30) days unless otherwise directed by Ecology.
- 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 potential spills, and readily accessible to personnel responsible for spill response.
- 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.
- In the event of a spill or release to water, soil, or air utilize the Spill Reporting Form to document information.

SWPPP—Appendix D
Spill Response Plan
 Continued

Spill Reporting Form

Use this form to document the spill, should the Fire Department not complete a report. In the event of a spill or release to water, soil, or air collect the following information:

Section 1: Reporting Party	Section 2: Responsible Party
Name:	Name:
Phone Number:	Phone Number:
Organization:	Organization:

Section 3: Incident Information			
Incident Description:			
Incident Date:	Time of Discovery:	Cause:	
Address:	City:	State:	County:
Material Involved:		Amount Released:	
Water Body Affected:		Sheen Length:	
Sheen Width:		Sheen Color: (rainbow, silver, grey, etc.)	
Odor Description:		Weather Conditions:	

Section 4: Other
Actions Taken:

Appendix E
Sunnyside Municipal Airport SWPPP

Sunnyside Municipal Airport

December 2022



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Section 0 Preamble

0.1 Background

As a categorical industry under the Federal Clean Water Act's National Pollution Discharge Elimination System (NPDES) and the State of Washington's Water Pollution Control Law Chapter 90.48, the Sunnyside Municipal Airport (Airport) is required to maintain a Stormwater Pollution Prevention Plan. The permit requires the development of this Stormwater Pollution Prevention Plan (SWPPP) to identify, reduce, eliminate, or prevent the pollution of stormwater through the application of specific Best Management Practices (BMPs). The permit also requires the SWPPP to be updated whenever there is a change in design, construction, operation, or maintenance, which causes the SWPPP to be less effective in controlling pollutants.

This SWPPP was developed for Airport activities and facilities only, without regard to tenant activities. Tenants are responsible for producing and providing their own SWPPPs for inclusion in this document.

0.2 Compliance Schedule

To comply with the requirements of Special Condition S3 of the Ecology General Permit, the City must:

1. Complete the implementation plan for the additions or modifications of BMPs within thirty (30) days, when necessary due to an order by the Washington State Department of Ecology (Ecology), a self-inspection, or facility changes.
2. Conduct inspections and stormwater sampling on a quarterly basis and submit sampling data to Ecology.

To comply with the requirements of Special Condition S9.F of the Ecology General Permit, the City must:

1. Upon receiving a written request from the public, a copy of the SWPPP shall be provided within fourteen (14) days or notify the requestor of a location at or near the facility where the SWPPP can be viewed. Ecology will maintain a copy of the SWPPP, which the public may view at the Ecology Central Washington Regional Office.
2. Communicate to all tenants that each tenant is responsible for producing and providing their own SWPPPs. A copy of the tenants SWPPPs will be included in **Appendix I**.

Table 0-1 Breakdown of Required Action			
Required Action	Frequency/Date Required	Report/Form	Submitting/Record Requirements
Stormwater Sampling	Quarterly 1 st Quarter (Jan.-Mar.) 2 nd Quarter (Apr.-Jun.) 3 rd Quarter (Jul.-Sep.) 4 th Quarter (Oct.-Dec.)	Appendix F (Discharge Monitoring Report Form)	Submit quarterly reports to Ecology
Industrial Stormwater Inspections	Monthly	Appendix E	Maintain a Record in the SWPPP Binder
Non-Stormwater Discharge	Annually During the Dry Season	Worksheet 6	Maintain a Record in the SWPPP Binder
Spill Containment Manholes	Inspect Monthly and Maintenance When Required (See Appendix H)	Worksheet 12	Maintain a Record in the SWPPP Binder
Catch Basin Maintenance	Monthly Inspection and Maintenance When Required (See Appendix H Pages 8-40 and 8-41)	Worksheet 8 and 8A	Maintain a Record in the SWPPP Binder
Site Inspection	Bi-Annual Inspection	All Sheets Attached to Worksheet 11	Maintain a Record in the SWPPP Binder
BMP Implementation	Annual Review	Worksheet 9	Maintain a Record in the SWPPP Binder
Employee Training	Annual Review	Worksheet 10	Maintain a Record in the SWPPP Binder
All Worksheets are included in Appendix C.			

0.3 Organization

The Organization of this SWPPP is in accordance with the Ecology's Industrial Stormwater SWPPP Template.

0.4 Related Planning Documents

The City currently does not maintain any planning documents relating to hazardous material handling or spill procedures. Emergencies are handled directly by the Sunnyside Fire Department. The Fire Department maintains a spill response and reporting plan.

Airport tenants are responsible for developing SWPPPs simultaneously, but separately from this plan, to address specific tenant stormwater pollution prevention issues as required by Ecology. This report provides a preliminary list of potential tenants that already have, or may need to provide, a site specific SWPPP due to the potential for pollutant discharge. Those tenants are listed in Table 0-2. Tenant's SWPPPs are to be included in Appendix I and will be recorded as part of this SWPPP's updates when received.

Table 0-2 Potential Tenants with Individual SWPPPs	
Valley Air Service	SWPPP unknown

Section 1 – Facility Description and Contact Information

1.1 Facility Information

Name of Facility: Sunnyside Municipal Airport
Street: 3190 Airport Way
City: Sunnyside State: WA ZIP Code: 98944
County: Sunnyside
Permit Number: _____
Latitude/Longitude - Use **one** of three possible formats, and specify method (Optional)
Latitude: _____ Longitude: _____
1. 46 ° 19 ' 38" N (degrees, minutes, seconds) 1. 119 ° 58 ' 38" W (degrees, minutes, seconds)
Estimated area of industrial activity at site exposed to stormwater: 80.9 (acres)
Discharge Information
Does this facility discharge stormwater into surface waters? Yes No
Does this facility discharge stormwater into a municipal storm water conveyance system? Yes No
SIC Code(s): _____

1.2 Contact Information/Responsible Parties

Facility Operator (s):

Name: City of Sunnyside
Address: 818 E Edison Ave
City, State, Zip Code: Sunnyside, WA 98944
Telephone Number: (509) 837-5399
Email address: sfisher@sunnyside-wa.gov
Fax number: (509) 837-3268

Facility Owner (s):

Name: City of Sunnyside
Address: 818 E Edison Ave
City, State, Zip Code: Sunnyside, WA 98944
Telephone Number: (509) 837-5399
Email address: sfisher@sunnyside-wa.gov
Fax number: (509) 837-3268

SWPPP Contact:

Name: Shane Fisher, Airport Manager/Public Works Director
Telephone number: (509) 837-5399
Email address: sfisher@sunnyside-wa.gov
Fax number: (509) 837-3268

1.3 General Location Map

Figure 1 - Vicinity Map, in **Appendix A**, is the vicinity map showing the general location of the Sunnyside Municipal Airport within the City of Sunnyside, WA.

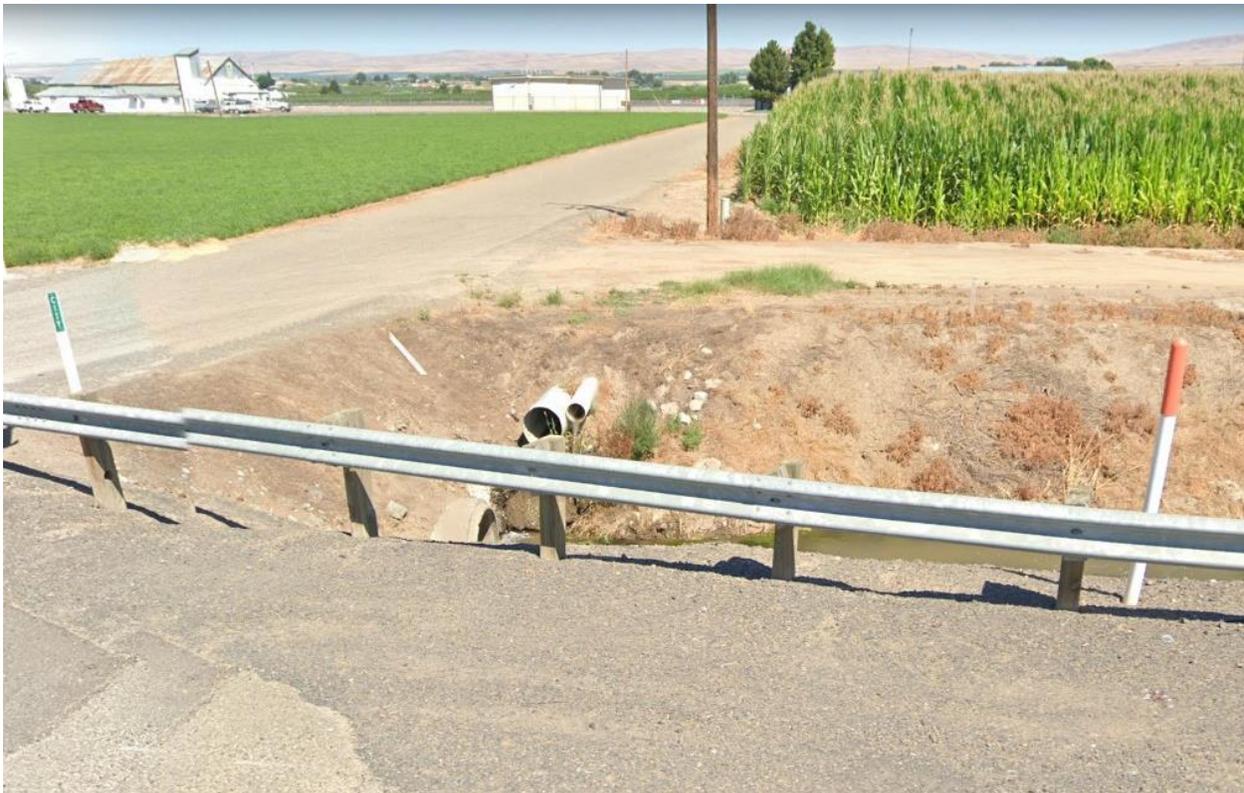
1.4 Site Map

Figure 2 – Tenant Map, in **Appendix B**, identifies all significant buildings and building use or the tenant occupying the building. There is one above ground fuel tank and fuel station. There are no inlets near the fuel tank or fueling area. If a spill occurred here, it would sheet flow to a nearby pervious area. The fueling operation is under the direct control and responsibility of the tenant.

Figure 3 – Airport. The overall stormwater collection and discharge system is shown on this figure. The system includes an interconnecting underdrain pipe around the perimeter of all the runways and taxiways to lower the groundwater in the area. Stormwater generated on the runway and taxiways are directed by sheet flow to the gravel shoulders for infiltration.

Other airport pavements include paved access points, aircraft ramps, and aircraft tie-down areas. These areas are generally flat sloping toward gravel and vegetation to encourage infiltration. There does exist within the ramp area catch basins with slotted lids. These structures receive surface stormwater and it is believed the underdrain system is connected. Picture 1 shows two outfalls draining from the airport to the open canal located south of the airfield. This is believed to be the only stormwater discharge location.

Figure 1-1



There is no airport managed deicing pad nor is it believed any tenant performs deicing measures. Deicing operations is the responsibility of each tenant.

1.5 Stormwater Pollution Prevention Team

The responsible official for overseeing the preparation of the SWPPP, maintain and prepare annual updates to SWPPP, oversee implementation of BMPs, coordinate BMPs and SWPPPs with all Airport tenants is **Shane Fisher**, Public Works Director. Names, contact information, and responsibilities for the Stormwater Pollution Prevention Team are listed in Table 1-1.

Table 1-1 Pollution Prevention Team	
<p>Responsible Official: Shane Fisher Email: sfisher@sunnyside-wa.gov</p> <p>Responsibilities: Oversee preparation of SWPPP, maintain and prepare annual updates to SWPPP, oversee implementation of BMPs, coordinate BMPs and SWPPPs with all Airport tenants.</p>	<p>Title: Public Works Director Phone: (509) 837-5399 Fax: (509) 837-3268</p>
<p>Team Leader: Raul Sanchez Email: rsanchez@sunnyside-wa.gov</p> <p>Responsibilities: Operation and maintenance. Implementing and maintaining control measures/BMPs, Monthly Inspections, Sampling and Testing.</p>	<p>Title: Project Manager Phone: (509) 836-6311 Fax: (509) 837-3268</p>
<p>Name: Email:</p> <p>Responsibilities: Testing. All samples are sent to the Yakima Regional Wastewater Treatment Plant for testing. Most samples are processed at the WWTF lab directly. However, some samples are then sent to Cascade Analytical for processing.</p>	<p>Title: WWTP lab Manager Phone: Fax:</p>
<p>Name: Email:</p> <p>Responsibilities:</p>	<p>Title: Phone: Fax:</p>

Section 2 – Facility Assessment

2.1 Facility Description

The Sunnyside Municipal Airport is a full-service Airport that is open year-round.

2.2 Industrial Activity, Materials Inventory, and Associated Pollutants

Site assessment visits have been conducted periodically over the years to gather data concerning drainage and various Airport facilities. The following sections summarize the available data.

Leased Area Activity

Worksheet 5A (Leased Areas Associated with Industrial Activity), in **Appendix C**, lists the leased areas and activities that occur there, but are not controlled or the responsibility of the City. Normally, leased area activities pose a low risk to polluting stormwater discharges because there are containment mechanisms currently in place. Any washing of aircraft is done primarily during dry weather and routed to grassy area, which allows for infiltration through unpaved surfaces or evaporation prior to stormwater events.

All fuel transfers, aviation gas fueling, and fuel truck parking is done on aircraft ramp areas. Each truck has absorbent pads on board for immediate spill containment and cleanup. Stormwater pollution prevention details for these operations need to be outlined within the tenants' SWPPPs.

Consistent with fueling practices, the spraying operations conduct all business within their leased areas. There are two spray operators and they both keep all aircraft, apparatus, supplies, and chemicals within their leased areas. Spill containment and stormwater practices are outlined within their respective plans. The City/Airport has no oversight.

Materials Inventory

The City does not operate any areas where materials would be routinely stored and exposed to stormwater. Worksheet 2 (Materials Inventory) and 2A (Exposed Significant Material), in **Appendix C**, describe the areas and materials that may be exposed to stormwater through other means.

Potential Sources of Stormwater Pollution

The materials described on Worksheet 2 and listed on Worksheet 5 have a likelihood of mixing with stormwater.

There are no dedicated ARFF vehicles. Fire training is conducted off-site.

Approximately 4 tons of sand may be applied for traction during winter operations. Sand is not considered a stormwater pollutant because it is not considered a hazardous substance. The sand is stored off-site.

Fuel transfers for tenants' fuel farms are conducted on ramp areas adjacent to the fuel farms. Spill prevention and containment of the fueling operations should be addressed within the tenants' own SWPPPs. All filling of the fuel trucks is done on aircraft ramps. All fueling from the trucks is done manually and each fuel truck has absorbent pads on board in case of a spill.

Worksheet 3 (Potential Pollutant Source Identification), in **Appendix C**, summarizes existing potential pollutant sources.

Worksheet 5 (Identify Areas Associated With Industrial Activity), in **Appendix C**, lists areas and activities which may be sources of pollution which are the direct responsibility of the City. Each tenant is responsible for their individual activities, which are included on Worksheet 5A (Leased Areas Associated With Industrial Activity), in **Appendix C**.

2.3 Spills and Leaks

As summarized on Worksheet 4 (Spill Log), in **Appendix C**, no leaks or spills have been formally reported to Ecology for the Airport.

Table 2-1 Areas of Site Where Potential Spills/Leaks Could Occur

Table 2-1 Areas of Site Where Potential Spills/leaks Could Occur	
Location	Outfalls
Spray Operation	NA
Spray Operation	NA
Fuel Operation	NA

Section 3 - Best Management Practices

3.1 Best Management Practices

The following sections detail the minimum BMPs identified in Ecology's guidance document and additional BMPs specific to City Airport operations.

3.1.1 BMPs Not Requiring Capital Improvement

BMPs implemented by the City without capital improvements are detailed in Section 3.1 and Worksheet 9, in **Appendix C**, of the plan. The BMPs identified in Ecology's guidance document include:

1. Form a Pollution Prevention Team (Worksheet 1 in **Appendix C**). Include all relevant tenant SWPPP correspondence in **Appendix I**.
2. Adopt a written "good housekeeping" policy and communicate to all employees and tenants.
3. Develop a written aircraft and vehicle wash down policy for employees and tenants. Ensure vehicle and aircraft washing areas discharge to a grassy area. Communicate the policy to employees and tenants.
4. Conduct visual monitoring of all drainage, sanitary, and storage areas for potential stormwater pollution risks quarterly. Record observation reports monthly and implement corrective actions as needed.
5. Adopt a written spill prevention and cleanup policy in conjunction with the Sunnyside Fire Department and provide annual training for employees in the use and location of spill clean-up "kits." Communicate policy to all tenants.
6. Provide training of all employees on proper waste handling, storage, and cleanup procedures in conjunction with Sunnyside Fire Department on an annual basis.

One BMP will have significant operational expenses:

1. Stormwater sampling.

Stormwater sampling provides reliable water quality data to determine at what level the Airport is contributing to stormwater pollution and the effectiveness of the BMPs implemented. Stormwater sampling and visual inspection will occur on a quarterly basis. The sampling points are located at the drains as shown on **Figure 4**, in **Appendix B**. Proper sampling records must be updated and maintained per Ecology requirements (see Section 3.1.5 and Discharge Monitoring Report form in **Appendix F**).

3.1.2 BMPs Requiring Capital Improvement

There are currently no required capital improvements. Future improvements that may become necessary to maintain stormwater quality should be recorded in one of the applicable Worksheets 9, in **Appendix C**. These capital improvements will be included in upcoming City budgets and implemented as soon as is practicable.

3.1.3 Schedule for Implementation

This implementation plan describes steps for meeting the goals relating to specific BMPs (Worksheet 9) and employee training (Worksheet 10, in **Appendix C**). Additional or enhanced BMPs must be established within thirty (30) days of self-determination or an Ecology order.

As Worksheet 9 (Good Housekeeping and Policy Update BMP Implementation) indicates, general good housekeeping practices will continue at the Airport, and a housekeeping policy will be created. Current practices will be adopted into policies and communicated to employees and tenants with annual review of their effectiveness.

Preventive Maintenance and Inspections BMPs, also described in Worksheet 9, will require specific inspections monthly to ensure no risks or deficiencies are present in sanitary, drainage, and storage facilities. Any deficiencies noted in tenant facilities should be recorded in the other applicable worksheets and addressed immediately.

Currently, the City does allow washing on site. Tenants are encouraged to do washing in an area that drains to grass or in a building with floor drains leading to sanitary sewer. Planes cannot be washed in grassy areas due to the presence of puncturevine (goatheads), which could puncture landing wheel tires and cause accidents.

3.1.4 Compliance with the 2015 Industrial Stormwater General Permit

Demonstration that the Airport BMPs fulfill the standards and requirements of Washington State will be achieved through the Presumptive Approach. The City will be in compliance with the standards in Permit Special Condition S10, as well as the *Stormwater Management Manual for Eastern Washington*.

3.1.5 Operation and Maintenance

All pollutant treatment and control systems installed or used for compliance with the Industrial Stormwater General Permit must be properly operated and maintained. Recommended operation and maintenance procedures are included in **Appendix H**. **Appendix H** contains excerpts from the Ecology Stormwater Management Manual for Eastern Washington concerning maintenance of stormwater drainage and treatment systems. To maintain ideal system operation and prevent stormwater pollution, these procedures are to be considered.

3.2 Operational Source Control BMPs

Operational Source Control BMPs are non-structural practices to prevent or reduce pollutants from entering stormwater. The following six sections detail the minimum set of operational BMPs required by Ecology's General Permit.

3.2.1 Good Housekeeping

Good housekeeping involves a commonsense approach to improving and maintaining a clean and orderly work environment. The City practices good housekeeping by handling most materials within buildings to prevent stormwater contact. Worksheet 9 will be used to record all good housekeeping training as well as an implementation schedule. The City will do the following to maintain good housekeeping on the site:

The General Permit section S3.B.4.b.i.2 requires the Permittee to implement the following mandatory operational source control BMPs:

1. Vacuum paved surfaces with a vacuum sweeper to remove accumulated pollutants a minimum of once per quarter. The Permittee believes this is impractical and cost prohibitive for the Airport as the runways and taxiways contain miles of asphalt and are extremely wide. In addition, runoff from the runways and taxiways flow onto grassy areas bordering the pavement and infiltrate through natural dispersion.
2. Identify and control all on-site sources of dust to minimize stormwater contamination from the deposition of dust on areas exposed to precipitation.
3. Inspect and maintain bag houses monthly to prevent the escape of dust from the system. Immediately remove any accumulated dust at the base of exterior bag houses. The City does not have any bag houses they are responsible for maintaining. However, the tenants which do have bag houses will be required to include this activity in their SWPPP, and perform the required inspection and maintenance activities.
4. Keep all dumpsters under cover or fit with a lid that must remain closed when not in use.

In addition to these mandatory BMPs from the General Permit, the City will perform the following:

1. Material Inventory Management Program
 - a. Locate products handled, stored, or disposed of in areas away from facility drainage areas. This is a BMP that affords extra cleanup time for spills before they enter floor drains.
 - b. Store products in a dry, covered location.
 - c. Completely label all products.
 - d. Up-to-date inventory.
 - e. Approved storage containers.
2. Routine Cleanup Operations
 - a. Daily Activities
 - (1) Always maintain Airport areas in an orderly manner.
 - (2) Airport work and storage areas – Schedule sweepings; remove loose and trapped materials in and around drainage inlets on a regular basis. Do not hose down pollutants from any area to the ground, storm drain, conveyance ditch, or receiving water unless the pollutants are conveyed to a treatment system.
 - (3) Schedule cleaning of all BMP systems – Remove oils, debris, sludge, etc., regularly; include the service of catch basins, sedimentation basins, oil/water separators, or any other applicable BMP systems.
 - (4) Aircraft servicing – spills of lavatory waste, oils, and hydraulic fluids should be promptly contained and cleaned up using solid absorbents such as clay, peat, and rags so they will not contribute pollutants to stormwater.
 - (5) Identify, contain, and clean up solid and liquid pollutant leaks and spills on any soil, vegetation, or paved area exposed to stormwater. A product material safety data sheet is a good source of recommended actions for spills and container leaks. Common BMPs for the cleaning of small spills or releases are sweeping, vacuuming, or using absorbents and gels.
 - (6) Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., that can contaminate stormwater.
 - (7) Proper disposal of all solid and liquid waste. Do not flush any absorbents into the sanitary sewer system.
 - b. Seasonal Activities
 - (1) Snowbanks – Debris, trash, and other foreign objects imbedded in snowbanks should be removed and disposed of properly. Snowbanks should be at a distance from inlet drains and other discharge points to reduce de-icing chemicals in receiving bodies of water.
 - (2) Turf management – Refrain from over application of fertilizers. Maintain good turf cover to prevent soil erosion and sedimentation.
 - (3) Agriculture aerial spraying – Even though Airport authorities may not operate agricultural spraying equipment, they have a responsibility for preventing pesticide contamination of stormwater. Target specific BMPs to the use of agricultural chemicals.
 - (4) Trash, Litter, and Recyclable Management Program – Acceptable practices should be observed when recycling or disposing of used oil and batteries. Trash containers should be of adequate size, routinely emptied, and checked for leaks. Place trash containers away from drainage inlets and cover containers exposed to the elements.
3. Employee Training
 - a. All employees trained annually by Sunnyside Fire Department in the safe storage, handling, and disposal practices of chemicals and liquid wastes.
 - b. All employees briefed annually on Airport good housekeeping policies.
 - c. Employees trained on special practices required by the Airport such as mopping up de-icing fluids.

The housekeeping policy must include the content discussed in this section to maintain proper stormwater protection.

3.2.2 Preventative Maintenance

Preventative maintenance activities involve identifying possible materials and activities that pose an increased potential for a pollutant being discharged to the environment. This includes routine inspections of control structures on the site and performing required maintenance activities to ensure they function properly if a discharge were to occur.

The General Permit section S3.B.4.b.i.3 requires the Permittee to:

1. Clean catch basins when the depth of debris reaches 60% of the sump depth. In addition, the Permittee must keep the debris surface at least 6" below the outlet pipe.
2. Inspect all equipment and vehicles during monthly site inspections for leaking fluids such as oil, antifreeze, etc. Take leaking equipment and vehicles out of service or prevent leaks from spilling on the ground until repaired.
3. Immediately clean up spills and leaks (e.g., using absorbents, vacuuming, etc.) to prevent the discharge of pollutants.

In addition to these mandatory BMPs from the General Permit, the City will perform the following:

1. Runway Maintenance
 - a. Dilute any chemicals used in runway maintenance that are washed off the pavement surface so that the effluent will not harm surrounding vegetation or drainage systems or pollute nearby streams and habitats.
2. Facility Equipment
 - a. Facility equipment should receive scheduled inspections and preventive maintenance. Inspections should include connections, pipes, hoses, valves, and any other items whose malfunction can cause spills, leaks, or other situations leading to contamination of stormwater runoff.
 - b. When servicing, repairing, and/or replacing items that could cause spills or leaks, use drip pans to contain potential pollutants. Empty drip pans immediately after a spill or leak is collected, especially in an uncovered area.
 - c. Dispose of empty oil and fuel filters, oily rags, and other oily solid waste into appropriately closed and properly labeled containers in compliance with the Uniform Fire Code.
3. Paved Areas
 - a. Identify, repair, and/or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas that are subject to pollutant material.
 - b. Do not pave over contaminated soil unless it has been determined groundwater has not been and will not be contaminated by the soil. Call Ecology for assistance.
4. Equipment / Vehicle Wash
 - a. The City does allow vehicle and aircraft washing on-site, but the washing must be done in an area that drains to grass, or in a building with drains that lead to the sanitary sewer. The Airport tenants that do wash their vehicles and/or aircraft are responsible for including their washing activities in their own SWPPP, and submitting a copy to the City is to be included in this SWPPP under Appendix I.
 - b. For the tenant to comply with the Industrial Stormwater General Permit, they must conduct all cleaning, steam cleaning, or pressure washing inside a building, under a roof, on an impervious contained area such as a concrete pad, or in a grassy area. The contaminated stormwater on impervious areas should be directed to a sump and then to a sanitary sewer system. An NPDES Permit would be required for any wash water discharged to a storm drain.

5. Maintain ponds, tanks/vaults, catch basins, swales, filters, oil/water separators, drains, and other stormwater drainage/treatment facilities in accordance with the Maintenance Standards set forth in the applicable Stormwater Management Manual (SWMM), other guidance documents or manual approved in accordance with General Permit section S3.A.3.c., demonstrably equivalent BMPs per S3.A.3.d., or an O&M Manual submitted to Ecology in accordance with S8.D.

Table 3-1 Spill Containment Manholes and Catch Basins
Structure: Spill containment manhole with down turned elbow and shutoff valve. Located in ramp at Latitude 46°19'37"N and Longitude 119°58'7"W
Date of Implementation: Unknown
Discharge Point: Canal
Area(s) Treated: Paved surfaces in the area draining to the manhole
Pollutants Removed: Hydrocarbons and floatables (trash)
Maintenance Requirement: Vactor out fluids and trash as needed
Structure:
Date of Implementation:
Discharge Point:
Area(s) Treated:
Pollutants Removed:
Maintenance Requirement:

City of Sunnyside Stormwater Division crews will perform any required cleaning and/or vactoring of structures. All waste will be taken to the Sunnyside Wastewater Treatment Plant drying beds. Vactored material considered “hot” will be taken to the Cheyne landfill located near Zillah, Washington. Use the process shown on Worksheet 9, in **Appendix C**, to record and correct any issues identified during inspections.

3.2.3 Spill Prevention and Emergency Cleanup

Spill prevention is generally covered in this plan under good housekeeping and is currently practiced by City employees. There is one tenant at the Airport that has a fueling station and/or fuel truck. Spill prevention and emergency cleanup plans will be covered in their individual SWPPPs. Their SWPPPs, if available, can be found in Appendix I, Tenant’s Supplemental SWPPPs.

The General Permit section S3.B.4.b.i.4 requires the Permittee to implement the following mandatory spill prevention and emergency cleanup BMPs:

1. Store all chemical liquids, fluids, and petroleum products, on an impervious surface surrounded with a containment berm or dike capable of containing 10% of the total enclosed tank volume or 110% of the volume contained in the largest tank, whichever is greater.
2. Prevent precipitation from accumulating in containment areas with a roof or equivalent structure or include a plan on how the Permittee will manage and dispose of accumulated water if a containment area cover is not practical.
3. Locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, mobile fueling units, and used oil storage/transfer stations. At a minimum, spill kits shall include:
 - a. Oil absorbents capable of absorbing 15 gallons of fuel.
 - b. A storm drain plug or cover kit.

- c. A non-water containment boom, a minimum of 10 feet in length with a 12-gallon absorbent capacity.
 - d. A non-metallic shovel.
 - e. Two five-gallon buckets with lids.
4. Do not lock shutoff fueling nozzles in the open position. Do not “top-off” tanks being refueled.
 5. During fueling, block, plug, or cover storm drains that receive runoff from areas where fueling takes place.
 6. Use drip pans or equivalent containment measures during all petroleum transfer operations.
 7. Locate materials, equipment, and activities so potential leaks are in existing containment or diversion systems (confine the storage of leaking or leak-prone vehicles and equipment awaiting maintenance to protected areas).
 8. Use drip pans and absorbents under or around leaking vehicles and equipment, or store indoors where feasible. Drain fluids from equipment and vehicles prior to on-site storage or disposal.
 9. Maintain a spill log (Worksheet 4A) that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time cleanup completed, notifications made, and staff involved.

Each employee will be trained in the location and proper use of kits. All kits will be inspected semi-annually and updated as needed. Spills will be recorded on Worksheet 4 (List of Significant Spills and Leaks) and Worksheet 4A (Spill Log), in Appendix C.

A “typical” emergency cleanup procedure may consist of the following elements:

1. Identify spill/leak source and potential health hazard of source.
2. If the situation is deemed unsafe, stop, contain, and clean up leaks and/or spills immediately.
3. Contain spill/leak with absorbent material. Never flush cleanup material to a storm drain.
4. If any spill/leak reaches, or may reach, storm sewer, groundwater, or surface water, notify Ecology immediately (not to exceed 1 hour). Take responsible steps to minimize any adverse impacts to waters of the State and to correct the problem.
5. Notify Sunnyside Fire Department and supervisor of spill.
6. Place spill material in a polyethylene-lined waste drum or like container.
7. Complete spill reporting Worksheets 4 and 4A. Follow up with written documentation within thirty (30) days unless otherwise directed by Ecology.
8. Arrange for proper disposal of waste and record such disposal.

All employees who work in pollutant source areas must be aware of the specific spill cleanup kit locations and the listed procedure for spill cleanup. In the event of a spill, proper documentation of the event must be completed once the spill has been cleaned up. See the following Section 3.6.4 for reporting requirements.

3.2.4 Employee Training

Employee training is essential to effective implementation of the SWPPP. The purpose of a training program is to inform personnel at all levels of responsibility the components and goals of the SWPPP. When properly trained, personnel are more capable of preventing spills, responding safely and effectively to an accident when it occurs, and recognizing situations that could lead to stormwater contamination.

Employee training will be performed annually in accordance with the BMPs listed previously. This training focuses on communication of written City policies and coordination with the Sunnyside Fire Department through the Fire Chief. Additional training will be pursued where it is deemed appropriate.

The City will develop an annual employee training program covering such topics as spill prevention and response, good housekeeping, material management practices, and other appropriate topics as discussed in previous sections. These training sessions shall be recorded (see Worksheet 10 in **Appendix C**) and kept in an organized fashion with other records pertaining to the SWPPP.

1. The content of the training:
 - a. An overview of what is included in the SWPPP.
 - b. How employees make a difference in complying with the SWPPP and preventing contamination of stormwater.
 - c. Spill response procedures, good housekeeping, maintenance requirements, and material management practices. The specific training topics covered during the annual and initiation training session are listed on Worksheet 10, in **Appendix C**.
2. The City will conduct an annual training refresher for all employees. New employees will be trained during one of these annually scheduled sessions within their first three months of employment, or separately if the annual training session is not scheduled within three months of their start date.
3. Worksheet 10, in **Appendix C**, will be used to log the dates on which specific employees received training.

Employee training topics listed on Worksheet 10 represents a minimum level required to insure the implementation of operational BMPs. The specific required topics included in the training is discussed in Sections 3.1.1 and 3.1.3. New source control and treatment BMPs will be added to the training in the future as they are developed.

3.2.5 Inspection, Reporting and Recordkeeping

Facilities covered under the Industrial Stormwater General Permit are required under Section S7 to conduct monthly stormwater inspections. The reports from each month shall be kept on-site for Ecology review. Any non-compliance issues identified during an inspection shall be reported in accordance with the requirements of General Permit Section S9.E.

If non-stormwater flow is observed during the dry season, the City will notify the Ecology Central Regional Office and the discharge will be eliminated within six months, or the City will apply to Ecology for an appropriate NPDES or State Waste Discharge Permit. Unless permitted by an NPDES Permit, such discharges are illegal.

Inspection of the spill containment manholes will be conducted semi-annually and recorded in Worksheet 11, in **Appendix C**.

Regular site inspections are the means to ensure elements of the plan are in place and working properly to prevent pollution of stormwater runoff from the facility. The following will be considered when conducting visual inspections by personnel who possess the knowledge and skills to assess conditions and activities that could impact stormwater quality at the facility, and evaluate the effectiveness of BMPs required by the permit:

1. Designate trained City personnel to regularly inspect the equipment and facility areas, track results of inspections, make necessary changes, and maintain records of all inspections.
2. Ensure inspection records note when inspections were performed, who conducted the inspections, what areas were inspected, what problems were found, and what steps were taken to correct any problems.
3. Inspect stormwater drainage areas for evidence of pollutants entering the drainage systems.
4. Inspect all potential pollutant sources, including tenant sites, for potential stormwater pollutant sources.
5. Evaluate the effectiveness of BMPs (for example, determine if the site is cleaner or gauge whether employees are more familiar with good housekeeping measures, spill prevention, and response practices).
6. Observe structural measures, sediment controls, and other stormwater BMPs to ensure proper operation.

7. Revise the plan as needed within two weeks of an inspection that reveals potential pollutant sources or pollution prevention measures and controls identified in the SWPPP are inadequate. Implement the necessary modifications or changes in a timely manner.
8. Sign each inspection report and keep it with the plan.

A tracking or follow-up procedure shall be identified to ensure appropriate action has been taken in response to each inspection. Worksheet 11, in **Appendix C**, can be used for the visual inspection report format and Worksheet 6, in **Appendix C**, for non-stormwater discharge. These inspections will reduce the possibility of stormwater contamination but will not affect the required quarterly stormwater sampling and monthly visual inspections.

For compliance with the permit, it is required records are kept for a minimum of five (5) years. Records include quarterly sampling reports, monthly monitoring reports, all inspection reports, maintenance reports, DMRs (Discharge Monitoring Reports), all permit application records of data, and any other required reports and compliance records. Keep all records within the tabbed sections at the end of this SWPPP. Worksheets 6, 9, and 11, in **Appendix C**, provide a recordkeeping guideline for periodic inspections.

Submit sampling reports, results to Ecology quarterly. DMRs should be submitted electronically on a quarterly basis even if there is no sample. If there is no sample, there must be an explanation as to why a sample was not included on the DMR. Also, include any pollutant sampling data not required by the permit and an explanation if there is any other missing data. Quarterly reports must be submitted within forty-five (45) days following the end of the reporting period and no later than May 15, August 14, November 14, and February 14 of each year to Industrial Stormwater Permit Manager, Department of Ecology, Water Quality Program, P.O. Box 47696, Olympia, WA 98505-7696.

Should significant non-compliance issues arise, the pollution prevention team will review the issues and implement additional or enhanced BMPs as corrective action where deemed necessary.

Worksheets 1-12 contained in this plan represent a minimum level of recordkeeping. By updating these worksheets on a regular basis, documentation of the plan's implementation will be sufficient. Additional recordkeeping may be deemed necessary as the plan evolves over time. The plan, including worksheets, will be updated after inspections and when changes occur.

The facility personnel who will be responsible for inspection of the designated equipment and facility areas as required in Condition S7 are listed in Worksheet 1 – Pollution Prevention Team, included in **Appendix C**. The responsible facility personnel will ensure the following actions are taken:

1. Complete a visual inspection report or checklist that includes all items required by Condition S7.C.
2. Provide a tracking system or follow-up procedure to ensure appropriate action is taken in response to visual inspections and prepare a report.
3. Maintain all records identified in Special Condition S9, Reporting and Recordkeeping Requirements.
4. All inspection reports completed by the City (S7.C) will be kept on-site with the plan for inspection and review by Ecology, when requested.

Per Condition S7.C, the City shall record the results of each inspection in an inspection report or checklist and keep the records on-site, as part of the SWPPP, for Ecology review. Monitoring/Inspection reports shall include the following:

1. Time and date of the inspection.
2. Locations inspected.
3. Statements that, in the judgment of 1) the person conducting the site inspection, and 2) the person described in Condition G2, the site is either in compliance or out of compliance with the terms and conditions of the SWPPP and this permit.
4. A summary report and a schedule of implementation of the remedial actions that Airport plans to take if the site inspection indicates that the site is out of compliance. The remedial actions taken must meet the requirements of the SWPPP and the permit.

5. Name, title, and signature of the person conducting site inspection; and the following statement: "I certify that this report is true, accurate, and complete, to the best of my knowledge and belief."
6. Certification and signature of the duly authorized representative of the facility.

Per Condition S9.E, in the event the City is unable to comply with any of the terms and conditions of the permit which may endanger human health or the environment, or exceed any numeric effluent limitation in the permit, the City shall, upon becoming aware of the circumstances:

1. Immediately take action to minimize potential pollution or otherwise stop the noncompliance and correct the problem.
2. Immediately notify the Ecology Central Region office at (509) 575-2490 of the failure to comply.
3. Submit a detailed written report to Ecology within five (5) days of the time the City becomes aware of the circumstances. The report shall be submitted using Ecology's Water Quality Permitting Portal – the City's report shall contain:
 - i) A description of the noncompliance, including exact dates and times.
 - ii) Whether the noncompliance has been corrected and, if not, when the noncompliance will be corrected.
 - iii) The steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
4. Upon request of the City, Ecology may waive the requirement for a written report on a case-by-case basis, if the immediate notification (S9.E.1.b) is received by Ecology within 24 hours.

Compliance with the requirements of this section does not relieve the City from the responsibility to maintain continuous compliance with the terms and conditions of this permit or the resulting liability for failure to comply.

3.2.6 Illicit Discharge

Illicit discharges are all non-stormwater discharges to stormwater drainage systems that cause or contribute to a violation of state water quality, sediment quality, or groundwater quality standards, including, but not limited to, sanitary sewer connections, industrial process water, interior floor drains, car and/or plane washings, and grey water systems.

Wash water from cleaning planes is considered process water and is an illicit discharge. However, the City encourages its tenants to wash planes in areas that drain to grass. The process water will then infiltrate into the ground, with the soil and plant root zones removing pollutants. Pressure washing of Airport maintenance vehicles and all maintenance on Airport vehicles is done at the Public Works Shop, which has floor drains connected to the sanitary sewer.

During each monthly site inspection, look for signs of illicit discharges, especially during dry weather when stormwater isn't discharging from the site. Each monthly site inspection will include:

1. Observations made at stormwater sampling locations and areas where stormwater associated with industrial activity is discharged off-site; or discharged to waters of the State, or to a storm sewer system that drains to waters of the State.
2. Observations of the presence of floating materials, visible oil sheen, discoloration, turbidity, odor, etc. in the stormwater discharge(s).
3. Observations for the presence of illicit discharges such as domestic wastewater, noncontact cooling water, or process wastewater (including leachate).
 - a. If an illicit discharge is discovered, the City shall notify Ecology within seven (7) days.
 - b. The City shall eliminate the illicit discharge within thirty (30) days.

Non-stormwater discharge inspections should be completed annually during the dry seasons and documented on Worksheet 6 (Non-Stormwater Discharge). The inspection points should be at the end of the culverts where they outfall. If a Non-Stormwater Discharge Inspection cannot be made, use Worksheet 7 to record why the inspection is infeasible.

3.3 Structural Source Control BMPs

Source control BMPs are implemented to minimize or eliminate material exposure to stormwater by directing flow away from areas of contamination or reducing the amount of potentially polluting materials stored or handled on-site. These BMPs and regulatory requirements are described in the Ecology publication “Stormwater Management Manual for Eastern Washington” dated February 2019 as listed below. Excerpts from this manual are included in **Appendix H**.

3.3.1 Mandatory Structural Source Control BMPs

The following structural source control BMPs are required by Condition S3 of the Industrial Stormwater General Permit:

1. Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations).
2. Perform all cleaning operations indoors, under cover, or in bermed areas that prevent stormwater runoff and run-on and also capture any overspray.
3. Ensure all wash water drains to a collection system that directs the wash water to further treatment or storage and not to the stormwater drainage system.
4. Condition S3 of the Industrial Stormwater General Permit requires Structural Source Control BMPs listed as “applicable” in Ecology’s SWMMs, or other guidance documents as mandatory.

3.3.2 Site Specific BMP’s

See **Appendix J** in this SWPPP for the complete definitions of the BMPs included under each heading listed below. These BMPs and regulations are automatically made a part of this plan as mandated by Ecology.

Site specific source control BMPs for the Airport are as follows:

1. Fueling at Dedicated Stations – Fueling does not occur at the Airport for City operations.
2. Illicit Connections to Storm Drains
3. Landscaping and Lawn/Vegetation Management
4. Loading and Unloading Areas for Liquid or Solid Material
5. Maintenance and Repair of Vehicles and Equipment – Maintenance and repair for City vehicles does not currently occur at the Airport.
6. Maintenance of Stormwater Drainage and Treatment Systems
7. Mobile Fueling of Vehicles and Heavy Equipment – This practice does not currently occur.
8. Parking and Storage of Vehicles and Equipment
9. Spills of Oil and Hazardous Substances
10. Storage of Liquid, Food Waste, or Dangerous Waste Containers
11. Storage of Liquids in Permanent Above-Ground Tanks
12. Storage or Transfer (Outside) of Solid Raw Materials, By-Products, or Finished Products
13. Washing and Steam Cleaning Vehicles/Equipment/Building Structures

3.4 Treatment BMPs

Treatment BMPs are implemented to remove pollutants from stormwater. These BMPs and regulatory requirements are described in the Ecology publication “Stormwater Management Manual for Eastern Washington” as listed below. See **Appendix H** in this SWPPP for the complete definitions of the BMPs included under each heading listed below. These BMPs and regulations are automatically made a part of this plan as mandated by Ecology.

Treatment BMPs:

1. Treatment BMPs for Maintenance and Repair of Vehicles and Equipment
2. Treatment BMPs for Parking and Storage of Vehicles and Equipment
3. Treatment BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers
4. Treatment BMPs for Storage of Liquids in Permanent Above-ground Tanks
5. Treatment BMPs for Storage or Transfer (Outside) of Solid Raw Materials, By-Products, or Finished Products

3.4.1 Mandatory Erosion and Sediment Control BMPs

Mandatory erosion and Sediment Control BMPs required by Condition S3 of the Industrial Stormwater General Permit consist of the following:

Sediment control BMPs such as detention or retention ponds or traps, vegetated filter strips, bioswales, or other permanent sediment control BMPs to minimize sediment loads in stormwater discharges.

Filtration BMPs to remove solids from catch basins, sumps or other stormwater collection and conveyance system components (filter socks, modular canisters, sand filtration, centrifugal separators, etc.).

3.4.2 Site Specific BMPs

Mandatory BMPs for Deicing and Anti-Icing Operations - Airports and Streets from Ecology's Stormwater Management Manual for Eastern Washington consist of the following:

BMPs for Aircraft:

1. Conduct aircraft deicing or anti-icing applications in impervious containment areas. Collect aircraft deicer or anti-icer spent chemicals, such as glycol, draining from aircraft in deicing or anti-icing application areas and convey to a sanitary sewer, treatment, or other approved disposal or recovery method. Divert deicing runoff from paved gate areas to appropriate collection areas or conveyances for proper treatment or disposal.
2. Do not allow spent deicer or anti-icer chemicals or stormwater contaminated with aircraft deicer or anti-icer chemicals to be discharged from application areas including gate areas, to surface water, or ground water, directly or indirectly.
3. Transfer deicing and anti-icing chemicals on an impervious containment pad, or equivalent spill/leak containment area, and store in secondary containment areas. (See Storage of Liquids in Above-Ground Tanks).

BMPs for Airport Runways/Taxiways:

1. Avoid excessive application of all de/anti-icing chemicals, which could contaminate stormwater.
2. Store and transfer de/anti-icing materials on an impervious containment pad or an equivalent containment area and/or under cover in accordance with BMP Storage or Transfer (Outside) of Solid Raw Materials, By-Products, or Finished Products in this volume. Other material storage and transfer approaches may be considered if it can be demonstrated stormwater will not be contaminated with or the de/anti-icer material cannot reach surface or ground waters.

Airport runoff is piped to the nearby canal. The canals are strongly affected by the agricultural practices of the surrounding properties. The City has no influence or control over these landowners, and therefore, is not responsible for water quality issues in these canals. To prevent contamination of samples by canal water, all sampling will be performed at inlets, prior to stormwater mixing with the canal water at the outfalls.

The City can influence the BMPs of its tenants. Copies of this SWPPP will be distributed to each tenant for their review, comments, and coordination. At that point, the City can work with each tenant to assess the most appropriate BMP for runoff from the tenants' facilities/operations, which impacts overall stormwater quality. Specific target operations will include de-icing, refueling, aircraft maintenance, and aircraft and vehicle washing.

3.5 Stormwater Peak Runoff Rate and Volume Control

Retention and infiltration of the 25-year storm is required by the City of Sunnyside Municipal Code for all new development and redevelopment within the City. The retention of the runoff helps to mitigate peak runoff rates and overall discharge volumes to the nearby canals.

3.6 Erosion and Sediment Control

All areas of the Airport are paved, gravel or established grassy surfaces and are not subject to erosion, except for those areas currently under an Agricultural Lease. Construction activities that will expose soils to erosion will be required to have a Temporary Erosion and Sediment Control Plan. If the construction site will clear one acre or more, a SWPPP will be required along with a Construction Stormwater General Permit.

Section 4 – Sampling Plan/Monitoring

4.1 Description

Quarterly sampling, as well as visual inspection of the stormwater discharges to the canal, must be conducted. Quarters are defined as January – March, April – June, July – September, and October – December. The sampling results must be reported to Ecology quarterly in Discharge Monitoring Reports (see Section 3.1.5 and **Appendix F**). Quarterly reports are to be completed even if no discharges or a no sampling decision is made. A no-sampling decision may be made if eight consecutive quarters of reported values are equal to or less than the benchmark value (benchmark values are listed in **Appendix F – Discharge Monitoring Reports**). If a no-sampling decision is made, a report must still be submitted to Ecology stating that sampling was not required. If test results are above the benchmark value, refer to General Permit Section S8 for appropriate level response. In the event of a no-sampling decision, visual inspection of the discharge is still required, and a record must be included in the SWPPP Worksheet 10 (Records of Visual Inspections of Stormwater Discharges), in **Appendix C**. See **Table 4-3 – Flow Chart** for a breakdown of sampling/monitoring requirements. Proper sampling protocol includes the following:

1. Take a grab sample, a time-proportionate sample, or a flow-proportionate sample. Grab samples are taken within the first hour after discharge begins, time-proportionate and flow proportionate samples are started within the first 30 minutes after discharge begins and are taken over a two-hour period.
2. Sampling must occur at the established primary sampling points at the drains as shown on **Figure 4**, in **Appendix B**.
3. The parameters requiring analysis are pH, total zinc, total copper, ammonia, BOD5, nitrate+nitrite as N, fecal coliform, COD, turbidity, and visible oil sheen.
4. Permittees shall collect within the first 12 hours of stormwater discharge events. If not possible to collect a sample within the first 12 hours of a stormwater discharge event, the Permittee must collect the sample as soon as practicable after the first 12 hours and keep documentation with the sampling records explaining why they could not collect samples within the first 12 hours; or if it is unknown (e.g., discharge was occurring during start of regular business hours).
5. Explanations of any sampling variances, anomalies, and deviations from permit criteria must be included in the SWPPP.
6. Verification that the description of any pollutant source is 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.
7. 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.
8. The responsible visual monitoring person, named in the Pollution Prevention Team listed on Worksheet 1 in **Appendix C**, must certify each visual monitoring report pursuant to General Condition G2 of the permit and keep it on-site with the SWPPP.

At least one dry season inspection must be done to determine if there are any non-stormwater discharges to the system. The primary sampling points must also be inspected during the dry season for odors, discolorations, and abnormal flows. If a non-stormwater discharge is discovered, the Ecology regional office must be notified and the discharge eliminated within thirty (30) days, or a permit application must be submitted.

Figure 5 displays the primary sampling location. The sample point is located at a drain – not at end of pipe where the pipe outfalls. Sample Point 1, which ends up in the canal, will be lab tested for eight parameters plus a visual test for oil sheen. This point will provide the most accurate representation of stormwater being discharged off the site.

4.2 Discharge Locations

The Airport has seven outfalls, listed in Table 4-1, and will sample at two locations, as listed in Table 4-2.

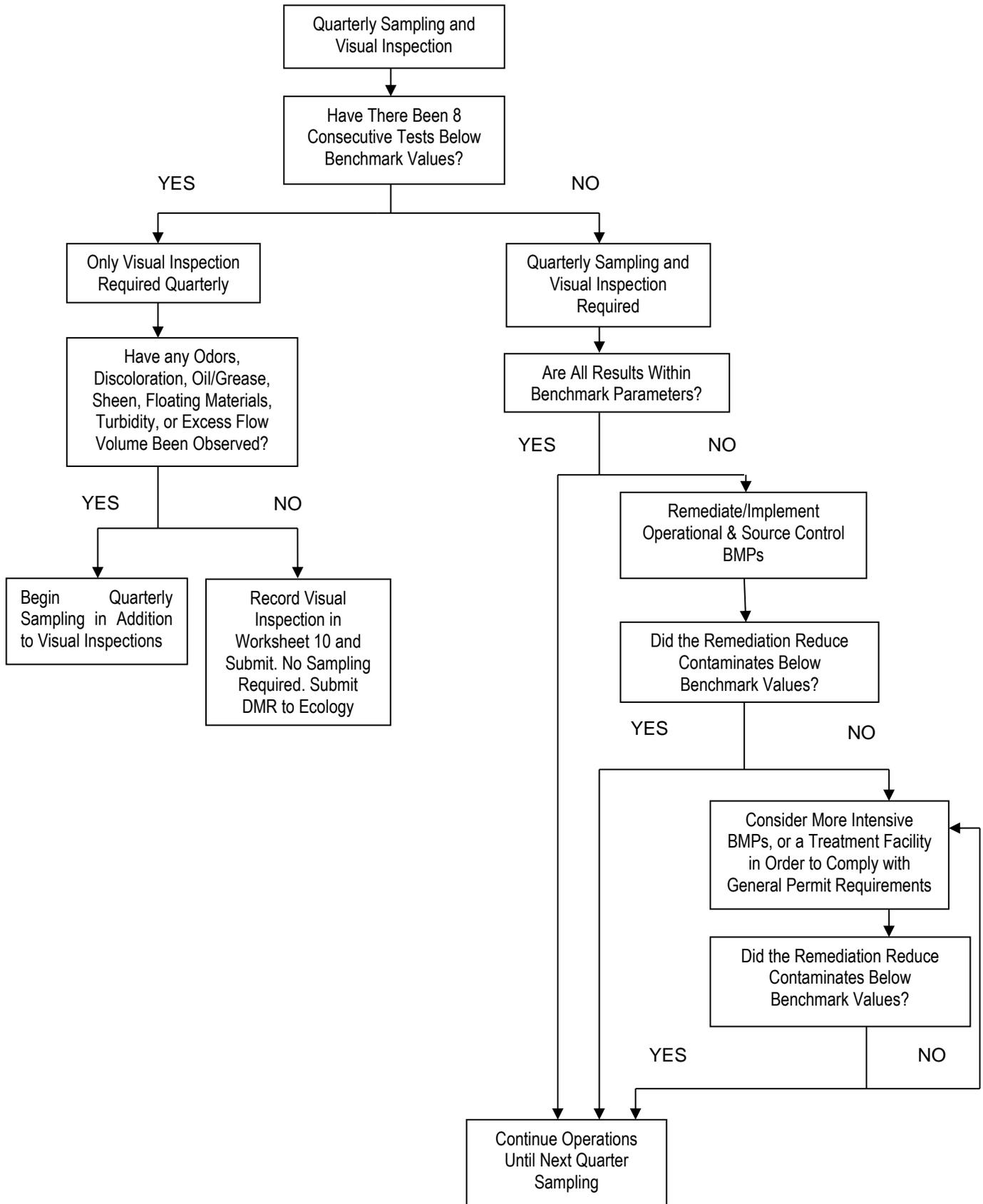
Table 4-1 Discharge Locations					
Discharge ID	Common description	Latitude (optional)	Longitude (optional)	Discharge Type	Comments
001	Discharge 001 to Canal	46°19'28"N	119°58'7"W	Surface Water	Storm drains connected to canal

4.3 Sampling Locations

Sampling locations for the Airport are listed in Table 4-2.

Table 4-2 Sampling Locations					
Discharge ID	Common description	Latitude (optional)	Longitude (optional)	Discharge Type	Comments
ID 002 (Sample Point 1)	Drain located in ramp	46°19'37"N	119°58'7"W	Surface Water	Storm drain connected to canal

Table 4-3 Flow Chart – Stormwater Sampling/Inspection Requirement



4.4 Substantially Identical Outfall Exception

The City will not sample the discharge from other outfalls because the pollutant concentrations are substantially identical to discharge points being sampled, per S4.B.2.c of the Industrial Permit. For the following reasons, the City believes that sampling at the one location listed in Table 4-2 is sufficient:

1. All areas draining to the various outfalls are substantially identical in that they are part of the Airport and see only airplane, helicopter, and service vehicles using the impervious areas surrounding the drains.
2. These impervious areas are asphalt.
3. The City does not keep any materials exposed to stormwater that would be considered harmful.

4.5 Staff Responsible for Sampling

The staff responsible for sampling are listed on Worksheet 1 – Pollution Prevention Team, in Appendix C. This list will be updated as changes in personnel occur.

4.6 Sample Collection and Handling

Excerpts from “How to do Stormwater Sampling – A Guide for Industrial Facilities,” March 2010 is included in **Appendix G**. The sample collection and handling described in this guide will be followed to minimize personnel safety risks, prevent sample contamination, and ensure accurate data. These materials will be part of the personnel training program.

For each stormwater sample taken, the Permittee shall record the following information and retain it on-site for Ecology review per Condition S4.B.3 of the Industrial Permit:

1. Sample date.
2. Sample time.
3. A notation describing if the Permittee collected the sample within the first 12 hours of stormwater discharge events; or, if it is unknown (e.g., discharge was occurring during start of regular business hours).
4. An explanation of why the Permittee could not collect a sample within the first 12 hours of a stormwater discharge event, if it was not possible. Or, if it is unknown, an explanation of why the Permittee does not know if a sample was collected within or outside the first 12 hours of stormwater discharge.
5. Sample location (using SWPPP identifying number).
6. Method of sampling, and method of sample preservation, if applicable.
7. Individual who performed the sampling.
8. Weather conditions.

Laboratory reports for samples shall include the following per Condition S4.B.4 of the Industrial Permit:

1. Date of analysis
2. Parameter name
3. CAS number, if applicable
4. Analytical method(s)
5. Name of the individual who performed the analysis
6. Method detection limit (MDL)
7. Laboratory quantification level (QL) achieved by the laboratory
8. Reporting units
9. Sample results
10. Quality assurance/quality control data

If any sampling criterion is not followed, an explanation must be included in the report.

4.7 Submitting Sample Results to Ecology

The City shall submit sampling data obtained during each reporting period on a Discharge Monitoring Report (DMR) form provided, in Appendix F, within forty-five (45) days of the end of each reporting period, as shown in Table 4-4.

Table 4-4 Reporting Dates and DMR Due Dates		
Reporting Period (Quarter)	Months	DMR Due Date
1 st	January-March	May 15
2 nd	April-June	August 14
3 rd	July-Sept	November 14
4 th	October-December	February 14

DMRs shall be submitted using Ecology’s WWebDMR system or by mail to the following address:

Department of Ecology
Water Quality Program – Industrial Stormwater
PO Box 47696
Olympia, Washington 98504-7696

The City shall submit a DMR each reporting period, whether or not the facility has discharged stormwater from the site.

If discharge(s) occurred during normal working hours, and during safe conditions; but no sample was collected during the entire quarter, the City shall submit a DMR form indicating “no sample obtained.” If no discharge(s) occurred during the entire quarter or the discharges during the quarter occurred outside normal working hours or during unsafe conditions, the City shall submit a DMR indicating “no discharge.”

If the City suspends sampling for a parameter due to consistent attainment, the City shall submit a DMR and indicate that it has achieved Consistent Attainment for that parameter(s).

4.8 Sampling Parameters

Parameters for analysis, holding times and preservatives, laboratory quantitation levels, and analytical methods shall be as listed in Table 4-5 and Table 4-6.

Table 4-5 Benchmarks and Sampling Requirements Applicable to All Facilities					
Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level ^a	Minimum Sampling Frequency ^b
Turbidity	NTU	25	EPA 180.1 Meter	0.5	1/quarter
pH	Standard Units	Between 5.0 and 9.0	Meter/Paper ^c	±0.5	1/quarter
Oil Sheen	Yes/No	No Visible Oil Sheen	N/A	N/A	1/quarter
Copper, Total	µg/L	Eastern WA: 32	EPA 200.8	2.0	1/quarter
Zinc, Total	µg/L	117	EPA 200.8	2.5	1/quarter
<p>^{a.} The Permittee shall ensure laboratory results comply with the <i>quantitation level</i> (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses as alternative method, it must report the test method and QL on the DMR. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR.</p> <p>^{b.} 1/quarter means at least one sample taken each quarter, year-round.</p> <p>^{c.} Permittees shall use either a calibrated pH meter or narrow-range pH indicator paper with a resolution not greater than ±0.5 SU.</p>					

Table 4-6 Additional Benchmarks and Sampling Requirements Applicable to Airport					
Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level ^a	Minimum Sampling Frequency ^b
4. Air Transportation ^c (45xx)					
Total Ammonia (as N)	mg/L	2.1	SM4500-NH3- GH	0.3	1/quarter
BOD ₅	mg/L	30	SM 5210B	2	1/quarter
COD	mg/L	120	SM5220D	10	1/quarter
Nitrate+Nitrite, Nitrogen, as N	mg/L	0.68	SM 4500-NO3-E/F/H	0.10	1/quarter
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.1	1/quarter
<p>^{a.} The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses as alternative method, it must report the test method and QL on the DMR. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR.</p> <p>^{b.} 1/quarter means at least one sample taken each quarter, year-round.</p> <p>^{c.} For Airports where a single Permittee, or a combination of permitted facilities use more than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis, monitor these additional five parameters in those discharge points that collect runoff from areas where deicing activities occur (SIC 4512-4581).</p>					

The City in compliance with the Industrial Stormwater General Permit Condition S5.C also requires monitoring listed as follows:

1. Permittees with discharges from Airport activities shall comply with the effluent limits and monitor as specified in Condition S4 of the permit and Table 4-7 below.
2. The discharge of pollutants at a level more than that identified and authorized by the permit for Airport activities shall constitute a violation of the terms and conditions of the permit.
3. Permittees operating airlines and Airports subject to provisions of 40 CFR Part 449 shall comply with the following and effluent limits list in Table 4-7.

Airfield Pavement Deicing. Existing and new primary Airports with 1,000 or more annual jet departures (annual non-propeller aircraft departures) that discharge wastewater associated with airfield pavement deicing commingled with stormwater must either use non-urea-containing deicers or meet the effluent limit in Table 4-7 at every discharge point, prior to any dilution or any commingling with any non-deicing discharge. Affected Permittees must certify in their annual report that it does not use airfield deicing products that contain urea or meet the numeric limit in Table 4-7.

The City does not meet this threshold. Operations will continuously be monitored, and if the threshold is met, the City will sample in accordance with Table 4-7.

Table 4-7 Effluent Limit Applicable to Airports Subject to 40 CFR Part 449 (Deicers)					
Parameter	Units	Average Monthly^a	Analytical Method^b	Laboratory Quantitation Level^c	Minimum Sampling Frequency^d
Total Ammonia (as N)	mg/L	14.7	SM4500-NH3-GH	0.3	1/quarter
<p>Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.</p> <p>^b Or other equivalent EPA-approved method with the same or lower quantitation level.</p> <p>^c The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method, it must report the test method and QL on the DMR. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR.</p> <p>^d 1/quarter means at least one sample taken each quarter, year-round.</p>					

The City's future Industrial Stormwater General Permit Condition S6.C requires monitoring and sampling at those facilities discharging to impaired waterbodies. A portion of the Airport stormwater system discharges to a canal, which is listed as impaired for temperature. Therefore, the City must provide additional sampling as listed in Table 4-8.

Table 4-8 Sampling and Effluent Limits Applicable to Discharges to 303(d)-listed Waters

Parameter	Units	Average Monthly^a	Analytical Method^b	Laboratory Quantitation Level^c	Minimum Sampling Frequency^d
Fecal Coliform Bacteria	# colonies / mg/L	See footnote e	SM9222D	20 CFU / 100 mL	1/quarter

^a Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.

^b Or other equivalent EPA-approved method with the same or lower quantitation level.

^c The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. If the Permittee uses an alternative method, it must report the test method and QL on the DMR. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR.

^d 1/quarter means at least one sample taken each quarter, year-round.

^e Numeric effluent limit does not apply, but Permittees must sample according to Table 4-8. In addition, the following mandatory BMPs shall be incorporated into the SWPPP and implemented; the Permittee must:

- 1) Use all known, available, and reasonable methods to prevent rodents, birds, and other animals from feeding/nesting/roosting at the facility. Nothing in this section should be construed as allowing violations of any applicable federal, state, or local statutes, ordinances, or regulations including the Migratory Bird Treaty Act.
- 2) Perform at least one annual dry weather inspection of the stormwater system to identify and eliminate sanitary sewer cross-connections.
- 3) Install structural source control BMPs to address on-site activities and sources that could cause bacterial contamination (e.g., dumpsters, compost piles, food waste, and animal products).
- 4) Implement operational source control BMPs to prevent bacterial contamination from any known sources of fecal coliform bacteria (e.g., animal waste).

Section 5 – SWPPP Certification

5.1 SWPPP Certification

The following form is included to certify that the Stormwater Pollution Prevention Plan (SWPPP) is complete, accurate and in compliance with the Conditions S3 and S8 of the future Industrial Stormwater General Permit.

Each time a Level 1, 2, or 3 Corrective Action is required, a new form will be completed, re-signed and re-certified by the Permittee, and attached to the SWPPP. A blank form for this purpose is included in **Appendix D**.

SWPPP CERTIFICATION FORM

The Permittee shall use this form to sign and certify that the Stormwater Pollution Prevention Plan (SWPPP) is complete, accurate and in compliance with Conditions S3 and S8 of the Industrial Stormwater General Permit.

- A SWPPP certification form needs to be completed and attached to all SWPPPs.
- Each time a Level 1, 2, or 3 Corrective Action is required, this form needs to be re-signed and re-certified by the Permittee and attached to the SWPPP.

Is this SWPPP certification in response to a Level 1, 2 or 3 Corrective Action? Yes No

If Yes: Type of Corrective Action: Level 1 Level 2 Level 3*

Date SWPPP update/revision completed: January 30, 2015.

Briefly describe SWPPP Update (use backside, if necessary): Update SWPPP in response to Department of Ecology review comments.

***Note:** For Level 3 Corrective Actions, a Qualified Industrial Stormwater Professional must review the revised SWPPP, and sign and certify below, in accordance with Condition S8.D.2.:

“The Permittee has made appropriate revisions to the SWPPP to include additional Treatment BMPs with the goal of achieving the applicable benchmark value(s) in future discharges. Based on my review of the SWPPP, discharges from the facility are reasonably expected to meet the ISGP benchmarks upon implementation.”

Qualified Industrial Stormwater Professional’s Printed Name

Title

Qualified Industrial Stormwater Professional’s Signature

Date

“I certify under penalty of law that this SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information to determine compliance with the Industrial Stormwater General Permit. Based on my inquiry of the person or persons who are responsible for stormwater management at my facility, this SWPPP is, to the best of my knowledge and belief, true, accurate, and complete, and in full compliance with Permit Conditions S3 and S8, including the correct Best Management Practices from the applicable Stormwater Management Manual. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Shane Fisher
Operator’s Printed Name *

Public Works Director
Title

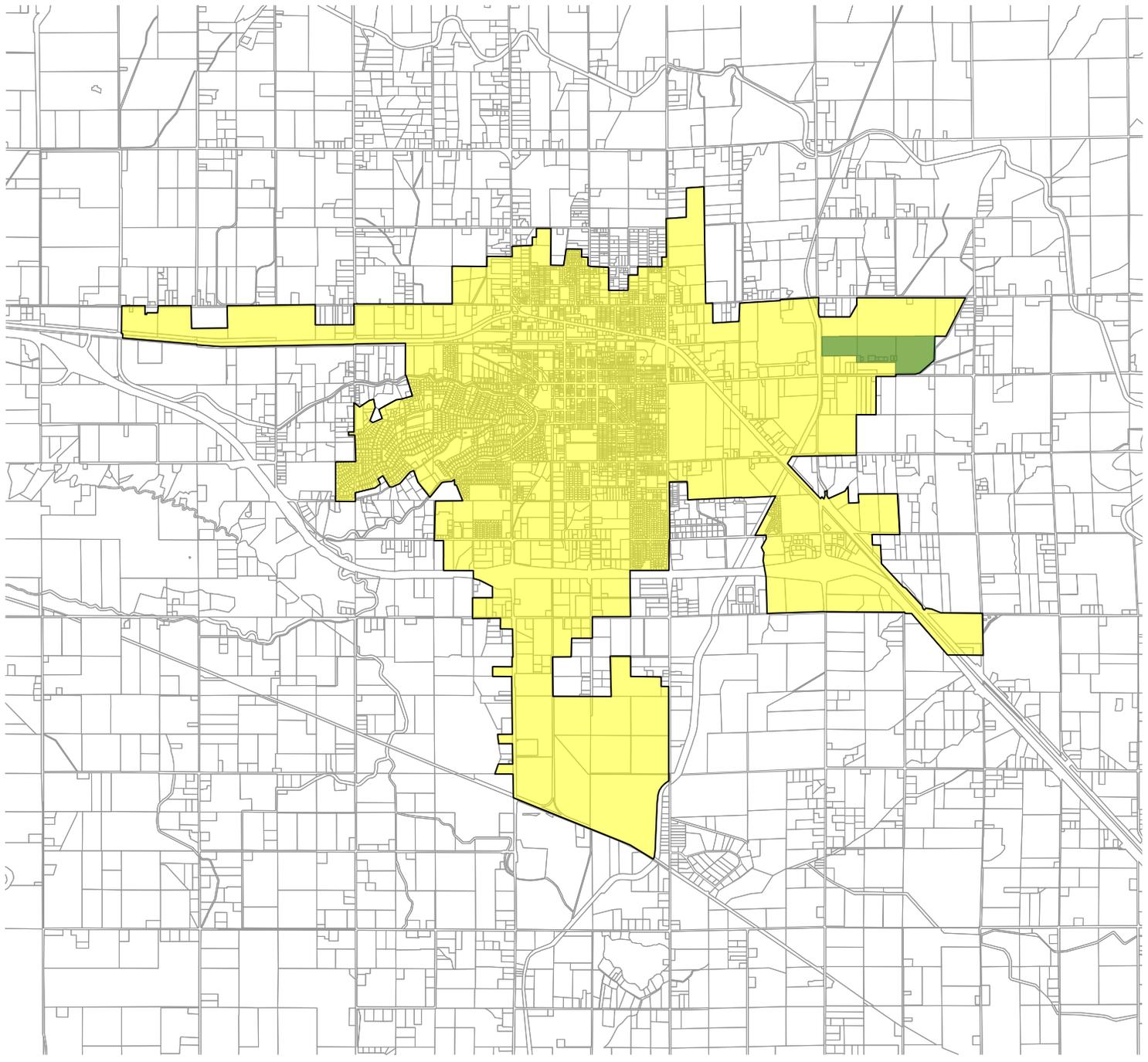
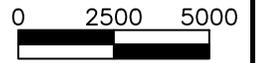
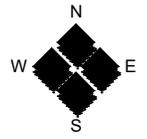
Operator’s Signature *

Date

* Federal regulations require this document to be signed as follows: in accordance with Condition G2.

Appendix A

General Location Map



2803 River Road
Yakima, WA 98902
509.966.7000
Fax 509.965.3800
www.hlacivil.com

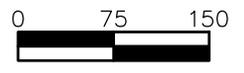
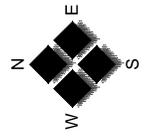
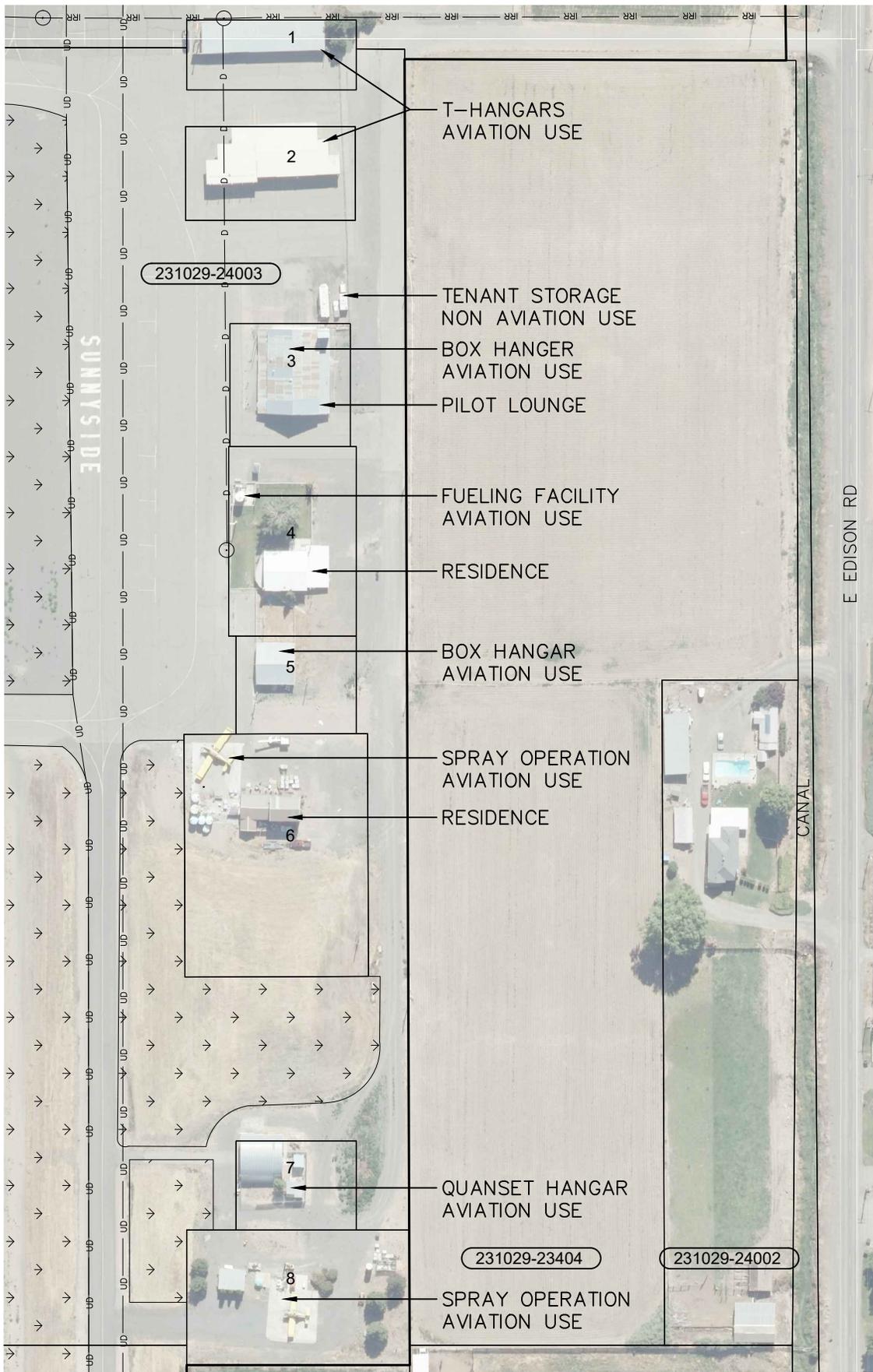
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FILE NAMES: DRAWING: SWPPP.dwg	
DESIGNED BY:	SJR
ENTERED BY:	SCH

CITY OF SUNNYSIDE

SUNNYSIDE MUNICIPAL AIRPORT FIGURE 1

Appendix B

Site Maps



**AIRPORT BUILDING
PARCEL NUMBERS**

- 1 - 231029-13001
- 2 - 231029-24901
- 3 - 231029-24902
- 4 - 231029-24900
- 5 - 231029-24906
- 6 - 231029-24907
- 7 - 23102924905
- 8 - 23102924903

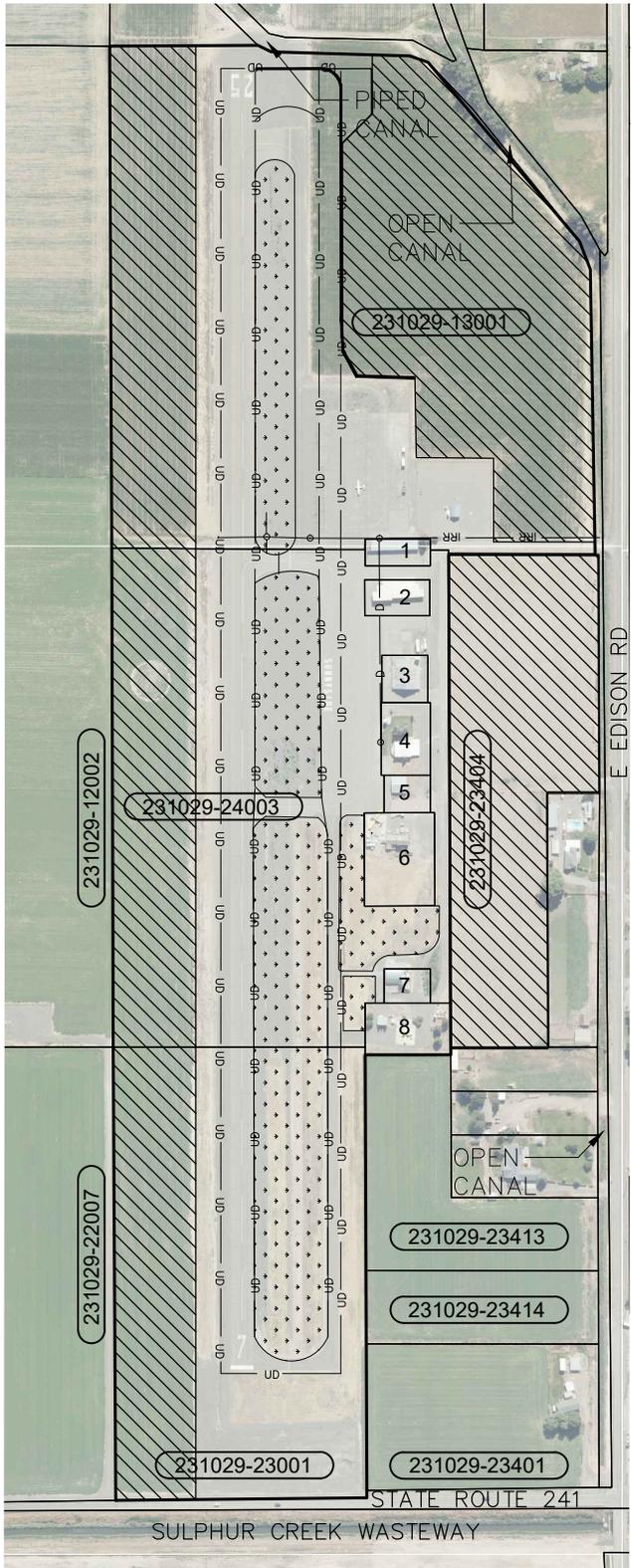
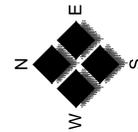


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www.hlacivil.com

JOB NUMBER: 22015	DATE: 12-29-22
FILE NAMES: DRAWING: SWPPP.dwg	
DESIGNED BY:	SJR
ENTERED BY:	SCH

CITY OF SUNNYSIDE

**SUNNYSIDE MUNICIPAL AIRPORT
FIGURE 2**



— UD — UD — APPROXIMATE LOCATION OF UNDERDRAINS CONNECTED TO OUTFALL

 INFILTRATION AREA. GRAVEL SURFACING

 AGRICULTURAL LEASE

AIRPORT PROPERTY			
	PARCEL NO.	OWNER	LEASED
1	231029-13001	CITY	YES
2	231029-24901	CITY	YES
3	231029-24902	CITY	YES
4	231029-24900	CITY	YES
5	231029-24906	CITY	YES
6	231029-24907	CITY	YES
7	231029-24905	CITY	YES
8	231029-24903	CITY	YES
	231029-23413	PRIVATE	NO
	231029-23414	PRIVATE	NO
	231029-23401	PRIVATE	NO
	231029-23404	PORT	YES

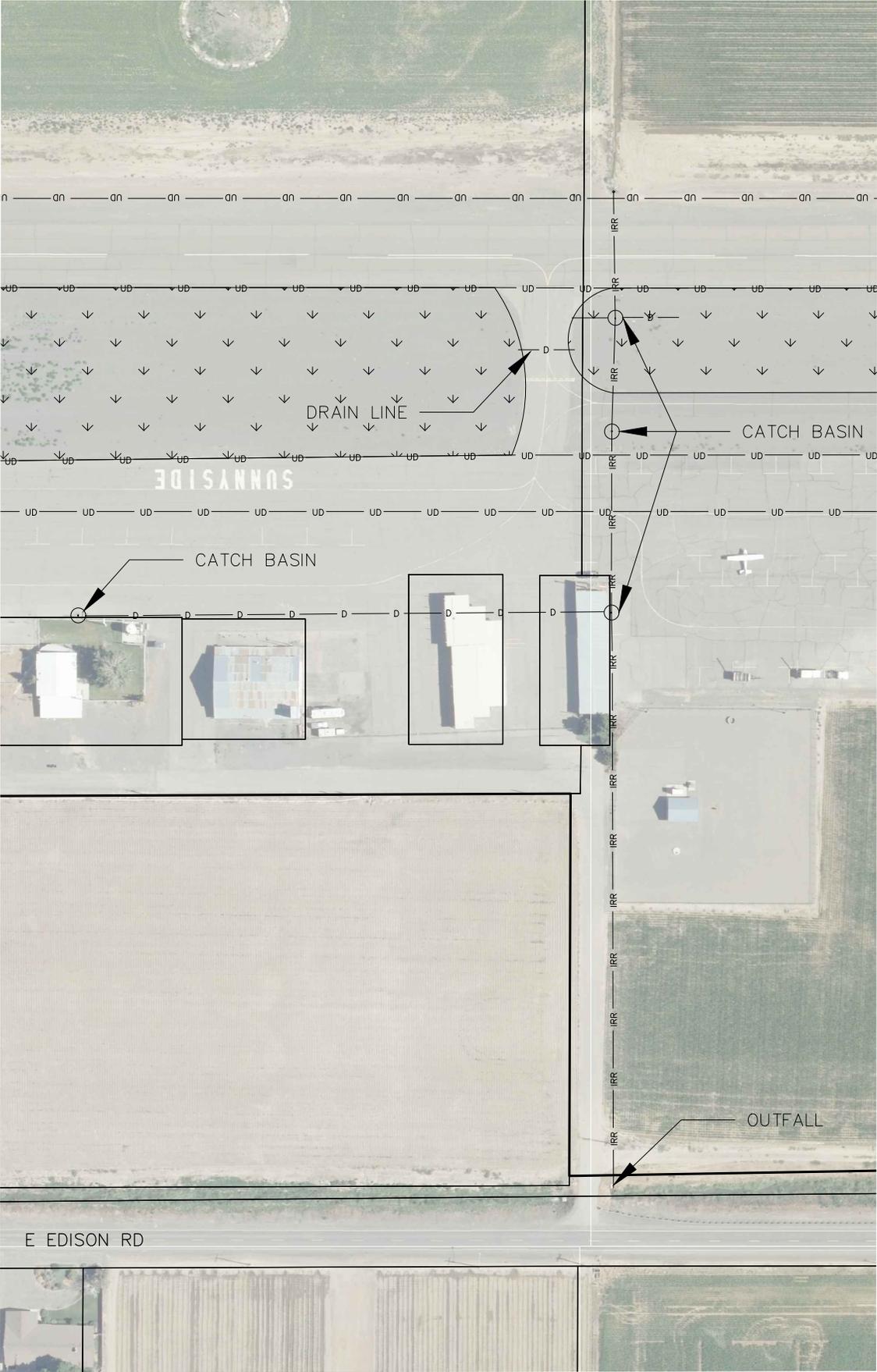


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FILE NAMES: DRAWING: SWPPP.dwg	
DESIGNED BY:	SJR
ENTERED BY:	SCH

CITY OF SUNNYSIDE

SUNNYSIDE MUNICIPAL AIRPORT FIGURE 3



2803 River Road
Yakima, WA 98902
509.966.7000
Fax 509.965.3800
www.hlacivil.com

JOB NUMBER: 22015	DATE: 12-29-22
FILE NAMES: DRAWING: SWPPP.dwg	
DESIGNED BY:	SJR
ENTERED BY:	SCH

CITY OF SUNNYSIDE

SUNNYSIDE MUNICIPAL AIRPORT FIGURE 4

Appendix C

Worksheets

Pollution Prevention Team

Worksheet #1

Completed by: Stephanie J. Ray, PE

Title: HLA Project Engineer

Date: December 14, 2022

Responsible Official: Shane Fisher
Email: sfisher@sunnyside-wa.gov

Title: Public Works Director
Phone: (509) 837-5399
Fax: (509) 837-3268

Responsibilities:

Oversee preparation of SWPPP, maintain and prepare annual updates to SWPPP, oversee
Implementation of BMPs, coordinate BMPs and SWPPPs with all Airport tenants.

Team Leader: Raul Sanchez
Email: rsanchez@sunnyside-wa.gov

Title: Project Manager
Phone: (509) 836-6566
Fax: (509) 837-3268

Responsibilities:

Operation and maintenance. Implementing and maintaining control measures/BMPs, Monthly Inspections, Sampling and Testing.

Name
Email:

Title: WWTP Lab Manager
Phone:
Fax:

Responsibilities:

Testing. All samples are sent to the Sunnyside Regional Wastewater Treatment Plant for testing. Most samples are processed at the WWTF lab directly. However, some samples are then sent to Cascade Analytical for processing.

(2): _____ Title: _____
Email: _____ Phone: _____
Fax: _____

Responsibilities:

Potential Pollutant Source Identification

Worksheet #3
 Completed by: Stephanie J. Ray, PE
 Title: HLA Project Engineer
 Date: December 14, 2022

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
Gasoline	Tenant Ramp	Unlikely – there are no drains located near the fueling station.
Diesel	Tenant Ramp	Unlikely – there are no drains located near the fueling station.
Deicer	The tenants which may use this material have included this information in their individual SWPPPs included in Appendix I .	
Pesticides	The tenants which may use this material have included this information in their individual SWPPPs included in Appendix I .	

Identify Areas Associated With Industrial Activity

Worksheet #5
Completed by: Stephanie J. Ray, PE
Title: HLA Project Engineer
Date: December 14, 2022

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.
Runway traction control during winter operations	Sand	The sand is stored inside a building and only becomes into contact with stormwater when it is applied to the runways and taxiways. Sand is a non-hazardous material and will primarily drain with the stormwater to gravel areas beside the runway. Some may enter catch basins which will trap the sand and separate it from the water prior to discharge. Proper inspection and maintenance to monitor debris level in the bottom of the catch basins ensures proper function during a storm event.

**Non-Stormwater Discharge
Dry Weather (May to September 30)
Assessment and Certification**

**Worksheet #6
Completed by: Stephanie J. Ray, PE
Title: HLA Project Engineer
Date: December 14, 2022**

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 not tested or evaluated, describe any potential sources on 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.

Date	Discharge Location (as indicated on 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

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 and Title

Phone

Signature

Date Signed

Non-Stormwater Discharge Assessment and Failure to Certify Notification

Worksheet #7
Completed by: Stephanie J. Ray, PE
Title: HLA Project Engineer
Date: December 14, 2022

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 not tested or evaluated, describe any potential sources on 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

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 and Title

Phone

Signature

Date Signed

BMP Identification**Worksheet #8**

Completed by: Stephanie J. Ray, PE

Title: HLA Project Engineer

Date: December 14, 2022

Describe the BMPs that are needed for the facility to address existing and potential pollutant sources identified in Worksheets #3, 4, and 5.

BMPs	Brief Description of Activities or Improvements
Good Housekeeping	<ol style="list-style-type: none">1. Identify and control all on-site sources of dust to minimize stormwater contamination from the deposition of dust on areas exposed to precipitation.2. Keep all dumpsters under cover or fit with a lid that must remain closed when not in use.3. Locate products handled, stored, or disposed of in areas away from facility drainage areas. This is a BMP that affords extra cleanup time of spills before they enter floor drains.4. Store products in a dry, covered location.5. Completely label all products.6. Maintain Up-to-date inventory.7. Only use approved storage containers.8. Daily Activities:<ol style="list-style-type: none">a. Always maintain Airport areas in an orderly manner.b. Schedule sweepings; remove loose and trapped materials in and around drainage inlets on a regular basis.c. Schedule cleaning of all BMP systems.d. Spills of lavatory waste, oils, and hydraulic fluids should be promptly contained and cleaned up using solid absorbents such as clay, peat, and rags so they will not contribute pollutants to stormwater.e. Identify, contain, and cleanup solid and liquid pollutant leaks and spills on any soil, vegetation, or paved area exposed to stormwater.f. Promptly repair or replace all leaking connections, pipes, hoses, valves, etc., that can contaminate stormwater.g. Proper disposal of all solid and liquid waste.9. Seasonal Activities:<ol style="list-style-type: none">a. Debris, trash, and other foreign objects imbedded in snowbanks should be removed and disposed of properly.b. Refrain from over application of fertilizers. Maintain good turf cover to prevent soil erosion and sedimentation.c. Prevent pesticide contamination of stormwater.d. Acceptable practices should be observed when recycling or disposing of used oil and batteries.

BMPs	Brief Description of Activities or Improvements
Preventive Maintenance	<ol style="list-style-type: none"> 1. Clean catch basins when the depth of debris reaches 60% of the sump depth. In addition, the permittee must keep the debris surface at least 6" below the outlet pipe. 2. Inspect all equipment and vehicles during monthly site inspections for leaking fluids such as oil, antifreeze, etc. Take leaking equipment and vehicles out of service or prevent leaks from spilling on the ground until repaired. 3. Immediately cleanup spills and leaks (e.g., using absorbents, vacuuming, etc.) to prevent the discharge of pollutants. 4. Dilute any chemicals used in runway maintenance that are washed off the pavement surface so that the effluent will not harm surrounding vegetation or drainage systems or pollute nearby streams and habitats. 5. Inspect and perform preventative maintenance on facility equipment. 6. When servicing, repairing, and/or replacing items that could cause spills or leaks, use drip pans to contain potential pollutants. Empty drip pans immediately after a spill or leak is collected. 7. Dispose of empty oil and fuel filters, oily rags, and other oily solid waste into appropriately closed and properly labeled containers in compliance with the Uniform Fire Code. 8. Identify, repair, and/or replace all substantially cracked or otherwise damaged paved secondary containment, high-intensity parking, and any other drainage areas that are subject to pollutant material. 9. Wash vehicles and equipment in an area that drains to grass, or in a building with drains that lead to the sanitary sewer. 10. Maintain ponds, tanks/vaults, catch basins, swales, filters, oil/water separators, drains, and other stormwater drainage/treatment. 11. Inspect and maintain spill containment manholes and catch basins.
Spill Prevention and Emergency Cleanup	<ol style="list-style-type: none"> 1. Store all chemical liquids, fluids, and petroleum products, on an impervious surface that is surrounded with a containment berm or dike. 2. Prevent precipitation from accumulating in containment areas. 3. Provide and locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, and mobile fueling units. 4. Do not lock shutoff fueling nozzles in the open position. Do not "top-off" tanks being refueled. 5. Block, plug or cover storm drains that receive runoff from areas where fueling, during fueling. 6. Use drip pans or equivalent containment measures during all petroleum transfer operations. 7. Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas). 8. Use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible. Drain fluids from equipment and vehicles prior to on-site storage or disposal. 9. Maintain a spill log (Worksheet 4A) that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time cleanup completed, notifications made, and staff involved.

BMPs	Brief Description of Activities or Improvements
Inspections and Sampling	<p>Perform monthly, quarterly, and semi-annual inspections.</p> <p>Monthly:</p> <ol style="list-style-type: none"> 1. Inspect catch basins for debris. 2. Inspect control structures for debris and proper function. <p>Quarterly:</p> <ol style="list-style-type: none"> 1. Stormwater inspection and sampling. <p>Semi-Annually:</p> <ol style="list-style-type: none"> 1. Inspect spill kits in fueling areas and on fueling vehicles. 2. Exercise control structure isolation valves. <p>Annually:</p> <ol style="list-style-type: none"> 1. Inspect for non-stormwater discharge during dry season. 2. Bi-annual site inspection.
Source / Operational Control BMPs	<ol style="list-style-type: none"> 1. Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations). 2. Perform all cleaning operations indoors, under cover, or in bermed areas that prevent stormwater runoff and run-on, and also that capture any overspray. 3. Ensure all wash water drains to a collection system that directs the wash water to further treatment or storage and not to the stormwater drainage system. 4. Perform fueling at dedicated stations. 5. Do not allow and eliminate discovered illicit connections to storm drains. 6. Perform loading and unloading of liquid or solid materials in covered areas. 7. Maintain and repair vehicles and equipment in covered areas. 8. Store liquids in permanent above-ground tanks.
Erosion and Sediment Control BMPs	<p>All areas of the Airport are paved, gravel or established grassy surfaces and are not subject to erosion.</p> <ol style="list-style-type: none"> 1. Prepare a Temporary Erosion and Sedimentation Control Plan for all construction activities that will expose soils to erosion. 2. Prepare a SWPPP for all construction sites that will clear one acre or more.

Additional BMP Identification

Worksheet #8A

Completed by: Stephanie J. Ray, PE

Title: HLA Project Engineer

Date: December 14, 2022

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	<ol style="list-style-type: none">1. Sediment control BMPs such as detention or retention ponds or traps, vegetated filter strips, bioswales, or other permanent sediment control BMPs to minimize sediment loads in stormwater discharges.2. Filtration BMPs to remove solids from catch basins, sumps or other stormwater collection and conveyance system components (filter socks, modular canisters, sand filtration, centrifugal separators, etc.).1. Avoid excessive application of all de/anti-icing chemicals, which could contaminate stormwater.2. Store and transfer de/anti-icing materials on an impervious containment pad or an equivalent containment area and/or under cover.
Emerging technologies Flow Control BMPs	<ol style="list-style-type: none">1. Maintain ponds, tanks/vaults, catch basins, swales, filters, oil/water separators, drains, and other stormwater drainage/treatment facilities in accordance with the maintenance standards set forth in the applicable Stormwater Management Manual (SWMM), other guidance documents or manual approved in accordance with General Permit section S3.A.3.c., demonstrably equivalent BMPs per S3.A.3.d., or an O&M Manual submitted to Ecology in accordance with S8.D.2. Inspect and check operation of spill containment manhole shutoff valves.

BMP Implementation

Worksheet #9

Completed by: Stephanie J. Ray, PE

Title: HLA Project Engineer

Date: December 14, 2022

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	Person Responsible for Action
BMP Description Policy Update	1. Review and revise policy suggested in Section 3.1.1.	Completed	Shane Fisher
	2. Update formal policy.	June 2023	Shane Fisher
	3. Communicate updates to all employees and tenants.	Annual training program started	Shane Fisher
	4. Annual review and follow-up.	Annually each January	Shane Fisher
Good Housekeeping	1. Maintain stormwater structures.	Annually each March and as needed based on monthly inspections	Raul Sanchez
	2. Inspect all housekeeping facilities discussed in Section 3.1.1.	Initial inspection completed Bi-Annually during site inspection.	Raul Sanchez

Preventative Maintenance and Inspections	1. Inspect all drainage, sanitary and storage facilities discussed in Section 3.1.2 in wet weather.	Annually in March	Raul Sanchez
	2. Recommend any corrective actions.	Within 60 days of noted deficiency.	Raul Sanchez
	3. Implement corrections.	Within 30 days of recommended correction.	Raul Sanchez
	4. Repeat process in dry weather.	Annually each August	Raul Sanchez
	5. Notify tenants if deficiencies are noted in their facilities.	Within 30 days of noted deficiency.	Shane Fisher
BMPs	Description of Action(s) Required for Implementation	Schedule Milestone and Completion Date	Person Responsible for Action
Spill Prevention and Emergency Cleanup	1. Implement operational BMPs.	Completed	Shane Fisher
	2. Complete spill log.	Within 24 hours of reported spill	Raul Sanchez
Source Control	1. Communicate inspection and maintenance of source control devices policy to employees and tenants.	Part of on-going training program	Shane Fisher
	2. Investigate development of increased source control BMPs to improve stormwater quality.	Ongoing	Shane Fisher
	3. Implement improved source control BMPs.	Ongoing	Raul Sanchez

Inspection/Record Keeping	1. Conduct monthly stormwater inspections and quarterly sampling.	Continue monthly and quarterly as required.	Raul Sanchez
	2. Submit sampling results to the Ecology and maintain a record of the test results in the Airport SWPPP.	Ongoing	Raul Sanchez
	3. Identify and eliminate any non-stormwater discharge immediately.	Within 15 days of noted discharge	Raul Sanchez
	4. If stormwater sampling results in a Pollutant Content Above Benchmark Values, identify the pollutant source and implement further source control BMPs.	Within 30 days after receipt of sample information	Raul Sanchez
Co-Permit Stormwater	1. Distribute SWPPP and discuss with all tenants.	January 2023	Shane Fisher
	2. Investigate co-permit issues to facilitate BMPs Airport-wide.	January 2023	Shane Fisher
	3. Design BMPs.	Ongoing	Raul Sanchez
	4. Implement operational BMPs.	Ongoing	Raul Sanchez
Stormwater Sampling	1. Develop formal sampling plan.	Completed	Raul Sanchez
	2. Organize sampling procedure and testing facility.	Completed	Raul Sanchez
	3. Begin conducting quarterly sampling.	Ongoing	Raul Sanchez

Employee Training

Worksheet #10

Completed by: Stephanie J. Ray, PE

Title: HLA Project Engineer

Date: December 14, 2022

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	1. Communicate policy and plan.		
	2. Additional training through Sunnyside Fire Department.		
Good Housekeeping	1. Communicate policy.		
Material Management Practices	1. Communicate material inventory and proper management to prevent stormwater contamination.		
Stormwater Sampling	1. Designate sampling personnel.		
	2. Communicate sampling and testing procedure and requirements.		
Other Topics			

RECORDS OF VISUAL INSPECTIONS OF STORMWATER DISCHARGES	Worksheet #11 Completed by: Stephanie J. Ray, PE Title: HLA Project Engineer Date: December 14, 2022
---	---

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, sitemap, and other facility information on Logs 1-9.

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 stormwater.	Recommended Action Steps

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 _____

Worksheet #12 - OIL/WATER SEPARATOR INSPECTION AND MAINTENANCE CHECKLIST

Owner: Sunnyside Municipal Airport Inspected By: _____

Separator ID# _____ Date: _____

Separator Location: _____

AREA	INSPECTION ITEMS			
OIL/WATER SEPARATORS AND SPILL CONTAINMENT MANHOLES	Distance from the rim of the access cover to the bottom of the oil/water separator			_____ (reference depth)
	Distance from the rim of the access cover to the top of the sediment - oil/water separator			_____ (measured depth)
	Depth of accumulated sediment - oil/water separator			_____ (total)
	Distance from the rim of the access cover to the bottom of the spill containment manhole			_____ (reference depth)
	Distance from the rim of the access cover to the top of the sediment - spill containment manhole			_____ (measured depth)
	Depth of accumulated sediment - spill containment manhole			_____ (total)
	Distance from the rim of the access cover to the top of the oil/water interface in the separator or manhole			_____ (reference depth)
	Distance from the rim of the access cover to the top of the liquid surface in separator or manhole			_____ (measured depth)
	Depth of accumulated oil fuel in separator or manhole			_____ (total)
	INSPECTION ITEMS	YES	NO	COMMENTS
GOOD HOUSEKEEPING	Are the areas near drains kept free of debris and sediment?			
	Are spill absorbent materials readily available?			
ACTION TAKEN/ TO BE TAKEN	Is oil/water separator cleaning required?			
	If yes, note:			
	Who cleaned:			
	The date cleaned:			
	The volume of liquid pumped:			
	The volume of sediment removed:			
	The method of disposal:			
	Is spill containment manhole cleaning required?			
	If yes, note:			
	Who cleaned:			
	The date cleaned:			
	The volume of liquid pumped:			
	The volume of sediment removed:			
The method of disposal:				
OTHER COMMENTS:				

Appendix D

Blank SWPPP Certification Form

SWPPP CERTIFICATION FORM

The Permittee shall use this form to sign and certify that the Stormwater Pollution Prevention Plan (SWPPP) is complete, accurate and in compliance with Conditions S3 and S8 of the Industrial Stormwater General Permit.

- A SWPPP certification form needs to be completed and attached to all SWPPPs.
- Each time a Level 1, 2, or 3 Corrective Action is required, this form needs to be re-signed and re-certified by the Permittee and attached to the SWPPP.

Is this SWPPP certification in response to a Level 1, 2 or 3 Corrective Action? Yes No

If Yes: Type of Corrective Action: Level 1 Level 2 Level 3*

Date SWPPP update/revision completed:

Briefly describe SWPPP Update (use backside of page, if necessary):

***Note:** For Level 3 Corrective Actions, a Qualified Industrial Stormwater Professional must review the revised SWPPP, and sign and certify below, in accordance with Condition S8.D.2.:

"The Permittee has made appropriate revisions to the SWPPP to include additional Treatment BMPs with the goal of achieving the applicable benchmark value(s) in future discharges. Based on my review of the SWPPP, discharges from the facility are reasonably expected to meet the ISGP benchmarks upon implementation."

Qualified Industrial Stormwater Professional's Printed Name

Title

Qualified Industrial Stormwater Professional's Signature

Date

"I certify under penalty of law that this SWPPP and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate information to determine compliance with the Industrial Stormwater General Permit. Based on my inquiry of the person or persons who are responsible for stormwater management at my facility, this SWPPP is, to the best of my knowledge and belief, true, accurate, and complete, and in full compliance with Permit Conditions S3 and S8, including the correct Best Management Practices from the applicable Stormwater Management Manual. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Operator's Printed Name *

Title

Operator's Signature *

Date

* Federal regulations require this document to be signed as follows: in accordance with Condition G2.

Appendix E

Industrial Stormwater Monthly Inspection Report

Appendix F

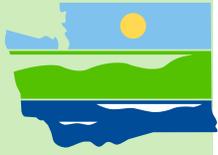
Discharge Monitoring Report

Appendix G

Excerpts from

***How to do Stormwater Sampling –
A Guide for Industrial Facilities***

December 2015



DEPARTMENT OF
ECOLOGY
State of Washington

Stormwater Sampling Manual

A guide for the Industrial Stormwater General Permit

December 2015

Publication No. 15-03-044

Publication information

This report is available on the Department of Ecology's website at <https://fortress.wa.gov/ecy/publications/SummaryPages/1503044.html>

This guidance is an update to *How to do Stormwater Sampling* which was originally developed by Ecology's Environmental Assessment Program in 2002 and then updated in 2010. This most recent update was made in accordance with the new Industrial Stormwater General Permit that became effective on January 2, 2015.

Suggested Citation:

Washington State Department of Ecology. 2015. Stormwater Sampling Manual: A guide for the Industrial Stormwater General Permit. Washington State Department of Ecology, Olympia, WA. 41 p. Publication No. 15-03-044.

<https://fortress.wa.gov/ecy/publications/summarypages/1503044.html>

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Introduction

The Industrial Stormwater General Permit (ISGP) applies to all facilities conducting industrial activities that discharge stormwater to a surface water body or to a storm sewer system that drains to a surface water body.

The purpose of this guide is to help those who operate facilities do their own sampling.

The permit requires that facilities conduct sampling of stormwater and report the results to the Washington State Department of Ecology (Ecology). These requirements are outlined in the permit under “Special Condition S4. General Sampling Requirements.” This *Stormwater Sampling Manual* supports the sampling portion of the general permit but does not substitute for it.

Sources of pollutants that may enter surface water, sediments, or groundwater can be identified by sampling stormwater discharges. The results from sampling will help facilities develop their Stormwater Pollution Prevention Plan, determine if the existing plan is adequate, and implement or assess best management practices.

The purpose of this manual is to help those who operate facilities do their own sampling. The manual provides a step-by-step procedure of what facilities need to do to sample, gather, and report data in order to describe the quality of stormwater leaving the facility.



Summary of Stormwater Sampling Guidance Manual

- 1. Decide what to sample** – sample turbidity, pH, zinc, copper, a visible oil sheen, and additional parameters as per the permit; check your permit coverage letter.
- 2. Select and contact a lab** – verify analytical methods, detection limits, sample preservation, and data reporting requirements.
- 3. Decide how you will sample** – identify sample locations; make sure you sample only your stormwater; verify if you have to sample petroleum hydrocarbons; obtain sampling supplies.
- 4. Plan your sampling events** – choose sampling times; check weather forecasts.
- 5. Conduct sampling** – review guidance on how to sample; take notes; read through *Special Considerations* in this manual.

Discuss any questions or issues with the Department of Ecology.

Advance Planning for Stormwater Sampling

Deciding what to sample

Before beginning your sampling, you'll need to determine the specific pollutants (water quality parameters) you are required to sample and test for. All facilities must monitor for turbidity, pH, zinc, copper, and the presence of a visible oil sheen. Your parameters are based on:

- ◆ The standard set of parameters for all facilities (turbidity, pH, zinc, copper and visible oil sheen).
- ◆ The industrial activities at your site, often classified by your facility's Standard Industrial Classification (SIC) code.
- ◆ Whether your facility discharges to an impaired (303(d) listed) water body, Puget Sound Sediment Cleanup Site, or a water body with a TMDL or other water cleanup plan.
- ◆ Any additional parameters Ecology assigned to your facility by administrative order.

Ecology listed the required parameters for your facility in the permit coverage letter mailed to you when the permit was issued. Your required parameters are also shown on your facility's Discharge Monitoring Report (DMR) data entry screen ([WQWebDMR](#)). Contact Ecology if you have any questions about the required parameters for your facility.

All facilities must monitor for turbidity, pH, zinc, copper, and a visible oil sheen.

Selecting a lab to test your sample

Contact the lab well ahead of time.

Having identified the parameters you will need tested, the next step is to select a lab to perform the tests. You are required to select a lab accredited by Ecology. The lab must be accredited for each analytical method required by the permit for each parameter. Accreditation assures Ecology that the lab is able to do quality testing using the analytical methods specified under

Monitoring Requirements in your permit. To ensure the lab can meet the required detection and reporting limits, send the lab a copy of relevant quantitation levels from Appendix C, highlighting your parameters of interest. You can search for an accredited lab on Ecology's [website](#)¹.

Contacting the lab in advance

You should contact the lab well ahead of time. They will be providing you with the sampling bottles you'll need. For some water quality parameters, such as Total Petroleum Hydrocarbons (TPH), it is not only desirable but necessary to collect the sample directly into a specially-cleaned container, so you will need to have bottles from the lab on hand before you sample. You can also ask your lab to send narrow-range pH paper (with a resolution not greater than ± 0.5 SU) along with your sample bottles.

Note that not all facilities are required to collect TPH samples. Page 26 of the permit lists the industrial activities and SIC codes that require TPH sampling. Also, your permit coverage letter contains a sampling summary that will indicate whether TPH sampling is required based on the SIC codes Ecology has on file for your facility. If there is a discrepancy between the permit and your permit coverage letter, the permit takes precedence. Contact Ecology if you have any questions or need to correct an error in your sampling requirements.

Typical Sampling Information

Parameter	Bottle Type	Minimum Sample Required	Holding Time	Preservation
Turbidity	500 ml wide-mouthed poly	100 ml	48 hours	Cool to 4 °C
Total Zinc	1 liter (L) bottle cleaned according to protocol	500 ml	6 months	HNO ₃ to pH<2 Cool to 4 °C
Total Copper	500 ml HDPE	Dependent on the lab	6 months	HNO ₃ to pH<2 Cool to 4 °C

¹ <https://fortress.wa.gov/ecy/laboratorysearch/>

Discuss with the lab the analytical methods they will use, as specified in the sample parameter tables included in S5. A and S5. B of the general permit (pages 23 - 25) and shown in Appendix C of this manual. The lab will give you helpful information and explanations that go beyond the scope of this guide. If you must meet effluent limits listed in S5.C, *Landfills and Airports Subject to Effluent Limitation Guidelines* (pages 25- 27) carefully review them with the lab.

Issues you may want to cover with the lab

- ◆ **Confirmation that the lab is accredited** for the testing methods the permit requires.
- ◆ **The type and size of bottle** that will be supplied for each water quality parameter to be sampled and tested.
- ◆ **How full** to fill the bottle.
- ◆ **Any safety concerns** with materials supplied by the lab.
- ◆ **What you need to know about preserving your samples:** For some tests, a preservative is necessary. The table of *Typical Sampling Information* (see page 7) provides information for preserving zinc, turbidity, and copper samples—three water quality parameters that must be monitored under the Industrial Stormwater General Permit. Make a note of the parameters for which bottles will have preservative inside. The preservative is a substance that stabilizes certain chemicals at the time of sampling so that a valid test can be done later. It is critical that you use the correct bottles because tests requiring preservative will not be valid without the correct preservative. In some cases, the wrong preservative will interfere with a test. It is important not to lose the preservative that comes in the bottles supplied by the lab, so fill preserved bottles slowly to ensure no overflow occurs resulting in preservative loss. In many cases, the preservatives listed in the table come pre-measured in the sampling bottles. Chemicals have their own scientific notation. Nitric acid for example is HNO₃. Temperature is measured in degrees Celsius (°C). Typical United States thermometers measure temperature in Fahrenheit (F) and 4 °C is about 39 °F. For your purposes, *Cooling to 4 °C* means putting the samples on crushed ice or packed with blue ice in an ice chest so they will be kept just above freezing. Cooling the sample is also a means of preserving it.
- ◆ **The kind of labels** the lab will supply for the bottles and how the labels should be filled out. The labels or tags you use to identify the samples you take must be waterproof, and if you write on them, the writing must be waterproof also.
- ◆ **The Chain of Custody (COC) form** from the lab and the process to complete these before sampling the first time.
- ◆ **A description of forms** or other paperwork to submit to the lab with the samples and how to fill them out.
- ◆ **Whether the lab will supply pH paper**, sample bottles, tags, or labels for the bottles, and blank forms.
- ◆ **How bottles** and other supplies from the lab will be delivered to you.
- ◆ **The holding times** for each water quality parameter to be sampled and tested. A holding time is the maximum time allowed between taking the sample and doing the lab analysis. If you exceed holding time, the sample analysis is not acceptable.

*Ask questions –
the lab can help.*

- ◆ **How and when you will deliver samples to the lab.** Plan with the lab how you will get the samples to them in time to begin analysis before the parameter with the shortest holding time reaches that holding time. The fastest way to deliver samples to the lab may be in person, but it may be possible to ship samples (cooled in an insulated ice-chest) and still meet holding times. Some labs will provide a courier service. If you deliver samples in person, you can pick up bottles and supplies for the next quarter at the same time.
- ◆ **How to read the lab reports for the sample results.** Sampling requirements tend to use scientific words and units of measure. Metric units are used to measure weight, volume, and distance. Liquid volumes use liters (*L*) and milliliters (*mL*), not *quarts* and *cups*. Be aware that some parameters (e.g., zinc and copper) need to be reported on your DMR as $\mu\text{g/L}$ (micrograms per liter), while other parameters need to be reported as mg/L (milligrams per liter). Most labs report concentrations in the same units that need to be reported on the DMR. However, in some cases, you may need to convert from mg/L to $\mu\text{g/L}$, in order to properly report the correct results on your DMR. For example if a lab were to report total copper values of 0.035 mg/L , you would need to convert from mg/L to $\mu\text{g/L}$; move the decimal 3 places to the right, and report $35.0 \mu\text{g/L}$. Ensure the lab uses data qualifiers (or flags) for data near the method detection limit that are consistent with Appendix B of this document. Be sure to have the lab explain any words or expressions that you do not understand.
- ◆ **Summing data for total values.** You will be asked to report total values for organic parameters (total PCBs, PAH compounds, and Northwest Total Petroleum Hydrocarbons (NWTPH-Dx)). Ensure you understand the appropriate way to sum and average data that are close to the method detection limit (Appendix B). Work with the lab to help you report summed values.

Deciding how you will take the sample

Section S4.B.1(d) on page 19 of the Industrial Stormwater General Permit states that a grab, time-proportionate, or flow-proportionate sample may be taken. A grab sample is a single sample *grabbed* by filling up a container, either by hand or with the container attached to a pole. It is the simplest type of sample to collect, and it is expected that most permit holders will choose to collect grab samples. Ecology provides standard operating procedures (SOP) for obtaining grab samples ([Lowe et al., 2009](#))². As we will discuss in the next section, NWTPH (herein called TPH-Dx) samples must be collected as grab samples.

*Practice sampling
before you do the
real thing.*

Some permit holders may choose to better represent water quality parameters other than TPH-Dx by collecting time-proportionate or flow-proportionate samples. These samples consist of a number of subsamples taken at intervals rather than a single grab sample. Time-proportionate or flow-proportionate sampling can accurately define pollutant loading during various times of

² http://www.ecy.wa.gov/programs/eap/qa/Agency/ECY_WQ_SOP_GrabSampling_v1_0ECY001.pdf

discharge throughout a storm event and determine whether or not higher pollution is occurring during first flush of the storm.

A time-proportionate sample is one made up of a number of small samples (subsamples) of equal volume collected at regular time intervals combined into a single large sample. A flow-proportionate sample is one made up of a number of subsamples where each subsample is collected in such a way as to represent a given amount of stormwater discharge. Time-proportionate and flow-proportionate samples provide the advantage of including a number of smaller samples (subsamples) in the sample so that the stormwater discharge is better represented than with a grab sample.

Time-proportionate and flow-proportionate samples can be collected either by hand or with automated equipment. Automated equipment can provide unstaffed sample collection outside of normal business hours. Additional information regarding requirements for automated stormwater sampling is available [online](#)³. Collecting time-proportionate or flow-proportionate samples by hand is somewhat difficult and collecting them with automated equipment involves additional expenses, such as the installation of a flow meter for automated sampling.

Permittees who collect time-proportionate or flow-proportionate samples (or collect more than one grab sample during a 24-hour period) must calculate and report quarterly averages to Ecology according to Condition S4.B.6.c on page 21 of the permit.

Collecting total petroleum hydrocarbons – diesel fraction (TPH-Dx) samples

In addition to the requirement for all permit holders to monitor for a visible oil sheen, the general permit requires that facilities with the following industrial activities and SIC codes collect TPH-Dx samples: Primary Metals (33xx), Metals Mining (10xx), Automobile Salvage and Scrap Recycling (5015 and 5093), Metals Fabricating (34xx), Hazardous Waste Treatment, Storage and Disposal Facilities and Dangerous Waste Recyclers subject to the provisions of Resource Conservation and Recovery Act (RCRA) Subtitle C, Air Transportation (45xx), Transportation (40xx – 44xx, except 4221-4225), and Petroleum Bulk Stations and Terminals (5171). Because of the particular way TPH-Dx samples must be collected, this requirement may govern your overall approach to sampling.

For some parameters other than TPH-Dx, it is possible to sample in difficult situations by filling a container and transferring it to the sample bottle to be sent to the lab. TPH-Dx samples, however, must be collected from the stormwater source directly. The sample cannot be transferred from another container because oil and grease tends to stick to the inside surfaces of containers. Since you must sample directly into the TPH-Dx bottle (grab sample), taking grab

³ http://www.ecy.wa.gov/programs/eap/qa/Agency/ECY_WQ_SOP_AutomatedSampling_v1_0ECY002.pdf

samples may be the easiest way to collect additional samples for the other parameters. Take samples by collecting stormwater directly from the discharge into the bottles supplied by the lab, filling each bottle one after another.

Because TPH-Dx samples cannot be transferred between containers, a sample cannot be formed from separate grab samples combined together. If more than one TPH-Dx sample is desired from a sampling site during a storm event, additional TPH-Dx grab samples must be collected and analyzed separately.

TPH-Dx samples must be collected directly and not through the tubing of an automatic sampler; therefore, those using automatic samplers will still have to grab TPH-Dx samples by hand. This is also true for facilities that must sample for fecal coliform. An exception to sampling through tubing is the use of a peristaltic pump to sample below catch basin inserts (see *Special Sampling Considerations*).

TPH-Dx samples must be collected directly into the bottle you send to the lab.



When reporting NWTPH-Dx results, ensure that the lab sums all fractions in the diesel range to give one total value of TPH-Dx. This includes the #2 diesel oil and motor oil fractions which some labs may report as diesel fraction and heavy oil fraction. If your lab reported these fractions separately, you must add them together when you report NWTPH-Dx on your DMR. For more information on NWTPH-Dx see [Ecology's guidance document](#)⁴.

This is a potentially confusing aspect of sampling and reporting, so contact Ecology if you have any questions.

Determining which discharges to sample

The first step in selecting sampling points is to consider the areas draining your facility. The site map in your *Stormwater Pollution Prevention Plan* (SWPPP) will show the drainage areas for each discharge point.

The next step is to determine where the runoff from each drainage area is discharged from your facility. If there are separate drainage areas with separate discharge points, stormwater must be sampled at each discharge point unless the *substantially identical discharge point* criteria is met, which would allow you to consolidate sample locations.

⁴ <https://fortress.wa.gov/ecy/publications/summarypages/97602.html>

Section S4.B.2 on page 19 of the Industrial Stormwater General Permit describes the requirements for selecting sampling points:

S4.B.2. sample location(s)

- ◆ The Permittee shall designate each sampling location at the point where it discharges stormwater associated with industrial activity off-site.
- ◆ The Permittee is not required to sample onsite discharges to ground (e.g., infiltration) or sanitary sewer discharges, unless specifically required by Ecology order (*Condition G12, page 48*).
- ◆ The Permittee shall sample each distinct point of discharge off-site except as otherwise exempt from monitoring as a *substantially identical discharge point* per S3.B.5.b (*page 18*). If applicable, the Permittee is only required to monitor applicable parameters at one of the *substantially identical discharge point*.

In general, your stormwater discharge samples will be taken where your facility's stormwater is discharged off-site. If your facility discharges stormwater collected over areas that are used for similar activities and have similar site conditions, and there is reason to believe pollutant types will be similar in such areas, a single sampling point can be used to represent several discharge points.

Take time to get ready for sampling.

The Industrial Stormwater General Permit allows you to sample at only one discharge point when multiple discharge points from your facility have similar industrial activities, best management practices (BMPs), exposed materials, and impervious surfaces that could affect stormwater percolation into the ground. Discharge points that have these similar characteristics are called *substantially identical discharge points*, and you can choose to monitor only one of the *substantially identical discharge points* rather than all of them.

If your facility has multiple discharge points from areas with different industrial activities, BMPs, exposed materials, or impervious surfaces, the discharge points would not be considered substantially identical, and therefore you would need to sample all of the discharge points. For example, if one portion of the site is used to store raw materials and discharges separately from another portion of the site where vehicle maintenance (e.g., fueling, lubrication, etc.) takes place, the stormwater discharge points would not be substantially identical and both discharge points would need to be sampled.

If you determine that some of your discharge points do not need to be sampled, the Sampling Plan in your SWPPP needs to include documentation for each discharge point not sampled per Condition S4.B.2.c, including:

- a) The location of which discharge points the Permittee does not sample because the pollutant concentrations are substantially identical to a discharge point being sampled.
- b) General industrial activities conducted in the drainage area of each discharge point.
- c) Best management practices conducted in the drainage area of each discharge point.

- d) Exposed materials located in the drainage area of each discharge point that are likely to be significant contributors of pollutants to stormwater discharges.
- e) Impervious surfaces in the drainage area that could affect the percolation of stormwater runoff into the ground (e.g., asphalt, crushed rock, grass).
- f) Reasons why the Permittee expects the discharge points to discharge substantially identical effluents.

If you add, remove, or relocate discharge or sample points from your facility, you must notify Ecology by submitting an [Industrial Stormwater General Permit Discharge/Sample Point Update Form](#)⁵. This enables Ecology to update the site-specific information in the Permit and Reporting Information System (PARIS) database so that your DMR data entry screen is accurate. If you have any questions, contact Ecology.

Selecting sampling points

Three types of sampling points are usually not too difficult to access and the flow within them tends to be fast enough, with enough turbulence, to allow you to collect well mixed, representative samples. These include:

- ◆ Pipes discharging your facility's stormwater off-site.
- ◆ Ditches carrying your facility's stormwater off-site.
- ◆ Manhole access to storm drains carrying your facility's stormwater, so you can lower a sample bottle attached to a pole into the manhole.

In general, manhole access on your property may be simpler and safer than access off property and more readily verifiable as carrying only your facility's stormwater. Contact the municipality beforehand to discuss sampling from the manhole and associated safety issues, particularly for manholes in areas with vehicular traffic.

Manhole access can be a good sample point if it can be accessed safely from your facility.

In some cases, portions of industrial stormwater runoff leave a site as sheet flow. Specific approaches to sampling of pipes, ditches, manholes, grated storm drains, and sheet flow will be covered in the final section of this guide manual.

Make sure your sampling points will provide for sampling only the stormwater that comes from your facility. If the stormwater in a pipe (storm drain) contains water from other properties, move your sampling point upstream to a point where the flow is from your facility only. If it is not possible to sample only flow from your facility, document the reason for this and provide information concerning the source of the flow you are sampling.

⁵ <https://fortress.wa.gov/ecy/publications/summarypages/ecy070373.html>

If possible, the stormwater your facility samples must not be a mixture of your facility's stormwater with other water. Some examples of situations where a sample would be of a mixture of water sources—and where you should not sample—are listed below:

Examples of mixed water sources situations in which you should not sample:

- ◆ **A ditch** that carries additional stormwater from properties upstream. In this case, the stormwater from your facility is mixed with other water and you must find a location or locations where only your facility's stormwater can be sampled.
- ◆ **A stormwater drain** or pipe (culvert) discharges to a creek or other receiving water, the pipe being partially submerged where it discharges into the receiving water (outfall). In this case, this final discharge point will not be able to be used as a sampling point because the stormwater flow is mixed with the receiving water.
- ◆ **A manhole** to a storm drain that carries stormwater, not only from your facility but also from other stormwater sources. If you are grabbing a sample from a manhole, make sure that the flow in that pipe is entirely from your facility, that the pipe is not submerged or partly submerged and that you are otherwise not prevented from collecting stormwater from your facility only. If you are not sure that a storm drain carries only flow from your facility, the municipality may have storm drain plans to help you determine this.

It is important to sample flow from only your facility if possible, because otherwise it is not *representative*. In other words, it wouldn't accurately characterize the stormwater runoff generated at your facility. If you discharge stormwater to a stormwater conveyance system that includes stormwater from other sources, you need to sample before your stormwater commingles with stormwater from other sources. However, if stormwater runs onto your property in an uncontrolled fashion (for example, sheet flow) from adjacent property, into areas of industrial activity on your site so that it becomes a part of the stormwater discharge from your site, it may be necessary to include it in your sample. If you are concerned about this off-site source, you could evaluate the possibility of diverting or otherwise preventing the run-on from commingling with your site's runoff. If that's not possible, you probably need to find a better, more representative, sampling location.

It is a good idea to observe the sampling point(s) you have chosen during actual stormwater runoff conditions to see how readily stormwater can be sampled there. Keep in mind that changing tides and flow conditions in receiving waters, including flood stages, may occur during storm events. This may cause a pipe that is discharging your facility's stormwater to become submerged or partly submerged, preventing you from sampling during some conditions.



Obtaining supplies for sampling

The supplies you will want to have on hand before sampling include:

- ◆ Sampling bottles from the accredited lab, including a few extra of each type.
- ◆ When needed, a pole to hold sample bottles and filament strapping tape or rubber bands.
- ◆ New powder-free disposable nitrile or latex gloves. These are sold by medical and lab suppliers. Do not use powdered gloves as the powder may contain metals that could contaminate samples being analyzed for metals such as zinc.
- ◆ Foul-weather gear.
- ◆ One or more coolers, depending on the number of samples to be stored and transported or shipped.
- ◆ A bound notebook to serve as a field book for keeping records concerning sampling. Notebooks with waterproof pages are available for these field notes at office supply stores. The information to be included in the notes will be described in the *Keeping Records* section of this guide. You may find it helpful to create a standardized form containing the information in this as well.

Planning Just Prior to Stormwater Sampling

There are a few things to keep in mind before actually sampling.

Being prepared

It is important to assemble everything that will be needed for the sampling event ahead of time because opportunities to sample during storm events often come with little advance notice. Complete the identification tags and Lab Services Required form as far as possible. Place the tags, lab form, field notebook, permanent ink pen, meter, and pH paper in the cooler with the sample bottles.

Have resealable plastic bags or other means on hand to keep the pH paper dry. If you are using a turbidity meter or pH meter, be prepared to protect them from the rain. Have foul-weather gear ready and available. It will be necessary to keep sufficient ice onsite or plan to purchase ice that day.

*Sample during the first
12 hours of a
stormwater discharge.*

Choosing when to sample

The permit requires that you sample the discharge from each designated location at least once per quarter:

1st Quarter = January, February, and March

3rd Quarter = July, August, and September

2nd Quarter = April, May, and June

4th Quarter = October, November, and
December

You will need to sample the *first fall storm event* each year. The permit defines the *first fall storm event* as the first time after October 1st that precipitation occurs and results in a stormwater discharge from the facility. Note that you are not required to sample storm events that outside of normal business hours or in unsafe conditions. If the first fall storm event occurs outside normal business hours (e.g., weekend), sample the next discharge that occurs during normal business hours.

Collect samples within the first 12 hours of stormwater discharge. If you are not able to collect a sample within the first 12 hours, collect the sample as soon as possible. In the sampling records, keep documentation explaining why you could not collect samples within the first 12 hours.

In some cases, you may be unable to determine when the discharge began (e.g., when arriving at a facility on a Monday morning) and unable to determine if the sample was collected within first 12 hours of discharge. If this occurs, you must record that in their on-site sampling notes.

If your facility receives an accumulation of snow, the snowmelt runoff from the facility could be considered a stormwater discharge for purposes of sampling.

Check weather forecasts

Keeping up with the weather forecast and planning so that sampling can be carried out on short notice are the keys to successful sampling.

Local forecasts, including televised satellite and radar images can give an indication of the expected intensity of coming storms. The National Weather Service is an excellent source of information on upcoming storms. It also includes local current radar and satellite images. Their website is: <http://www.wrh.noaa.gov/index.php>. A number of commercial websites, such as <http://www.weather.com/> and <http://www.accuweather.com/> also provide weather information and forecasts.

When evaluating a weather forecast, consider indications of expected intensity, for example *90% chance* rather than *30% chance* and *rain* rather than *showers*. In addition to intensity, consider the predicted duration of the storm. It will be very helpful to spend time observing rain events at your site with attention to how rain intensity relates to stormwater discharges from your site, before you begin sampling.



Once the decision has been made to attempt to sample a storm event, the personnel who will be sampling must be notified and they should prepare to sample. If it does rain, they must be at the sampling sites before stormwater begins discharging so they can document the time of discharge and be ready to sample.

Take notes. It's important to write down your observations.

Conducting Sampling at Your Facility

Have your sampling kit ready to go.

After you have selected a storm event and it begins raining, the personnel conducting the sampling must prepare their equipment and go to the sampling site(s). They will be collecting grab samples at the sampling site(s), placing the samples in picnic coolers containing ice, and keeping notes in a field book. Sampling for the first time may require working

out some logistics, but once personnel perform these duties, they will not find future sampling as challenging.

Checklist for sampling

Because stormwater sampling is not a daily part of the workload of a facility, it is a good idea to keep a checklist of things to have prepared before sampling and to do during sampling. You can make the checklist by jotting down the things you did for the first sampling event to remember for subsequent sampling events. If necessary, update this checklist based on the experience you gain with each sampling event.

Visible oil sheen, zinc, copper, turbidity, and pH

If there is a visible oil sheen at the point of discharge from your facility, that is considered a benchmark exceedance that needs to be reported on your quarterly DMR. A rainbow-colored sheen on the surface of stormwater may indicate the presence of oil. However, not all sheens on the water are oil sheens. Some sheens result from natural processes, such as rotting vegetation or the bacterial breakdown of iron. How do you tell the difference between an oil sheen and a naturally occurring sheen? Try to break up the sheen with a stick. An oil sheen will swirl, elongate, and reform. A sheen resulting from a natural process will typically break up into irregular platelets that do not reform and have a mirror-like appearance.



*You must measure
pH in the field.*

Turbidity can be measured directly in the field using a handheld meter, or sampled and analyzed in the lab. You must measure pH in the field using either a calibrated pH meter or pH paper rather than sending it to a lab. This is due to the short (15 minute) holding time for pH. You can get pH paper from a distributor of scientific/lab supplies or through the same lab that will be doing your sample analysis. Zinc, copper, and other parameters required by the permit (other than turbidity and pH) are measured by sending bottled samples to a lab for analysis.

How to fill sample bottles

This section and an illustrated appendix at the end of this guide describe how to collect a sample properly. Collecting a grab sample can be as simple as holding a bottle under the stormwater falling from a pipe and filling the bottle properly. Still, the person doing the sampling must use care in applying the principles outlined below so that the sample will be representative of the water being sampled. Additional information regarding grab sampling is available in Ecology's standard operating procedures (SOPs) for grab sampling [online](#)⁶.

Simple principles of good grab sample collection

- ◆ Wear new, disposable, powder-free gloves when sampling.
- ◆ Grab samples with the stormwater entering directly into bottles supplied by your lab. Do not transfer the samples from a container that may not be specifically cleaned for collecting lab samples. Metal contamination of ordinary containers is common and household detergents often contain phosphorus, a tested parameter for some industries. Again, transferring the sample from another container is not an option for TPH-Dx samples under any circumstances.
- ◆ When holding the sample bottle your lab has provided, keep your hands away from the opening in order to prevent contaminating the sample.
- ◆ Always hold the bottle with its opening facing upstream (into the flow of water) so that the water enters directly into the bottle and does not first flow over the bottle or your hands.
- ◆ Sample where the water has a moderate flow and, if possible, some turbulence, so that the stormwater discharge will be well-mixed and the sample will be representative. Sampling in still water should be avoided. Include in your field book a note about the sample location and how briskly the water appears to be moving.
- ◆ Sample from a central portion of the stormwater flow, avoiding touching the bottom of channels or pipes to avoid stirring up solid particles.
- ◆ Do not rinse or overfill the bottles. The bottles supplied by your lab for some parameters (e.g., metals and TPH-Dx) will include small amounts of liquid preservative (generally a few

*Get the best sample
you can.*

⁶ http://www.ecy.wa.gov/programs/eap/qa/Agency/ECY_WQ_SOP_GrabSampling_v1_0ECY001.pdf

drops). Fill the bottle to about ½ inch from the top (not quite full) to ensure that no preservative is lost.

- ◆ As soon as the sample is collected, cap the bottle and label it. It is important that the bottles are labeled correctly so that the lab will be able to identify samples by sample site and ensure proper preservation for each parameter. It is a good idea to place sample bottles in resealable bags. Place the samples in a picnic cooler partially filled with ice. Plan to maintain ice in the picnic cooler until the samples arrive at the lab. Remember to make certain that the samples will be delivered to the lab soon enough for the lab to meet holding times.
- ◆ TPH-Dx sampling raises additional concerns:
 - ◇ TPH-Dx sampling requires special attention. TPH-Dx samples must be collected directly into the sample bottles supplied by the lab because oil and grease floats on water and tends to stick to the sides of containers. Do not rinse the sampling bottles beforehand or pour the sample from another container. Do not fill the bottle completely and do not pour out some of the sample if the bottle is overfilled by mistake. If you do overfill a bottle, use a new bottle instead to collect your sample. Because you only get one try at filling a TPH-Dx bottle, it is a good idea to have plenty of extra bottles on hand.
 - ◇ TPH-Dx samples must be collected as the stormwater falls from a pipe or from a running, turbulent stream of flow when possible so the source will be well mixed. When the samples must be collected from a water surface, the person holding the bottle should plunge the bottle mouth below the surface and then in a sweeping arc bring it upwards through the water surface again. This motion ensures the water surface is broken twice by the mouth of the bottle. When sampling an oil/water separator, collect the sample in the afterbay or just prior to discharge from the separator. Be sure to note in your field book how you collected your samples as this is especially important for the TPH-Dx sample.

Keeping records

Section S9 on page 39 of the general permit specifies requirements for reporting and recordkeeping. In order to comply with the requirement that lab reports include sampling date and sampling location, you will need to supply this information to the lab when submitting samples. You can do this by using the sample location as the field station identification on your labels or sample tags.

You should purchase a notebook for use in the field. Water-resistant “rite in the rain” notebooks serve the purpose well.

Section S4.B3 on page 20 of the permit requires that you record *Sample Documentation* for the following:

- a) Sample date.
- b) Sample time.
- c) A notation describing if the Permittee collected the sample within the first 12 hours of stormwater discharge events.

d) An explanation of why the Permittee could not collect a sample within the first 12 hours of a stormwater discharge event, if it was not possible; or, if it is unknown (e.g., discharge was occurring during start of regular business hours), an explanation of why the Permittee does not know if a sample was collected within or outside the first 12 hours of stormwater discharge.

e) Sample location (using SWPPP identifying number).

f) Method of sampling and method of sample preservation, if applicable.

g) Name of the individual who performed the sampling.

h) Weather conditions.

Although not required, it would also be beneficial to record the following information:

- ◆ Weather preceding the sampling event:
 - ◇ How many days/weeks/months since last significant rainfall.
 - ◇ Estimate of time it began raining.
 - ◇ Estimate of time that discharge began at the sampling point.
 - ◇ Amount (inches) and/or intensity of precipitation.
 - ◇ Whether discharge includes ice or snowmelt runoff.



- ◆ How you collected the sample, example, *from a ditch by hand or from a manhole with the bottles on a pole.*
- ◆ The number and types (parameters) of samples collected.
- ◆ Field measurement results, such as pH or visible oil sheen.
- ◆ Any unusual circumstances that may affect the sample results.

Entries in the field book must be made with ink. If you make an error in the field book, cross it out with a single line rather than whitening it out or erasing. Number the pages of the field book consecutively. To ensure that the bound field book is a complete record, do not rip pages from it.

Section S9 in the general permit also requires preservation of laboratory documentation. Along with required information from the laboratories as found in Section S4.B4, your clear and detailed field notes such as date, time, and location of each sample collected are essential for laboratory records.

Special Sampling Considerations

Safety must be the primary consideration in sampling. Samples should never be collected in a way that compromises the safety of the sampler. In cases where there is a physical hazard, such as a trip hazard or when sampling near deep water bodies, samplers should work in pairs. Do not wade in water where it is unsafe to do so (e.g., the estimated depth in feet times the velocity in feet per second is equal to or greater than 8), as swift currents can lead to drowning accidents. Be aware of the slip hazard common near the banks of water bodies and decide whether a bank is too steep to negotiate safely. Safety comes down to individual judgment.

*Don't take risks.
Know how to
sample safely.*

Never put yourself in a position you consider to be unsafe. Samples can be collected easily in some locations, but not all stormwater discharges are as readily sampled as the flow in a ditch or from a pipe falling into a receiving water. Below are some situations you may encounter and suggested approaches for handling them. We focus mainly on methods for collecting samples directly by hand or with a bottle attached to a pole. When sampling in these or other situations, keep in mind the steps outlined in the section, *How to Fill Sample Bottles*. Additional information is available in Ecology's standard operating procedures (SOPs) for stormwater sampling available [online](#)⁷.

Sampling stormwater discharges from a pipe into a receiving water

If stormwater is being discharged from your facility through a pipe into a ditch, creek, or other receiving water, it can be readily sampled as it falls from the pipe before it reaches the receiving water if the discharge pipe is safely accessible and not submerged. Hold the bottles with the bottle opening facing upstream into the flow and be sure not to overfill them. You may need to fasten the collection bottles to a pole to reach the pipe. Attaching a bottle to a pole is described in the section below, *Sampling from a Manhole* and shown in Appendix A.

Sampling from a manhole

When sampling from the manhole of a municipal storm drain, remember to contact the municipality beforehand. Be sure to discuss safety concerns when talking to the municipality about sampling. Open a manhole with a hook or pick axe, exercising care not to drop the manhole cover on hands or feet. ***Do not, under any circumstances, enter the manhole unless trained to safely enter confined spaces***, but you can sample the flow in a manhole from above ground by taping the sampling bottles, one at a time, to a pole and lowering the pole into the manhole (see photos in Appendix A).

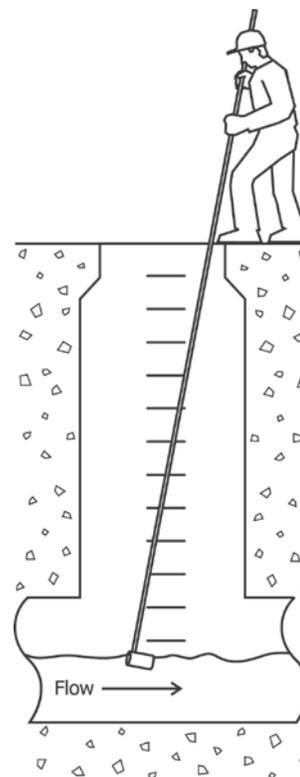
⁷ <http://www.ecy.wa.gov/programs/eap/quality.html>

Each bottle can be fastened to the pole by holding the bottle against it and wrapping tape tightly around the bottom and the top of the bottle as you hold the bottle firmly to the pole. Filament strapping tape works well for this purpose as it is waterproof and strong. Rubber bands and zip-ties are also a possibility. Commercially available sampling extension poles are also available from a number of suppliers and relatively inexpensive.

If the flow in the storm drain is shallow, the bottle may have to be positioned horizontally with the bottle's opening somewhat higher than its bottom. When sampling in a manhole, be careful not to scrape the bottle against the sides of the pipe to avoid picking up extra solids in your sample.

Collecting into bottles for TPH samples with a pole is done by plunging the bottle on the pole below the water surface and back upwards. This must be done as a single motion and only once. Because you only get one try at getting a good TPH grab sample, it may take some practice and extra bottles to collect the amount of sample you need without overfilling the bottle.

Collecting samples, other than TPH, into bottles with preservative can be done by quickly plunging the pole into the flow repeating if necessary until the bottle is most but not all of the way full. If you overfill the bottle, remove it, tape a clean bottle to the pole, and try again. When collecting samples with a pole, be sure to follow clean principles by keeping the pole downstream of the bottle while sampling.



When sampling from a manhole, use a pole to safely sample from above ground. Avoid touching the sides of the manhole or pipes with the bottle to prevent contamination. Place the opening of the bottle upstream so that the flow enters the bottle directly.

Sampling from a storm drain with a filter or insert

When sampling a storm drain or catch basin that has been retrofitted with a stormwater insert or filter, the goal is to get a sample that represents post-filter stormwater. There are 3 possible scenarios for sampling, in order of preference:

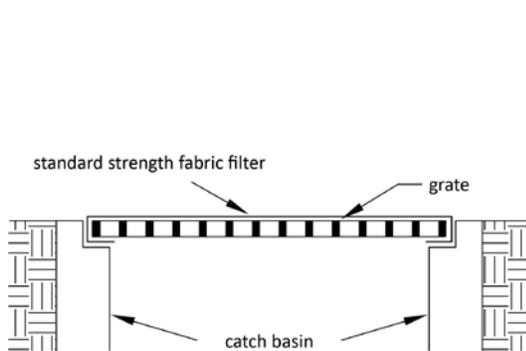
1. Use an available sample port or access point in the conveyance line after the filter but prior to discharge or mixing with stormwater from other sites.
2. If the insert or filter has a sample port or overflow port, remove the grate, reach through the port and collect the sample of water flowing through the insert or filter.
3. If the insert or filter is situated above a sump, use a pole or tubing to access the water while taking care not to disturb accumulated solids. Make sure the sump is collecting water only from your site. Using tubing with a peristaltic pump is permitted; however, if TPH-Dx is being sampled ensure that the tubing is Teflon-lined. All tubing should be purged using 3 times the tubing volume prior to sampling.

Make every attempt to avoid disturbing the filtration device. But if this must be done to access a sampling location, allow sufficient time for any disturbance of solids or material around the grate or device to settle or wash away (e.g., 10 minutes). This may apply if you have a series of catch basins on-site and are sampling the last in the series prior to discharge; if so, you may want to remove the grate and filter for ease of access.

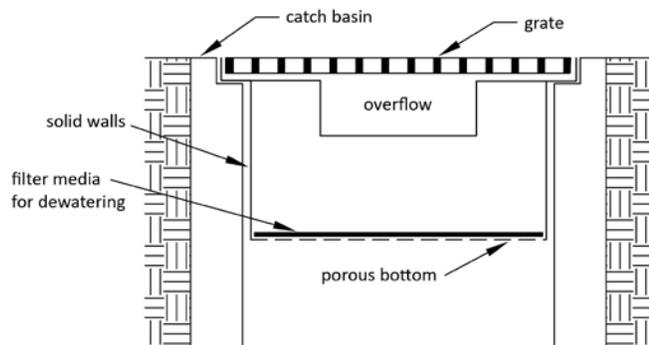
Sampling from a drainage ditch or swale

If a drainage ditch carries stormwater flow from your facility offsite, and if it carries no flow other than the flow from your facility, you can sample the water in the ditch simply by placing the bottle where the stormwater is freely flowing, with the bottle opening facing upstream. If you cannot reach a freely flowing portion of the ditch by hand, you may need to attach the bottles, one at a time, to a pole for sampling. Follow the procedure outlined in the section, *How to Fill Sample Bottles*.

If the flow is carried in a small ditch or swale, you can install a barrier device in the channel or deepen a small area so you can gain enough depth of flow to sample directly into the bottles. Make sure to allow for sufficient time after disturbing the bottom so that the solids resulting from muddying the water will not become part of your sample.



Simple filter fabric fitted over a catch basin grate (King County, 2009).



Schematic figure of a catch basin insert with an overflow opening that could be used for sampling (King County, 2009).

Sampling sheet flow

It is not always possible to sample stormwater runoff in locations such as ditches or pipes where the flow is concentrated. Sometimes the permittee has no choice but to select sample locations for which sheet flow is sampled before it becomes concentrated. Approaches to sampling sheet flow are described below and illustrated in the figures that follow.

In some cases, a stormwater discharge from a facility is not concentrated at any point and leaves the property in the form of sheet flow as it runs off a work area or driveway or grassy area. In this case the flow may be too shallow for the collection bottle to be filled with sample. It is often possible to find a way to collect the stormwater runoff in these situations.

One way to concentrate sheet flow is to install a barrier device or trough, gutter, strip drain/trench drain, or ditch to intercept and concentrate stormwater flow. As with other sample sites, the flow should be moving and somewhat turbulent so the samples will be well-mixed. Be sure that any excavation you do does not expose the stormwater to be sampled to newly worked soil surfaces that the runoff may erode, increasing the solids in your samples. You may want to consider lining the trough, gutter, or ditch with plastic or PVC. Be sure not to introduce materials such as metals that include zinc that may contaminate the samples. Sheet flow on paved areas can be concentrated and collected by constructing small bumps, similar to speed bumps.

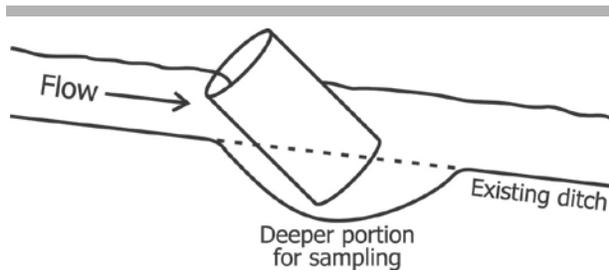
Another way to collect samples from sheet flow is to use a special peristaltic hand pump to pump samples from shallow surface flows. If being used to collect TPH samples, ensure the tubing is Teflon-lined.

An additional resource for guidance on sampling sheet flow can be found on the Minnesota Pollution Control Agency [website](#)⁸. There is a YouTube video and guidance document detailing the use of a plastic bag to collect and sample sheet flow. It should be noted that the use of plastic could affect the collection of organics samples, so this technique must be described in field notes if it is used.

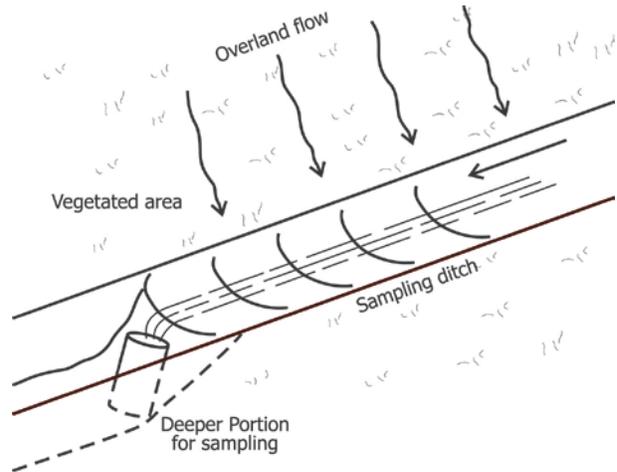
Roger Bannerman of the Wisconsin Department of Natural Resources has developed simple devices to grab samples of sheet flow from paved areas, rooftops, and lawns (Bannerman et al., 1993). Though the devices are intended to be used for simple, automatic sampling or for pouring a container of collected sample into other sample bottles, the ways in which the devices intercept and concentrate flows can be adopted for direct grab sampling.

⁸ <http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/industrial-stormwater/industrial-stormwater-steps-to-compliance/industrial-stormwater-steps-to-compliance-step-9-inspect-monthly-report-annually.html>

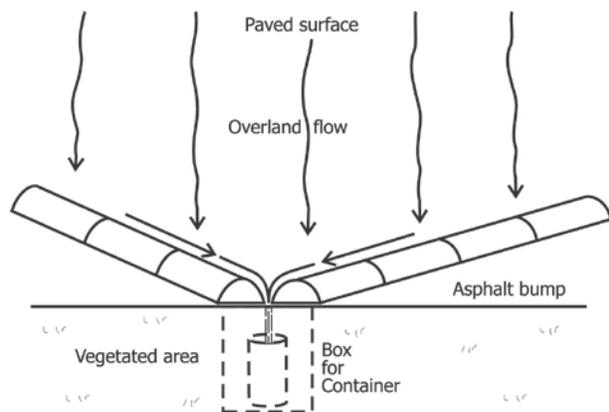
The following figures illustrate the methods of sampling sheet flow discussed above:



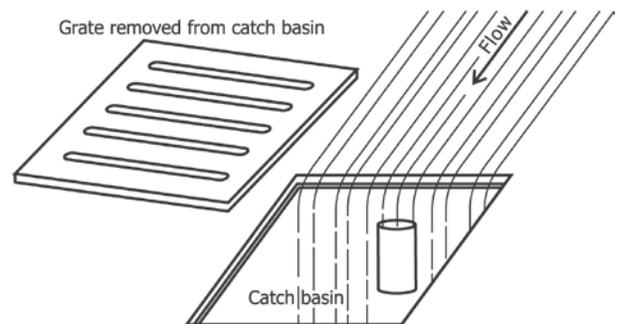
Deepening an existing ditch can allow samples to be collected directly into bottles in some cases. Be careful not to stir up solids from the sides or bottom of the ditch.



Overland flow from vegetated areas can be sampled by constructing a shallow ditch to intercept the runoff and a deepened area to place bottles to catch the runoff.



Overland flow on paved areas can be sampled by constructing asphalt or concrete bumps to collect and concentrate the flow. A box positioned below ground surface in the paved area or the edge of an unpaved area can provide a place to collect samples directly into bottles. Note that dirt and other debris can often build up along the bumps and in the "V", so you may want to clean the area prior to taking the sample.



Runoff entering a catch basin can sometimes be collected directly into bottles by removing the grate and allowing the runoff to fall into the bottles.

Sampling from a stormwater detention pond or other BMP

When stormwater from a facility discharges after flowing through a detention pond or other treatment system, sample as the stormwater flows out at the discharge point. Ponds may hold stormwater for a time before discharge begins. Attempt to sample within the first 12 hours from when the pond begins to discharge, and follow the previous guidance when that is not possible, or it is unknown.

Sampling storm drain solids

Beginning in 2015, facilities that discharge to a Puget Sound Sediment Cleanup Site, either directly or indirectly through a stormwater drainage system, must sample their storm drain solids for a list of physical and chemical parameters. At least once prior to October 1, 2016, facilities must collect and sample storm drain solids from a representative catch basin, sump, pipe, or other feature within the storm drain system that corresponds to the discharge point(s) where Total Suspended Solid (TSS) samples are collected per Condition S6.C.1 (pages 29-30).

Similar to sampling stormwater runoff, the most appropriate location and method for the collection of storm drain solids will depend on the site. Solids must be collected from within the storm drain system as outlined under the permit section S6.C.2 (pages 31-34). The recommended method to collect samples of storm drain solids is a grab or composite of catch basin, sump, or conveyance line accumulations. Sampling the forebay of an oil-water separator can also be used to characterize stormwater solids. The necessary parameters and procedures for analysis of solids are found in Table 8 of the permit (Condition S6.C.2.e (pages 32-34).

A description of materials and estimated volume of sample necessary for analysis can be found in the *Storm Drain Solids Sampling* table below. Materials that are necessary include: latex or nitrile gloves, labeled lab-supplied glass and plastic jars, stainless steel spoon and bowl (organics samples), and thick plastic spoon and bowl (metals and conventionals sample). Spoons and bowls must be cleaned with soap prior to use and in between samples. If possible stainless steel equipment should be rinsed with solvent (hexane) and wrapped in aluminum foil prior to use. Solvents must only be used if the appropriate safety considerations can be met (i.e., appropriate storage of solvent, proper ventilation, and disposal of waste solvent).

Storm Drain Solids Sampling

Parameter group	Individual parameters	Mixing bowl and spoon	Cleaning the bowl	Estimated volume of sample
Conventionals	Percent total solids, total organic carbon, and grain size	Plastic or stainless steel	Soap	~ 250ml (8 oz) glass or plastic jar for each individual parameter
Metals	Antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc	Plastic	Soap	1 – 250ml (8 oz) glass jar
Organics	PAHs, PCBs, and TPH-Dx	Stainless steel	Soap and solvent	~ 250ml (8 oz) glass jar w/ Teflon lined cap for each individual parameter

Catch basin solid grab samples do not need to be sampled during a storm, in fact they should be collected following storms when there is little water overlying the solids in the catch basin, sump or area of accumulation in the conveyance line. If there is overlying water, siphon or pump the water off without disturbing the solids; leave a thin layer of water intact.

Wearing gloves, sample the area of accumulated solids, using the spoons, and collect them in the bowls. Sample a representative portion of the solids in the area of accumulation (i.e., dig below surface if there are a few inches of accumulation) and enough to fill the required jars. Mix and blend the sample in the bowl and fill the required sample jars for all parameters. Metals sample jars should be filled from the plastic bowl and organics sample jars from the stainless steel bowl. Document the field conditions and appearance of the sample. Pack the samples in a Ziploc bag; put on ice, in a cooler, and send to the lab for analysis.

If there are no spots of solids accumulation in the storm drain system, consider using in-line storm drain solids traps. Further guidance on in-line solids traps can be found elsewhere ([Lubliner, 2012](#))⁹. Contact Ecology if you have any questions concerning sampling in-line storm drain solids.

Under section S6.C.2.f of the general permit, all storm drain solids sampling data shall be reported to Ecology on a Solids Monitoring Report (SMR) along with a copy of the laboratory report. Make sure all required and recommended information as listed above is recorded in field notes and on laboratory documents. There can be variability among the samples collected using different methods, so it is important to document exactly how and where the sample was collected.

Ecology Wants to Hear from You

If you have suggestions on how Ecology can improve this guidance document, if you have developed innovative sampling techniques, or if you just want to comment on stormwater sampling, contact:

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Water Quality Specialist
(360) 407-6127
jeff.killelea@ecy.wa.gov

⁹ <https://fortress.wa.gov/ecy/publications/summarypages/1203053.html>

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US Environmental Protection Agency, 2007. Report of the Federal Advisory Committee on Detection and Quantitation Approaches and Uses in Clean Water Act Programs. US EPA, Washington D.C. Accessed at: <http://water.epa.gov/scitech/methods/cwa/det/upload/final-report-200712.pdf>

Glossary, Acronyms, and Abbreviations

Glossary

303(d)-listed water body: Water body as listed as Category 5 on Washington State's Water Quality Assessment.

Average: Arithmetic mean, which is equal to the sum of the measurements divided by the number of measurements.

Best Management Practices (BMPs - general definition): 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 the state*. BMPs include treatment systems, operating procedures, and practices to control: facility site *runoff*, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the permit BMPs are further categorized as operational source control, structural source control, *erosion* and *sediment* control, and *treatment BMPs*.

Benchmark: A *pollutant* concentration used as a permit threshold, below which a pollutant is considered unlikely to cause a water quality violation, and above which it may. When pollutant concentrations exceed benchmarks, corrective action requirements take effect. Benchmark values are not *water quality standards* and are not numeric effluent limitations; they are indicator values.

Daily Average: The average measurement of the pollutant throughout a period of 24 consecutive hours starting at 12:01 A.M. and ending at the following 12:00 P.M. (midnight).

Detention: The temporary storage of *stormwater* to improve quality and/or to reduce the mass flow rate of discharge.

Discharge [of a pollutant]: Any addition of any *pollutant* or combination of pollutants to waters of the United States from any point source. This definition includes additions of pollutants into waters of the United States from: surface *runoff* that is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, *municipality*, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

Discharge point: The location where a discharge leaves the Permittee's facility. *Discharge point* also includes the location where a discharge enters the ground on-site (e.g., infiltration BMP).

Discharger: An owner or operator of any *facility* or activity subject to regulation under Chapter 90.48 RCW or the Federal *Clean Water Act*.

Facility: Any source (including land or appurtenances thereto) that is subject to regulation under the permit. See Special Condition S1.

First fall storm event: The first time on or after October 1st of each year that precipitation occurs and results in a *stormwater discharge* from a *facility*. This storm event tends to wash off and discharge pollutants that accumulate during the preceding dry months.

General Permit: A permit which covers multiple *dischargers* of a point source category within a designated geographical area, in lieu of individual permits being issued to each *discharger*.

Groundwater: Water in a saturated zone or stratum beneath the land surface or a surface water body.

Industrial Activity: (1) The 10 categories of industrial activities identified in *40 CFR* 122.26(b)(14)(i-ix and xi), (2) any *facility* conducting any activities described in Table 1, or (3) any facility identified by *Ecology* as a *significant contributor of pollutants*.

Landfill: An area of land or an excavation in which wastes are placed for permanent disposal, and which is not a *land application site*, surface impoundment, injection well, or waste pile.

Municipality: A political unit such as a city, town, or county; incorporated for local self-government.

Outfall: The point where a discharge from a facility enters a receiving water body or receiving waters.

Pollutant: The *discharge* of any of the following to *waters of the state*: dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, domestic sewage sludge (biosolids), munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of section 312 of the Federal Water Pollution Control Act (FWPCA) nor does it include dredged or fill material discharged in accordance with a permit issued under section 404 of the FWPCA.

Pollution: Contamination or other alteration of the physical, chemical, or biological properties of *waters of the state*; including change in temperature, taste, color, *turbidity*, or odor of the waters; or such *discharge* of any liquid, gaseous, solid, 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.

Puget Sound Sediment Cleanup Site: Category 4B (Sediment) portions of Budd Inlet (Inner), Commencement Bay (Inner), Commencement Bay (Outer), Dalco Passage and East Passage, Duwamish Waterway (including East and West Waterway), Eagle Harbor, Elliot Bay, Hood Canal (North), Liberty Bay, Rosario Strait, Sinclair Inlet, and Thea Foss Waterway; Category 5 (Sediment) portions of the Duwamish Waterway (including East and West Waterway), and Port Gardner and Inner Everett Harbor; and Port Angeles Harbor sediment cleanup area, as mapped on Ecology's Industrial Stormwater General Permit (ISGP) website. All references to Category 4B and 5 pertain to the 2012 EPA-approved Water Quality Assessment.

Quantitation Level (QL) also known as Minimum Level of Quantitation (ML): The lowest level at which the entire analytical system must give a recognizable signal and acceptable calibration point for the analyte. It is equivalent to the concentration of the lowest calibration standard, assuming that all method-specified sample weights, volumes, and cleanup procedures have been employed.

Regular Business Hours: Those timeframes when the *facility* is engaged in its primary production process, but does not include additional shifts or weekends when partial staffing is at the site primarily for maintenance and incidental production activities. *Regular business hours* do not include periods of time that the *facility* is inactive and *unstaffed*.

Representative [sample]: A sample of the *discharge* that accurately characterizes *stormwater runoff* generated in the designated drainage area of the *facility*.

Runoff: That portion of rainfall or snowmelt water not absorbed into the ground that becomes surface flow.

Sanitary Sewer: A sewer which is designed to convey *domestic wastewater*.

Sediment: The fragmented material that originates from the weathering and *erosion* of rocks, unconsolidated deposits, or unpaved yards, and is transported by, suspended in, or deposited by water.

Standard Industrial Classification (SIC): The statistical classification standard underlying all establishment-based federal economic statistics classified by industry as reported in the 1987 SIC Manual by the Office of Management and Budget.

Stormwater: That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a *stormwater drainage system* into a defined surface water body, or a constructed infiltration *facility*.

Stormwater Drainage System: Constructed and natural features that function together as a system to collect, convey, channel, hold, inhibit, retain, detain, infiltrate or divert *stormwater*.

Stormwater Pollution Prevention Plan (SWPPP): A documented plan to implement measures to identify, prevent, and control the contamination of point source discharges of *stormwater*.

Substantially Identical Discharge Point: A discharge point that shares the following characteristics with another discharge point: (1) the same general industrial activities conducted in the drainage area of the *discharge* point, (2) the same *Best Management Practices* conducted in the drainage area of the discharge point, (3) the same type of exposed materials located in the drainage area of the *discharge* point that are likely to be significant contributors of *pollutants* to *stormwater discharges*, and (4) the same type of impervious surfaces in the drainage area that could affect the percolation of *stormwater runoff* into the ground (e.g., asphalt, crushed rock, grass).

Unstaffed: The *facility* has no assigned staff. A site may be *unstaffed* even when security personnel are present, provided that *pollutant* generating activities are not included in their duties.

Vehicle: A motor-driven conveyance that transports people or freight, such as an automobile, truck, train, or airplane.

Vehicle Maintenance: The rehabilitation, mechanical repairing, painting, fueling, and/or lubricating of a motor-driven conveyance that transports people or freight, such as an automobile, truck, train, or airplane.

Acronyms and Abbreviations

BMP	Best management practice
DMR	Discharge Monitoring Report
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
FWPCA	Federal Water Pollution Control Act
ISGP	Industrial Stormwater General Permit
ML	Minimum level of quantitation
N	Nitrogen
NWTPH-Dx	Northwest Total Petroleum Hydrocarbons – Diesel fraction
PAHs	Polycyclic aromatic hydrocarbons
PCBs	Polychlorinated biphenyls
QL	Quantitation level
SIC	Standard Industrial Classification
SWPPP	Stormwater Pollution Prevention Plan
TPH	Total Petroleum Hydrocarbon

Appendices

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Appendix A - Proper and Improper Methods of Sampling



DO always wear gloves when taking.



DO NOT allow bottle lids to touch ground. Keep lids clean to prevent contamination.



DO NOT touch openings of bottles. Keep bottles clean to prevent contamination.



DO attach a bottle to a pole for sampling in manholes or when a hand sample would be in stagnant water. A boathook is used in this example and the bottle is attached to it with filament strapping tape.



DO NOT sample in stagnant areas with little flow. *DO NOT* stir up bottom sediments or allow foreign materials to enter the sample bottle. (*DO* be careful to grab a clean sample in cases where stormwater runoff is shallow.) If the runoff is so shallow that it is not possible to sample without the sample being contaminated in the process, then find an alternative way to sample.



If the water is too shallow to sample with the bottle upright on the pole, try taping it on sideways, but tilted up slightly.



***DO** sample with the opening of the bottle facing upstream, into the flow so the water will enter directly into the bottle. This is true when sampling either by hand or with a pole. **DO** sample water that is rapidly flowing rather than stagnant.*



***DO NOT** sample with the bottle opening facing downstream, when using a pole or sampling by hand. Water flowing past your container, pole, or hand and into the container can be contaminated by such contact.*



***DO** collect samples without overfilling the bottles.*



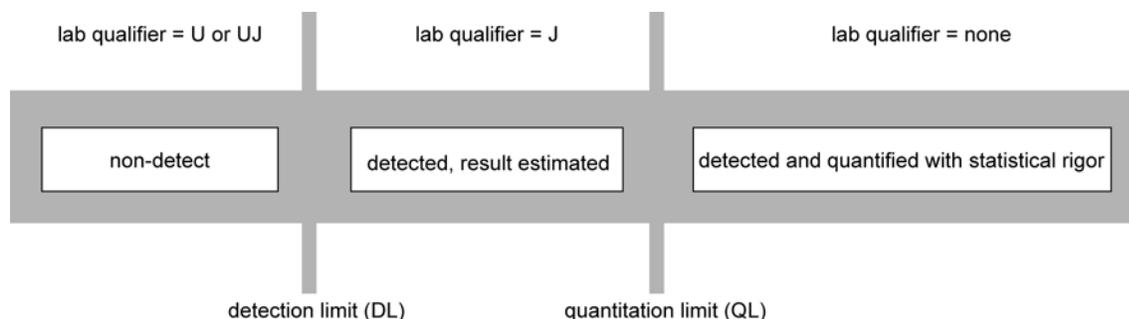
***DO NOT** allow water to overfill the bottle, particularly not for sample bottles with preservative. TPH samples must be collected from water falling into the bottle when possible, or otherwise in a single swoop.*

Appendix B - Guidance on Results near Lab Detection Limits

Water quality criteria and permit limits based on those criteria may be set at very low concentrations. Lab methods approved for use in National Pollutant Discharge Elimination System (NPDES) permitting are sometimes not capable of measuring chemical concentrations at these low levels. Labs use many different terms to describe these levels. Ecology's Water Quality program uses the following terms for NPDES permitting.

Detection Limit (DL): the minimum concentration of an analyte (substance) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero as determined by the procedure given in 40 CFR part 136, Appendix B of the Clean Water Act (amended in 1977).

Quantitation Limit (QL): the smallest detectable concentration of analyte greater than the detection level (DL) where the accuracy (precision & bias) achieves the objectives of the intended purpose (US EPA, 2007).



Reporting using WQWebDMR

Currently the Construction Stormwater general permit and the Industrial Stormwater general permit require permittees to submit Discharge Monitoring Reports (DMR) electronically using WQWebDMR with some limited exceptions. As Ecology reissues both general and individual permits, it is including permit conditions requiring the use of WebDMR. To obtain an exception under the stormwater permits, the permittee must apply for a waiver. See Ecology's Water Quality Stormwater Permits webpage for more details:

<http://www.ecy.wa.gov/programs/wq/stormwater/index.html>.

Below is some guidance for reporting analytical values on a DMR. If a permit or DMR conflicts with this guidance, follow the instructions in the permit or DMR.

- ◆ Report single analytical values below detection as *less than the detection level (DL)* by entering < followed by the numeric value of the DL (e.g. < 2.0) on the DMR.

- ◆ Report single analytical values between the DL and QL by entering the estimated value, the qualifier for estimated value/below quantitation level (J) and any additional information in the comments. Submit a copy of the lab report as an attachment to the DMR.
- ◆ Report single analytical values above the QL by entering the numeric value.
- ◆ Calculate average values (unless otherwise specified in a permit) using:
 - ◇ The reported numeric value for those parameters measured above the QL or between the DL and QL.
 - ◇ One-half the DL (for values reported below the DL) if the lab detected the parameter in another sample from the same monitoring point for the reporting period.
 - ◇ Zero (for values reported below the DL) if the lab did not detect the parameter in another sample for the reporting period.

Calculate total values (e.g., Total PCBs, TPH-Dx) (unless otherwise specified in a permit) using:

- ◆ The reported numeric value for all individual compounds or isomers measured above the QL or between the DL and QL.
- ◆ One-half the DL (for values reported below the DL) if the lab detected the individual compound or isomer in another sample from the same monitoring point for the reporting period.
- ◆ Zero (for values reported below the DL) if the lab did not detect the individual compound or isomer in another sample for the reporting period.

If all individual compounds or isomers in the sample were not detected, report *less than the detection level (DL)* by entering < followed by the numeric value of the highest individual DL (e.g. < 2.0) on the DMR.

For all analytical values reported, if the method used did not meet the minimum DL and QL identified in the permit, report the actual DL and QL in the comments or in the location provided.

When dilutions are performed in the analysis, report the adjusted DL and QL as appropriate. Submit a copy of the lab report as an attachment to the DMR.

When required, lab reports must provide the following information: date sampled, sample location, date of analysis, parameter name, CAS number, analytical method/number, DL, QL, reporting units, and concentration detected. The lab report must also include information on the chain of custody, Quality Assurance/Quality Control (QA/QC) results, and documentation of accreditation for the parameter.

Appendix C - Tables from the Industrial Stormwater General Permit

Table 2: Benchmarks and Sampling Requirements Applicable to All Facilities

Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level ^a	Minimum Sampling Frequency ^b
Turbidity	NTU	25	EPA 180.1	0.5	1/quarter
pH	Standard units	Between 5.0 – 9.0	Meter/paper ^c	±0.5	1/quarter
Oil Sheen	Yes/No	No visible oil sheen	N/A	N/A	1/quarter
Copper, Total	µg/L	Western WA: 14 Eastern WA: 32	EPA 200.8	2.0	1/quarter
Zinc, Total	µg/L	117	EPA 200.8	2.5	1/quarter

^a. The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. Any Permittee using an alternative method must report the test method and QL on the DMR. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR.

^b. 1/quarter means at least one sample taken each quarter, year-round.

^c. Permittees shall use either a calibrated pH meter or narrow-range pH indicator paper with a resolution not greater than ± 0.5 SU.

Table 3: Additional Benchmarks and Sampling Requirements Applicable to Specific Industries.

Parameter	Units	Benchmark Value	Analytical Method	Laboratory Quantitation Level ^a	Minimum Sampling Frequency ^b
1. Chemical and Allied Products (28xx), Food and Kindred Products (20xx)					
Biological Oxygen Demand (BOD)	mg/L	30	SM 5210B	2	1/quarter
Nitrate + Nitrite Nitrogen, as N	mg/L	0.68	SM 4500; NO3-E/F/H	0.1	1/quarter
Phosphorus, Total	mg/L	2.0	EPA 365.1	0.1	1/quarter
2. Primary Metals (33xx), Metals Mining (10xx), Automobile Salvage and Scrap Recycling (5015 and 5093), Metals Fabricating (34xx)					
Lead, Total	µg/L	81.6	EPA 200.8	0.5	1/quarter
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.1	1/quarter
3. Hazardous Waste Treatment, Storage and Disposal Facilities and Dangerous Waste Recyclers subject to the provisions of Resource Conservation and Recovery Act (RCRA) Subtitle C					
Chemical Oxygen Demand (COD)	mg/L	120	SM 5220-D	10	1/quarter
Total Ammonia (as N)	mg/L	2.1	SM 4500; NH3-GH	0.3	1/quarter
Total Suspended Solids (TSS)	mg/L	100	SM 2540-D	5	1/quarter
Arsenic, Total	µg/L	150	EPA 200.8	0.5	1/quarter
Cadmium, Total	µg/L	2.1	EPA 200.8	0.25	1/quarter
Cyanide, Total	µg/L	22	EPA 335.4	10	1/quarter
Lead, Total	µg/L	81.6	EPA 200.8	0.5	1/quarter
Magnesium, Total	µg/L	64	EPA 200.8	50	1/quarter
Mercury, Total	µg/L	1.4	EPA 1631E	0.0005	1/quarter
Selenium, Total	µg/L	5.0	EPA 200.8	1.0	1/quarter
Silver, Total	µg/L	3.8	EPA 200.8	0.2	1/quarter
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.1	1/quarter
4. Air Transportation (45xx) ^c					
Total Ammonia (as N)	mg/L	2.1	SM 4500; NH3-GH	0.3	1/quarter
Biological Oxygen Demand (BOD)	mg/L	30	SM 5210B	2	1/quarter
Chemical Oxygen Demand (COD)	mg/L	120	SM 5220-D	10	1/quarter
Nitrate + Nitrite Nitrogen, as N	mg/L	0.68	SM 4500; NO3-E/F/H	0.1	1/quarter
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.1	1/quarter
5. Timber Product Industry (24xx), Paper and Allied Products (26xx)					
Chemical Oxygen Demand (COD)	mg/L	120	SM 5220-D	10	1/quarter
Total Suspended Solids (TSS)	mg/L	100	SM 2540-D	5	1/quarter
6. Transportation (40xx – 44xx, except 4221-25), Petroleum Bulk Stations and Terminals (5171)					
Petroleum Hydrocarbons (Diesel Fraction)	mg/L	10	NWTPH-Dx	0.1	1/quarter

^a. The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. Any Permittee using an alternative method must report the test method and QL on the DMR. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR.

^b. 1/quarter means at least one sample taken each quarter, year-round.

^c. For airports where a single Permittee, or a combination of permitted facilities use more than 100,000 gallons of glycol-based deicing chemicals and/or 100 tons or more of urea on an average annual basis, monitor these additional five parameters in those *discharge points* that collect runoff from areas where deicing activities occur (SIC 4512-4581).

Table 5: Effluent Limit Applicable to Airports Subject to 40 CFR Part 449.

Parameter	Units	Benchmark Value ^a	Analytical Method ^b	Laboratory Quantitation Level ^c	Minimum Sampling Frequency ^d
Total Ammonia (as N)	mg/L	14.7	SM 4500; NH ₃ -GH	0.3	1/quarter

^a. Maximum daily effluent limit means the highest allowable daily discharge. The daily discharge means the discharge of a pollutant measured during a calendar day. The daily discharge is the average measurement of the pollutant over the day.

^b. Or other equivalent EPA-approved method with the same or lower quantitation level.

^c. The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. Any Permittee using an alternative method must report the test method and QL on the DMR. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR.

^d. 1/quarter means at least one sample taken each quarter, year-round.

Table 7: Benchmarks and Sampling Requirements Applicable to Discharges to Puget Sound Sediment Cleanup Sites that are not Category 5 for Sediment Quality.

Parameter	Units	Benchmark Value ^a	Analytical Method	Laboratory Quantitation Level ^b	Minimum Sampling Frequency ^c
Total Suspended Solids (TSS)	mg/L	30	SM 2540-D	5	1/quarter

^a. Permittees sampling more than once per quarter shall average the sample results and compare the average value to the benchmark to determine if the discharge has exceeded the benchmark value. However, if Permittees collect more than one sample during a 24-hour period, they must first calculate the daily average of the individual grab sample results collected during that 24-hour period; then use the daily average to calculate a quarterly average.

^b. The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method from 40 CFR Part 136 is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. Any Permittee using an alternative method must report the test method and QL on the DMR. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific method detection level (MDL) and QL on the DMR.

^c. 1/quarter means at least one sample taken each quarter, year-round.

Table 8: Sampling and Analytical Procedures for Storm Drain Solids.

Analyte	Method in Solids	Quantitation Level ^a
Conventional Parameters		
Percent total solids	SM 2540G, or ASTM Method D 2216	N/A
Total organic carbon	Puget Sound Estuary Protocols (PSEP 1997), or EPA 9060	0.1%
Grain size	Ecology Method Sieve and Pipette (ASTM 1997), ASTM D422, or PSEP 1986/2003	N/A
Metals		
Antimony, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.2 mg/kg dw
Arsenic, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.1 mg/kg dw
Beryllium, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.2 mg/kg dw
Cadmium, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.2 mg/kg dw
Chromium, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.5 mg/kg dw
Copper, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.2 mg/kg dw
Lead, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.2 mg/kg dw
Mercury, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.005 mg/kg dw
Nickel, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.1 mg/kg dw
Selenium, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.5 mg/kg dw
Silver, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.1 mg/kg dw
Thallium, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	0.2 mg/kg dw
Zinc, Total	EPA Method 200.8 (ICP/MS), EPA Method 6010, or EPA Method 6020	5.0 mg/kg dw
Organics		
PAH compounds ^c	EPA Method 8270D	70 µg/kg dw
PCBs (aroclor)s, Total ^d	EPA Method 8082	10 µg/kg dw
Petroleum Hydrocarbons		
NWTPH-Dx	NWTPH-Dx	25.0-100 mg/kg dw

^a. The Permittee shall ensure laboratory results comply with the quantitation level (QL) specified in the table. However, if an alternate method is sufficient to produce measurable results in the sample, the Permittee may use that method for analysis. Any Permittee using an alternative method must report the test method and QL on S6.C.2.f the sediment monitoring report. All results shall be reported. For values below the QL, or where a QL is not specified, report results at the method detection level (MDL) from the lab and the qualifier of “U” for undetected at that concentration. If the Permittee is unable to obtain the required QL due to matrix effects, the Permittee must report the matrix-specific MDL and QL on the DMR.

^b. dw = dry weight.

^c. PAH compounds include: 1-methylnaphthalene, 2-methylnaphthalene, 2-chloronaphthalene, acenaphthylene, acenaphthene, anthracene, benzo(a)anthracene, benzo(a)pyrene, benzo(b, k)fluoranthene, benzo(ghi)perylene, dibenzo(a,h)anthracene, dibenzofuran, carbazole, chrysene, fluoranthene, fluorene, indeno(1,2,3-cd)pyrene, naphthalene, phenanthrene, and pyrene.

^d. Total = sum of PCB aroclors 1016+1221+1232+1242+1248+1254+1260.

Appendix H

Excerpts from

***Stormwater Management Manual
For
Eastern Washington***

September 2019

Appendix I

Tenants' Supplemental SWPPPs

Appendix J

Source Specific Structural Source Control BMPs

List of Applicable Industry-Specific Source Control BMPs

Operational Source Control BMPs for Fueling At Dedicated Stations:

- Prepare an emergency spill response and cleanup plan (per BMPs for Spills of Oil and Hazardous Substances) and have designated trained person(s) available either on site or on call at all times to promptly and properly implement the 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.

Operational Source Control BMPs for Illicit Connections to Storm Drains:

- Eliminate unpermitted wastewater 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.

Operational Source Control BMPs for Landscaping and Lawn/Vegetation Management:

Landscaping:

- Install engineered soil/landscape systems to improve the infiltration and regulation of stormwater in landscaped areas.
- Do not dispose of collected vegetation into waterways or storm drainage systems.

Pesticides:

- Develop and implement an Integrated Pest Management (IPM) plan and use pesticides only as a last resort.

An IPM program might 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 IV-D R.7).
- Choose the least toxic pesticide available that can reduce 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. For example, if it is necessary to use a *Bacillus thuringiensis* application to control

tent caterpillars, it must be applied before caterpillars cocoon or it will be ineffective. 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 staff 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.
- The pesticide application equipment must be capable of immediate shutoff 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 only be conducted 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.

Vegetation Management:

- Use at least an eight-inch "topsoil" layer with at least 8 percent organic matter to provide a sufficient vegetation-growing medium. Amending existing landscapes and turf systems by increasing the percent organic matter and depth of topsoil can substantially improve the permeability of the soil, the disease and drought resistance of the vegetation, and reduce fertilizer demand. This reduces the demand for fertilizers, herbicides, and pesticides. Organic matter is the least water-soluble form of nutrients that can be added to the soil. Composted organic matter generally releases only between 2 and 10 percent of its total nitrogen annually, and this release corresponds closely to the plant growth cycle. If natural plant debris and mulch are returned to the soil, this system can continue recycling nutrients indefinitely.
- Select the appropriate turfgrass mixture for your climate and soil type. Certain tall fescues and rye grasses resist insect attack because the symbiotic endophytic fungi found naturally in their tissues repel or kill common leaf and stem-eating lawn insects. They do not, however, repel root-feeding lawn pests such as Crane Fly larvae, and are toxic to ruminants such as cattle and sheep. The fungus causes no known adverse effects to the host plant or to humans. Endophytic grasses are commercially available and can be used in areas such as parks or golf courses where grazing does not occur. The local Cooperative Extension office can offer advice on which types of grass are best suited to the area and soil type.
- Use the following seeding and planting BMPs, or equivalent BMPs to obtain information on grass mixtures, temporary and permanent seeding procedures, maintenance of a recently planted area, and fertilizer application rates: Temporary Seeding, Mulching and Matting, Clear Plastic Covering, Permanent Seeding and Planting, and Sodding as described in Volume II).
- Selection of desired plant species can be made by adjusting the soil properties of the subject site. For example, a constructed wetland can be designed to resist the invasion of reed canary grass by layering specific strata of organic matters (e.g., compost forest product residuals) and creating a mildly acidic pH and carbon-rich soil medium. Consult a soil restoration specialist for site-specific conditions.
- Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Aeration should be conducted while the grasses in the lawn are growing most vigorously. Remove layers of thatch greater than 3/4-inch deep.

- Mowing is a stress-creating activity for turfgrass. When grass is mowed too short its productivity is decreased and there is less growth of roots and rhizomes. The turf becomes less tolerant of environmental stresses, more disease prone and more reliant on outside means such as pesticides, fertilizers, and irrigation to remain healthy. Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.

Irrigation:

- The depth from which a plant normally extracts water depends on the rooting depth of the plant. Appropriately irrigated lawn grasses normally root in the top 6 to 12 inches of soil; lawns irrigated daily often root only in the top 1 inch of soil. Improper irrigation can encourage pest problems, leach nutrients, and make a lawn completely dependent on artificial watering. The amount of water applied depends on the normal rooting depth of the turfgrass species used, the available water holding capacity of the soil, and the efficiency of the irrigation system. Consult with the local water utility, Conservation District, or Cooperative Extension office to help determine optimum irrigation practices.

Fertilizer Management:

- Turfgrass is most responsive to nitrogen fertilization, followed by potassium and phosphorus. Fertilization needs vary by site depending on plant, soil, and climatic conditions. Evaluation of soil nutrient levels through regular testing ensures the best possible efficiency and economy of fertilization. For details on soils testing, contact the local Conservation District or Cooperative Extension Service.
- Fertilizers should be applied in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters. Do not fertilize during a drought or when the soil is dry. Alternatively, do not apply fertilizers within three (3) days prior to predicted rainfall. The longer the period between fertilizer application and either rainfall or irrigation, the less fertilizer runoff occurs.
- Use slow-release fertilizers such as methylene urea, IDBU, or resin coated fertilizers when appropriate, generally in the spring. Use of slow-release fertilizers is especially important in areas with sandy or gravelly soils.
- Time the fertilizer application to periods of maximum plant uptake. Generally, fall and spring applications are recommended, although WSU turf specialists recommend four (4) fertilizer applications per year.
- Properly trained persons should apply all fertilizers. At commercial and industrial facilities fertilizers should not be applied to grass swales, filter strips, or buffer areas that drain to sensitive water bodies unless approved by the local jurisdiction.

Operational Source Control BMPs for Loading and Unloading Areas for Liquid or Solid Material:

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.

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.

- Report spills of reportable quantities to Ecology (refer to Section 2.1 for telephone numbers of Ecology Regional Offices).
- Prepare and implement an Emergency Spill Cleanup Plan for the facility (BMP Spills of Oil and Hazardous Substances) which includes the following BMPs:
 - Ensure the clean-up of liquid/solid spills in loading/unloading areas 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. (See BMP Spills of Oil and Hazardous Substances).
 - Ensure that an employee trained in spill containment and cleanup is present during loading/unloading.

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.

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.

Operational Source Control BMPs for Maintenance and Repair of Vehicles and Equipment:

- 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 wash water, liquid waste, or other pollutant into storm drains or to surface water. 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.

Operational Source Control BMPs for Maintenance of Stormwater Drainage and Treatment Systems:

- 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.
- Clean catch basins when the depth of deposits reaches 60 percent of the sump depth as measured from the bottom of basin to the invert of the lowest pipe into or out of the basin. However, in no

case should there be less than six inches clearance from the debris surface to the invert of the lowest pipe. Some catch basins (for example, WSDOT Type 1L basins) may have as little as 12 inches sediment storage below the invert. These catch basins will need more frequent inspection and cleaning to prevent scouring. Where these catch basins are part of a stormwater collection and treatment system, the system owner/operator may choose to concentrate maintenance efforts on downstream control devices as part of a systems approach.

- Clean woody debris in a catch basin as frequently as needed to ensure proper operation of the catch basin.
- Post warning signs; "Dump No Waste - Drains to Ground Water," "Streams," "Lakes," or emboss on or adjacent to all storm drain inlets where practical.
- Disposal of sediments and liquids from the catch basins must comply with "Recommendations for Management of Street Wastes" described in Appendix IV-G of this volume.
- Operational Source Control BMPs for Soil Erosion and Sediment Control at Industrial Sites, Storage of Liquid, Food Waste, or Dangerous Waste Containers, Spills of Oil and Hazardous Substances, Illicit Connections to Storm Drains, Urban Streets.

Operational Source Control BMPs for Mobile Fueling of Vehicles and Heavy Equipment:

- 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 near 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.
 - Placement of 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 five 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 shutoff 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 a minimum of the following spill clean-up materials in all fueling vehicles, 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; and,
 - Two, five-gallon buckets with lids.
- Use automatic shutoff nozzles for dispensing the fuel. Replace automatic shutoff nozzles as recommended by the manufacturer.
- Maintain and replace equipment on fueling vehicles, particularly hoses and nozzles, at established intervals to prevent failures.

Operational Source Control BMPs for Parking and Storage of Vehicles and Equipment:

- If washing of a parking lot is conducted, discharge the wash water to a sanitary sewer, if allowed by the local sewer authority, or other approved wastewater treatment system, or collect it for off-site disposal.
- Do not hose down the area to a storm drain or to a receiving water. Sweep parking lots, storage areas, and driveways, regularly to collect dirt, waste, and debris.

Operational Source Control BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers:

- 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.
- If the material is a Dangerous Waste, the business owner must comply with any additional Ecology requirements as required.
- Storage of reactive, ignitable, or flammable liquids must comply with the Uniform Fire Code.
- 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.

Operational Source Control BMPs for Storage of Liquids in Permanent Above-ground Tanks:

- Inspect the tank containment areas regularly to identify problem components such as fittings, pipe connections, and valves, for leaks/spills, cracks, corrosion, etc.
- 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 and the National Electric Code

Operational Source Control BMPs for Storage or Transfer (Outside) of Solid Raw Materials, By-Products, or Finished Products:

- Do not hose down the contained stockpile area to a storm drain or a conveyance to a storm drain or to a receiving water.

Operational Source Control BMPs for Washing and Steam Cleaning Vehicles/Equipment/Building Structures:

- Conduct vehicle/equipment washing in one of the following locations:
 - At a commercial washing facility in which the washing occurs in an enclosure and drains to the sanitary sewer, or
 - In a building constructed specifically for washing of vehicles and equipment, which drains to a sanitary sewer.
- Conduct outside washing operation in a designated wash area with the following features:
 - In a paved area, constructed as a spill containment pad to prevent the run-on of stormwater from adjacent areas. Slope the spill containment area so that wash water 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 wash water to a sump (like a grit separator) and then to a sanitary sewer (if allowed by the local Sewer Authority), or other appropriate wastewater treatment or recycle system. An NPDES permit may be required for any wash water discharge to a storm drain or receiving water after treatment. Contact the Ecology regional office for NPDES Permit requirements.
 - 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 wash water flow plus the sludge storage volume below the outlet pipe. The outlet valve will be shut during the washing cycle to collect the wash water 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.
 - The inlet valve in the discharge pipe should 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 bypasses the wash water treatment/conveyance system). Post signs to inform people of the operation and purpose of the valve. Clean the concrete pad thoroughly until there is no foam or visible sheen in the wash water prior to closing the inlet valve and allowing uncontaminated stormwater to overflow and drain off the pad.
 - Collect the wash water from building structures and convey it to appropriate treatment such as a sanitary sewer system if it contains oils, soaps, or detergents, where feasible. If the wash water does not contain oils, soaps, or detergents then it could drain to soils that have sufficient natural attenuation capacity for dust and sediment.

Appendix K

Lab Certification and Accreditation

Appendix L

Correspondence

Appendix F
Staffing and Equipment Tracking
Spreadsheet

REMOVE THESE PAGES AND REPLACE WITH SPREADSHEET PRINTOUTS

How to Use the Staffing and Equipment Tracking Spreadsheet

Purpose

The Staffing and Equipment Tracking Spreadsheet is designed to guide municipal staff through identifying each maintenance activity and the number of staff and equipment time that is required on an annual basis to implement the best management practices (BMPs) in the municipal Operations and Maintenance (O&M) Plan. This spreadsheet can also be used as a management tool to guide prioritization of maintenance activities required under the NPDES Phase II Permit. Upon completion of the spreadsheet, you should be able to:

- Summarize the staff and equipment needed to implement your O&M Plan.
- Evaluate whether you have adequate staff in each maintenance area to complete the planned maintenance activities.
- Adjust levels of service or maintenance frequencies to test the impact on your program budget and staffing levels.

This spreadsheet is a management tool to assist maintenance program managers with planning and budgeting activities. Completing the spreadsheet is not required by the NPDES permit. If you choose not to use the spreadsheet, delete this appendix from your O&M Plan.

How to Use the Spreadsheet

The spreadsheet is divided into eight major maintenance activity categories, corresponding to the major sections of the O&M Plan:

- 1) Stormwater Conveyance/Collection
- 2) Roads, Highways, and Parking Lots
- 3) Vehicle Fleets
- 4) Municipal Buildings
- 5) Parks and Open Space
- 6) Storage Areas
- 7) Flood Management Projects

8) Other Maintenance Related Activities

Throughout the spreadsheet, representative numbers have been included for illustration purposes. Program managers should update all values as they apply to the local maintenance program. Tasks vary by jurisdiction and this spreadsheet should include only activities and BMPs currently being conducted or planned for implementation by municipal maintenance crews. Add new tasks as needed and delete those that are not applicable to the local program.

The major input parameters are discussed below. Where cells do not follow the general guidance discussed below, additional comments have been included within the spreadsheet itself.

Cell A1: Enter the total annual working days that account for a full time equivalent. Consider holidays, vacation, sick leave, and other paid time off. Do not account for training – training is included as a line item in the spreadsheet.

Columns A-C: The first three columns (A-C) identify maintenance tasks by category and describe the level of service for each task. Consider adjusting the level of service as needed to meet local program goals and budget needs. For example, the desired level of service may be to mow all grass areas at stormwater facilities on a monthly basis, but budget constraints may reduce that service to only 4 times per year.

Column D: Identify whether the maintenance activity is required under the NPDES Phase II Permit (*Yes/No*).

Columns E-F: Document the total number of units (i.e., number of facilities, linear feet of roadway, etc.) that are being maintained by maintenance staff and how that unit is measured.

Column G: The estimated annual frequency to meet the level of service documents how many times per year each maintenance activity must occur. Annual inspections have a frequency of 1.0. Quarterly mowing has a frequency of 4.0. Fractional entries indicate that a particular maintenance activity will not occur at every facility every year. For example, if major pond repair is typically required once every 5 years, enter 1/5.

Column H: The Average Daily Production documents how many or how much of each maintenance activity can be completed in a typical workday. This estimate should account for travel time, crew meetings, mobilization, and demobilization of equipment, etc. If the crews can inspect eight stormwater facilities in a workday, enter 8. If it takes

two days to complete a pond repair, enter 0.5 because only 1/2 of the maintenance activity can be completed in each workday.

Column I: Crew size is the number of staff members it typically takes to complete the activity.

Columns J-L: Based on the above inputs, the spreadsheet calculates the annual crew days, annual person days, and the full time equivalent (FTE) to complete each maintenance task. While the FTE for each individual activity is typically just a small fraction, the cumulative effect of all the activities combined can be significant. One purpose of this spreadsheet is to show how these seemingly small activities can quickly absorb available resources.

Extension: If desired, another column could be inserted to calculate the labor cost of each activity based on the required FTE and the average salary and benefit costs for maintenance staff.

Columns M-N: If desired, list the equipment required to complete each maintenance activity and the spreadsheet will calculate the total number of days the equipment will be in use. The spreadsheet was not designed to calculate the total time required for each individual piece of equipment. However, a quick visual scan of columns M and N will show which pieces of equipment are in the highest use

Results

Once this spreadsheet is complete, it can be used to review the total staffing and equipment needs to complete all stormwater pollution prevention maintenance activities. This detailed look at staff time and equipment usage is often helpful for management to identify additional needs and to present that information to decision makers when requesting additional hires or justifying the need for a major equipment purchase. The information may also be useful to identify when a particular piece of equipment is only used sporadically and to evaluate whether that equipment should be rented on a contract basis or jointly purchased and shared with a neighboring jurisdiction. The spreadsheet can also be expanded to calculate labor costs associated with the maintenance program and to add other municipal maintenance activities not related to stormwater.