HILLSBORO AIRPORT
PORT OF PORTLAND
STORMWATER POLLUTION CONTROL PLAN

DEQ FILE NO. 107009

SIC Codes: 4512, 4513, 4522, 4581 and 3721

1200-Z General National Pollutant Discharge Elimination System Stormwater Permit

Prepared By:
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Port of Portland and Co-permittees

January 30, 2017
(Revised April 17, 2019)

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SIGNATURE REQUIREMENT

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, 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.

Vince Granato
Name of Official

Chief Operating Officer
Title of Official

FOR
Signature of Official

12-21-17
Date

I. Plan Preparation and Availability

This Stormwater Pollution Control Plan (SWPCP) has been prepared according to the requirements of Schedule A.2 of the 1200-Z permit by the following individuals who are knowledgeable in stormwater management and familiar with the facility:

- Steve Nagy, General Aviation Manager
- Gene Hollinger, General Aviation Maintenance Lead
- Dorothy Sperry, Senior Water Resources Manager
- Danelle Peterson, Water Quality Manager
- Blake Hamalainen, Water Quality Technician
- Justin McCarley, GIS

The SWPCP shall be kept on site at Hillsboro Airport (HIO) and in the Environmental Department offices at Portland International Airport (PDX). A copy will be made available to all Port of Portland (Port) employees, contractors, tenants at HIO, and government agencies responsible for stormwater management.

II. Review and Revision Schedule

This SWPCP will be kept current and updated by the Port's Environmental Department as necessary to reflect any changes in facility operation. If the stormwater discharge benchmarks specified in Schedule A.9, Schedule E or any additional impairment pollutants listed in the 1200-Z permit are not achieved, the Port will undertake the following actions:

- Review the SWPCP and determine if it is being followed within 30 days of receiving the sampling results in accordance with Schedule A.10.
- Identify any additional site controls or corrective actions that are needed. This step may also include a site inspection of facilities and common areas to review industrial activities and determine if any changes have occurred.
- Document the inspection and the SWPCP review and retain a copy of the documentation in the Port's files.
- If the review and inspection determine that new site controls are needed, the SWPCP will be updated. Revisions to the SWPCP will only be made to the specific components of the plan that need to be updated see Appendix H.
- The Port will submit written notification to the DEQ within 30 days for SWPCP revisions in accordance with Schedule A.10 of the 1200-Z permit.

Co-permittees are required to review the SWPCP at least annually as part of the annual verification for compliance with the stormwater permit. Permittees must submit any changes or corrections to the SWPCP to the Port within two weeks of identified revisions.

III. Definitions

The following provides definitions of pertinent terms used throughout this document.

Benchmarks are guideline concentrations ("levels of concern") not limitations. They are designed to assist the permittee in determining if the implementation of their SWPCP is reducing pollutant concentrations to below the levels of concern. For facilities that are subject to federal limitations, benchmarks apply to only those pollutants that are not limited by the federal regulations.

Best Management Practices (BMPs) refers to secondary containment, structural controls for oil and grease, proper management and disposal of waste chemicals and materials, erosion and sediment control, debris control, stormwater diversion away from industrial activities, covering activities, housekeeping practices, and other structural and non-structural controls and practices intended to prevent or reduce pollutants in stormwater.

Corrective Action is a documented response or SWPCP revision to benchmark exceedances in Schedule A.9, Schedule E or reference concentrations for impairment pollutants.

Discharge outfall or point source refers to any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, or discreet fissure from which pollutants are or may be discharged.

Impervious surfaces refer to surfaces that will not allow stormwater runoff to infiltrate into the natural ground.

Significant materials include, but are not limited to, raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; deicing and anti-icing chemicals; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

Site controls include best management practices, spill prevention and response procedures, preventative maintenance, and employee education. The purpose of site controls is to eliminate or minimize the exposure of pollutants to stormwater.

Spill Prevention Control and Countermeasures (SPCC) regulations (40 CFR 112) establish the procedures, methods, and equipment to prevent the discharge of oil from non-transportation related oil processors and handlers. The objectives of the SPCC plan are to prevent spills from occurring at the facility, prepare for a possible spill, and to respond if a spill does occur. The three basic principles that the Plan encompasses are: 1) the practices devoted to the prevention of oil spills, 2) the plan of containment should a spill occur, and 3) the plan for removal and disposal of spilled oil. The SPCC plan is required for facilities that store petroleum products with a combined storage capacity of greater than 1,320 gallons.

Spill Prevention and Response Procedures (Spill Plan) are methods to prevent spills along with cleanup and notification procedures. These methods and procedures shall be made available to appropriate personnel. The required cleanup material shall be on-site and readily available. Spill prevention plans required by other regulations may be substituted for this provision providing that stormwater management concerns are adequately addressed.

Stormwater runoff means water discharged because of rain, snow, or other precipitation.

Total Maximum Daily Load (TMDL) is the sum of the individual Waste Load Allocations (WLAs) for point sources and Load Allocations (LAs) for nonpoint sources and background. If receiving water has only one-point source discharger, the TMDL is the sum of that point source WLA plus the LAs for any nonpoint sources of pollution and natural background sources, tributaries, or adjacent segments. TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measure.

Water quality limited means that the body of water does not meet applicable water quality standards.

IV. Co-permittee Responsibilities

Hillsboro Airport (HIO) tenants who are a Co-permittee on the HIO 1200-Z National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit (Appendix A) are listed in Appendix B. Each Co-permittee is covered under the permit and will comply with the permit and HIO's SWPCP.

HIO tenants may become Co-permittees by submitting an application to the Port. Each Co-permittee is responsible for their leasehold and for complying with all the following requirements:

- Implement planned control measures and best management practices identified in the SWPCP.
- Conduct and document monthly inspections of industrial areas and activities exposed to stormwater, stormwater control measures, structures, catch basins, and treatment facilities including oil/water separators and catch basin filters in accordance with Schedule B.7.
- Perform any necessary preventative maintenance of stormwater control structures and facilities on leasehold.
- Submit information related to the Co-permittee's operation and participate in benchmark exceedance investigations if requested by the Port, Clean Water Services or DEQ.
- Retain copies of inspection forms, preventative maintenance and repair documentation for a minimum of three years and provide copies to the Port, Clean Water Services or DEQ upon request.
- Maintain a written schedule for regular pick-up and disposal of waste materials.
- Develop and implement a Spill Plan. The plan must include methods to prevent spills along with cleanup and notification procedures.
- Maintain a copy of the Spill Plan and adequate spill cleanup materials on-site.
- Conduct and document an employee education program to inform personnel of the components and goals of the SWPCP and the Spill Plan consistent with 1200-Z permit requirements. The education and training should occur at the time of hire and annually thereafter.
- Review the SWPCP whenever facility operations change.
    - Ensure activities are adequately represented in the SWPCP for compliance and accuracy.
    - Submit any revisions or updates within two weeks to the Port's Environmental Department.
- Submit a completed and signed annual verification form to the Port certifying that the Co-permittee has performed the required inspections, preventative maintenance, and best management practices and has prevented illicit discharges. Verification forms are sent out to Co-permittees by the Port each year.

V. Introduction

A. Background

Section 402 of the Clean Water Act (CWA) establishes a program for NPDES Permits. The CWA is implemented via the Code of Federal Regulations (CFRs). 40 CFR §122.26(b) (14) identifies Standard Industrial Classification (SIC) codes and industrial activities that trigger a requirement for permit coverage under the NPDES program. An NPDES permit is required for facilities that fall under major group 45 (transportation by air) or group 37 Transportation Equipment. This includes related businesses that perform maintenance, parts manufacturing, fueling or deicing/anti-icing and that have one of the following SIC codes: 4512 (air transportation, scheduled), 4513 (air courier services), 4522 (air transportation, nonscheduled), 4581 (airports, flying fields, and airport terminal services) and 3721 Aircraft and Parts.

The Oregon Department of Environmental Quality (DEQ) has created general NPDES permits for many industrial activities; the 1200-Z permit is a general permit issued by the DEQ. The 1200-Z NPDES Permit authorizes the discharge of stormwater from industrial activities into waters of the state. The DEQ issued the Port and Co-permittees at HIO a 1200-Z NPDES Permit (Appendix A). The 1200-Z permit covers vehicle and aircraft maintenance (including rehabilitation, mechanical repairs, maintenance, painting, fueling, and lubrication), deicing operations, equipment cleaning operations, parts manufacturing and wholesale bulk petroleum storage and handling facilities. Schedule A of the Permit, Controls and Limitations, requires the preparation and implementation of a SWPCP.

B. Purpose

This SWPCP is a guidance document for use by Port personnel and Co-permittees to guide daily operations for reducing pollutants in stormwater runoff. The SWPCP details industrial activities and stormwater site control strategies and provides a baseline to evaluate future implementation of site controls.

The site controls outlined in the HIO SWPCP are intended to meet the requirements of Schedule A of the 1200-Z Permit. If stormwater monitoring detects pollutant concentrations that exceed benchmark concentrations, the plan will be reviewed and revised in accordance with the process outlined in Section II of this SWPCP and Schedule A of the permit.

VI. Site Description

The Port owns and operates HIO, which is a general aviation airport. Regular business hours are from 8:00am to 5:00pm. The Port leases property at HIO to many private companies which include Fixed Base Operators (FBOs), car rental companies, flying clubs, a flight school, and support service providers. Tenants with activities classified under the Transportation by Air SIC code 45, 3721 Aircraft and Parts or that have other industrial activities impacting stormwater are Co-permittees on the 1200-Z stormwater permit See Appendix B. The industrial activities at HIO include aircraft storage, airport hangar rental, airport terminal services, aircraft parking, fueling and maintenance. Other tenants have office space with no outdoor activities. Domestic water and sewer service at HIO are provided by the City of Hillsboro. Buildings at HIO are constructed of wood or metal with metal or composition roofs. The topography at HIO is flat, with most pervious areas covered with agricultural grass fields, airfield grass or other landscape. There are seven drainage basins at HIO.

A. Location

HIO comprises approximately 678 acres in Sections 28, 29, and 32, Township 1 North, Range 2 West in the Willamette Meridian (Figure 1). Except for portions of clear zones and small areas of the approach zone protection land lying north of NW Evergreen Road, the airport lies within the incorporated limits of the City of

Hillsboro, Washington County, Oregon. The site is bordered on the south by NE Cornell Road, on the east by NW Brookwood Parkway, on the north by NW Evergreen Street, and on the west by NE 25th Avenue and NE 272nd. There are a few parcels of Port owned land that are adjacent to this boundary, but not within it and not covered under this SWPCP since no industrial activities occur on these properties.

B. Site Map

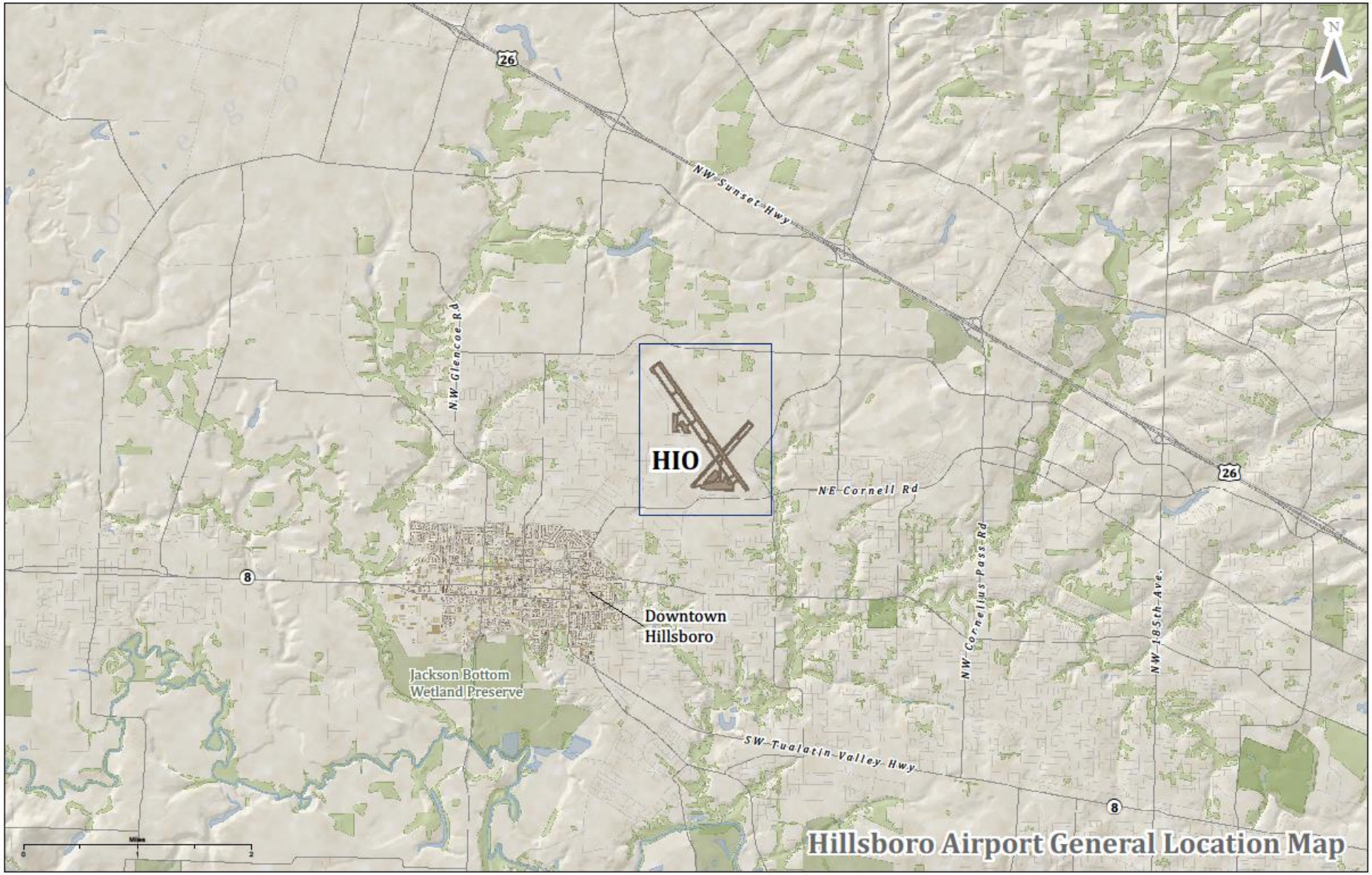
The SWPCP Map for HIO includes the following features:

1) Stormwater drainage patterns
2) Drainage and discharge structures (piping, ditches, etc.)
3) Drainage area for each stormwater outfall
4) Paved areas, equipment, tanks, and buildings within each drainage area
5) Stormwater structure control measures
6) Stormwater features to reduce flow or minimize impervious surfaces
7) Material loading and access areas
8) Used oil, hazardous waste treatment, storage and disposal facilities
9) Location of wells
10) Location of springs, wetlands, and other surface water bodies (only delineated wetlands are shown)
11) Location of non-stormwater discharges
12) Location of sampling points and outfalls
13) Location of spill prevention and cleanup materials

The following are not shown on the map because they are not applicable at HIO:

1) Areas used for outdoor manufacturing, treatment and disposal of significant materials.

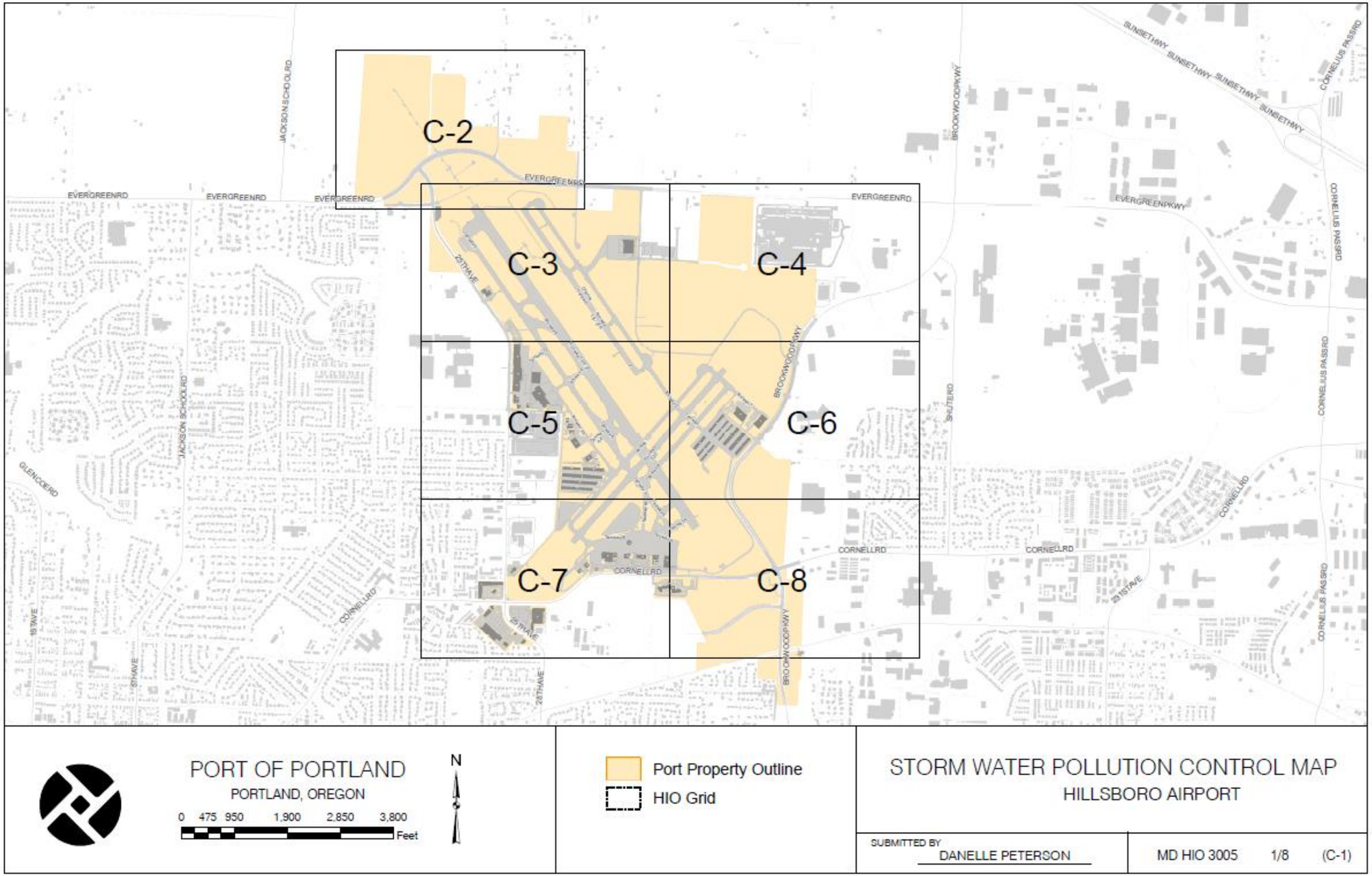
Figure 1 Site Location



C. Drainage Area Descriptions and Impervious Surface

HIO's drainage system is divided into seven drainage areas (see Figure 2). Each drainage area has one major discharge outfall where stormwater leaves HIO property. Detailed descriptions of each area including a summary of the Port's and Co-permittee industrial activities within each basin are provided below. Summary information on each drainage area is provided in Table 1. The total acreage owned by the Port within the 1200-Z permit boundary is approximately 678 acres. The total drainage area discharged through the Port's outfalls is approximately 1,211acres, which includes runoff from areas not owned nor managed by the Port. Examples of areas not owned or managed by the Port include public roadways and privately-owned parcels. The total impervious acreage within the permit boundary is approximately 194 acres or 29% and includes buildings, runways, parking lots, or structures operated or occupied by the Port or its tenants. Table 1 provides a description of each drainage area and identifies the estimated impervious area within the permit boundaries for each drainage area. Note that drainage area estimates are limited to pervious and impervious surfaces within the boundaries of the HIO permit because in some instances the drainage basin boundary extends to areas not owned or controlled by the Port or Co-permittee.

Figure 2 Site Map



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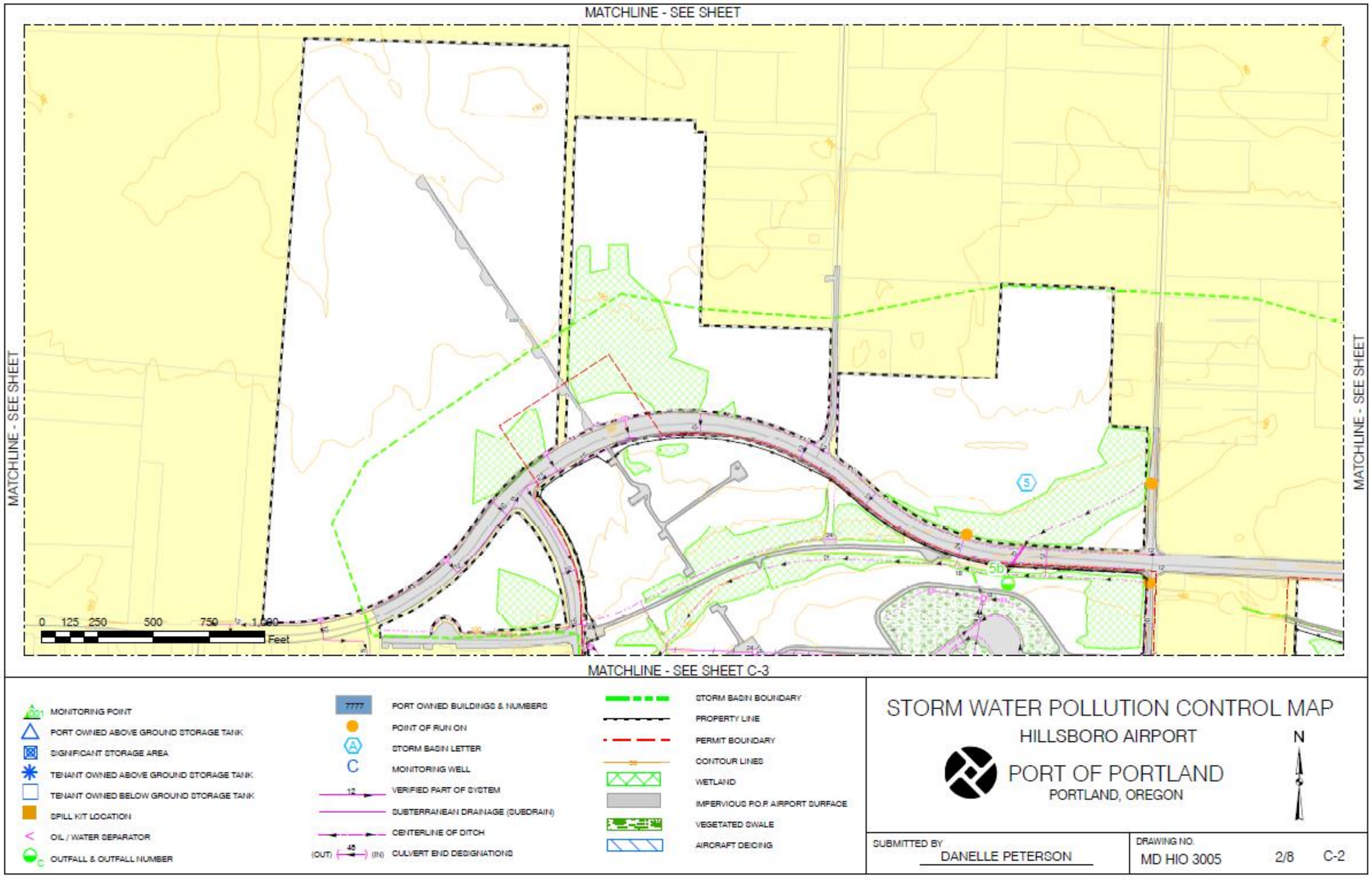

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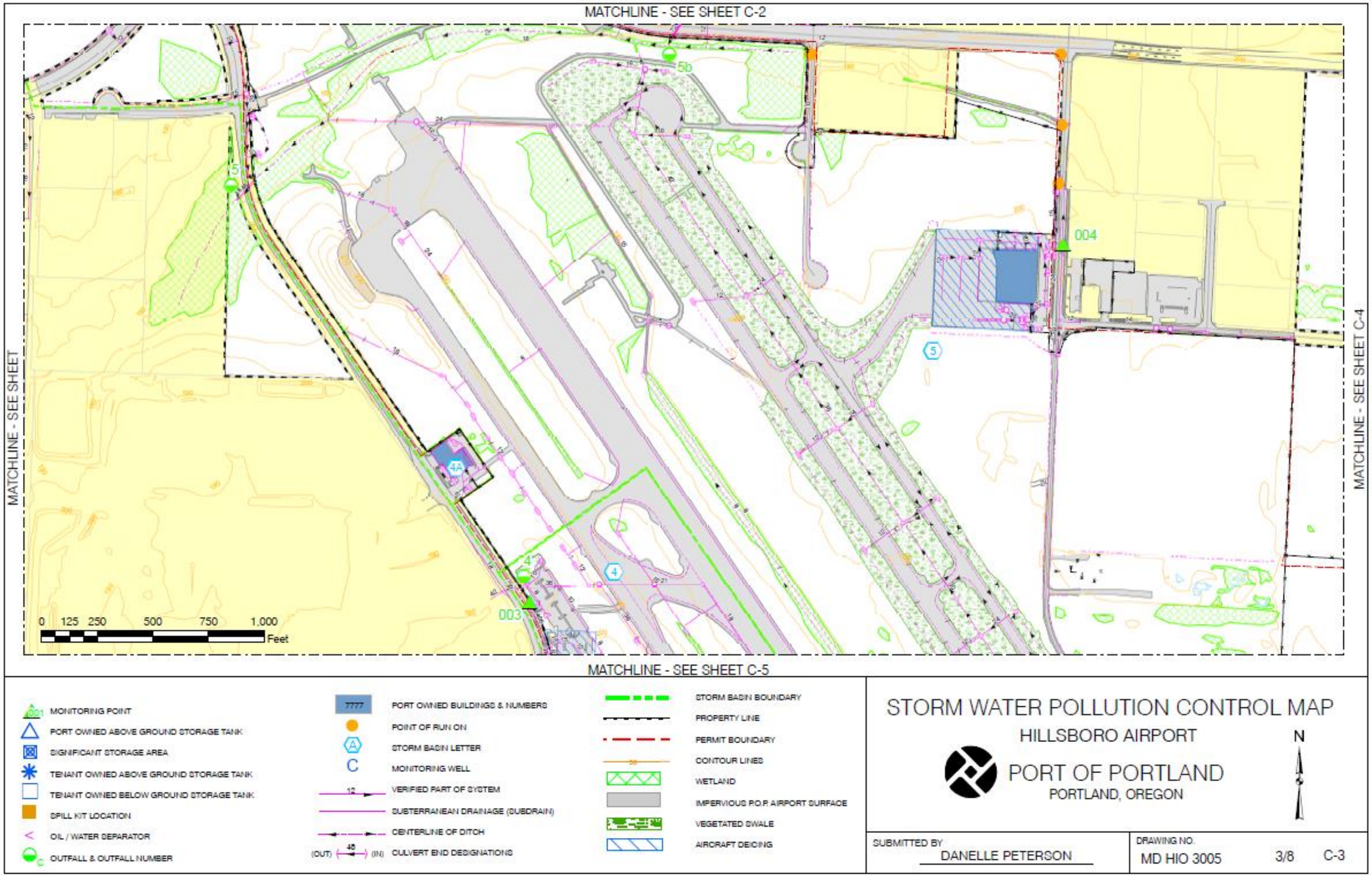

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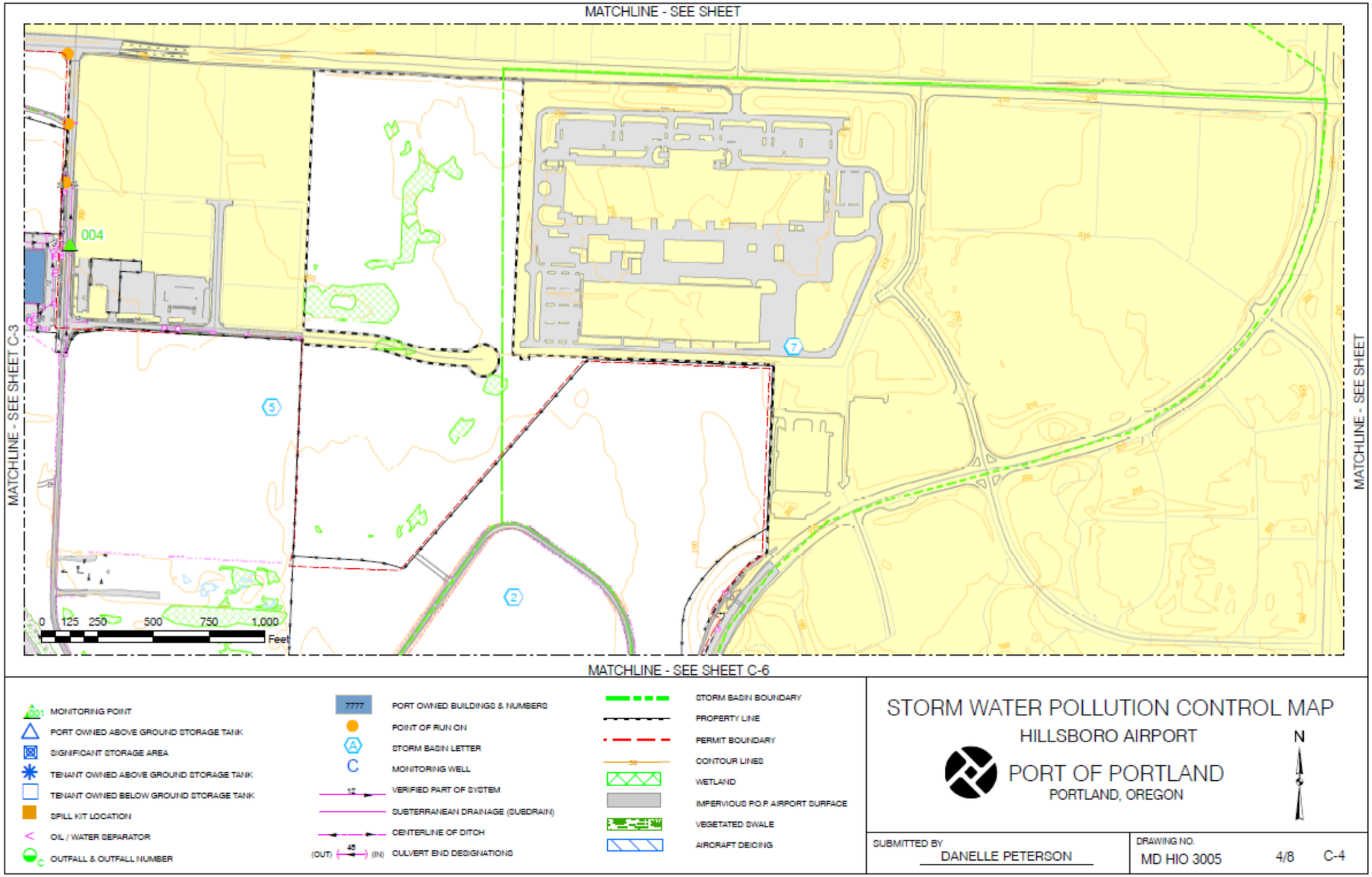

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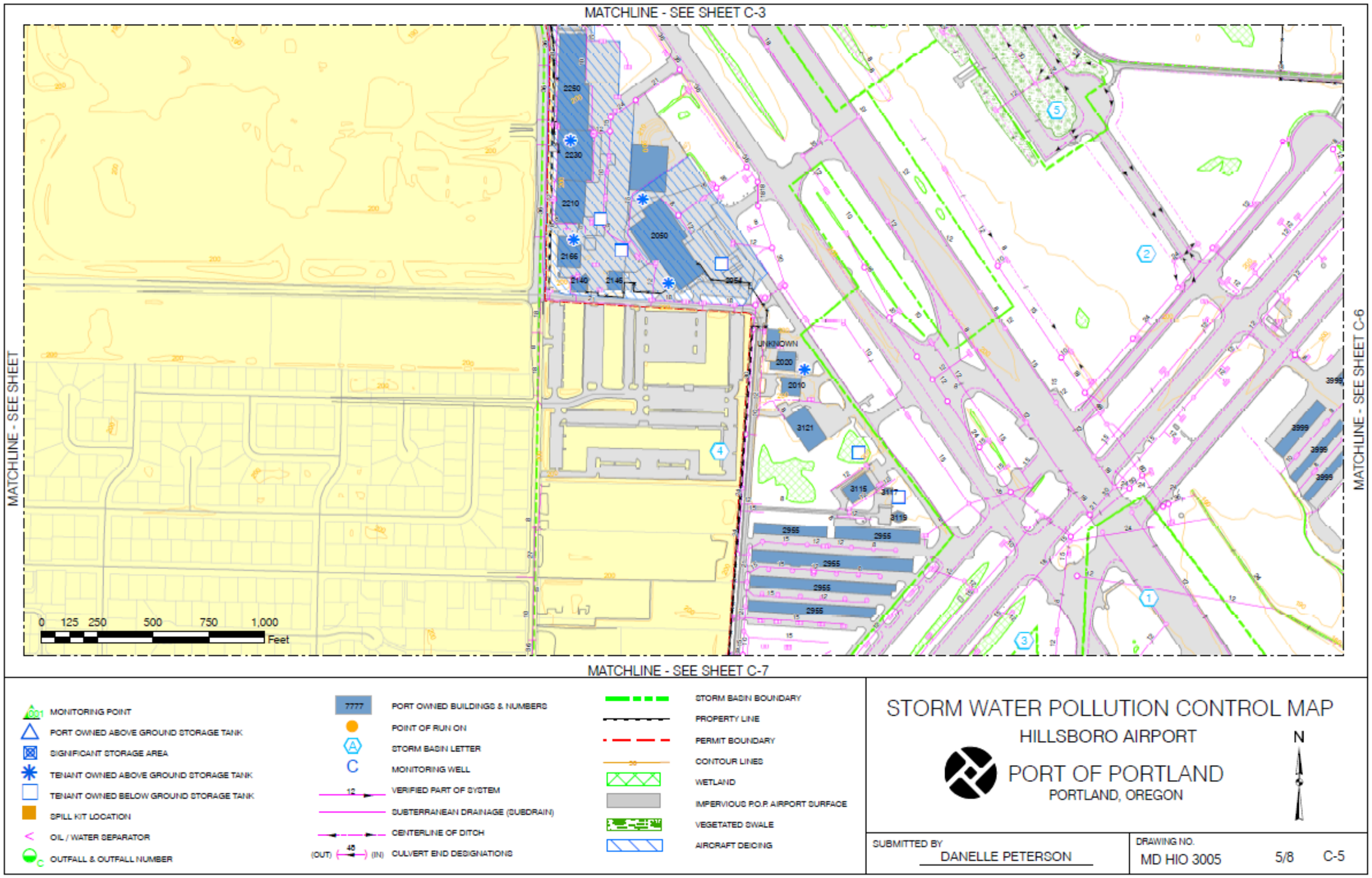

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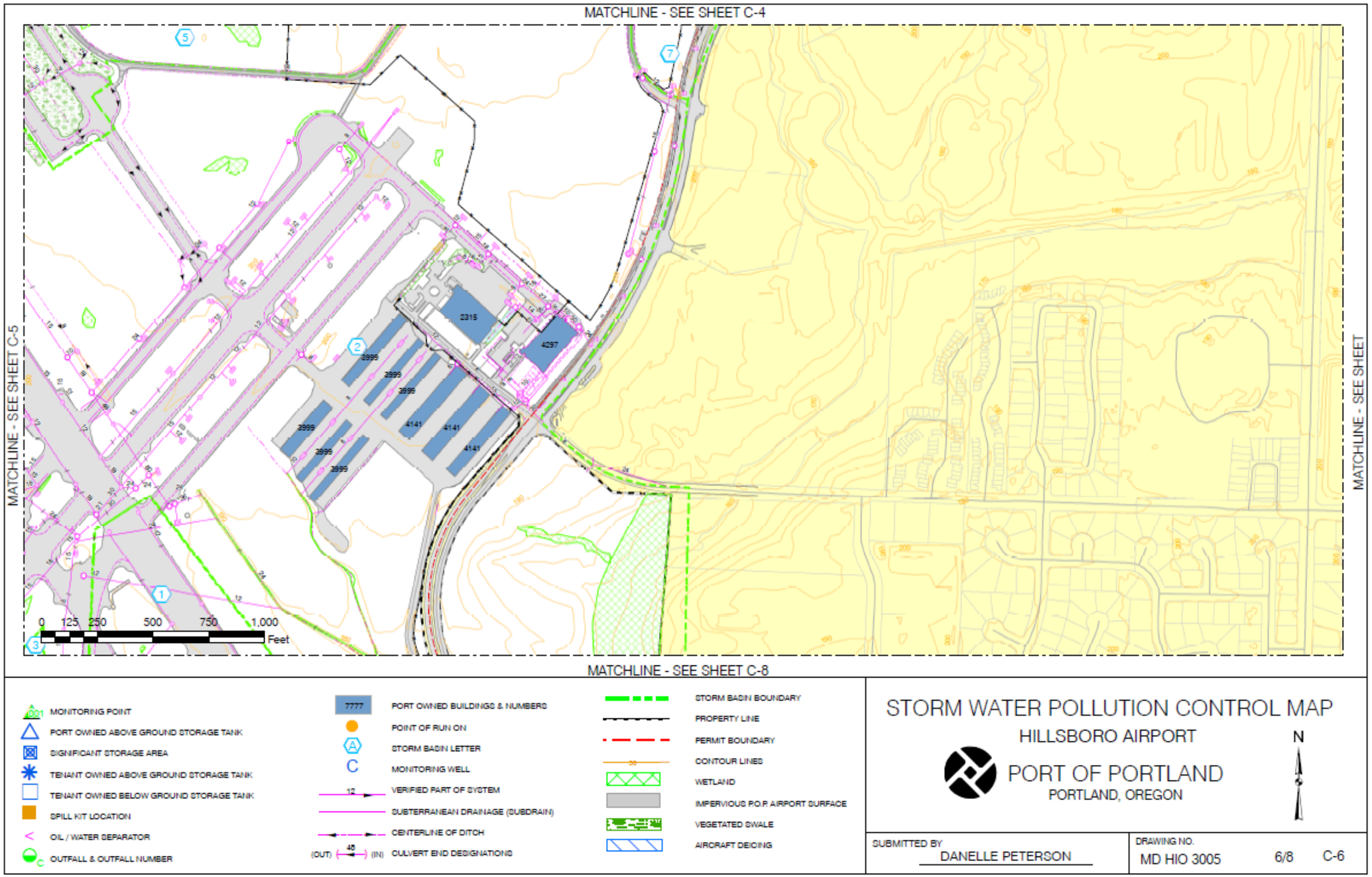

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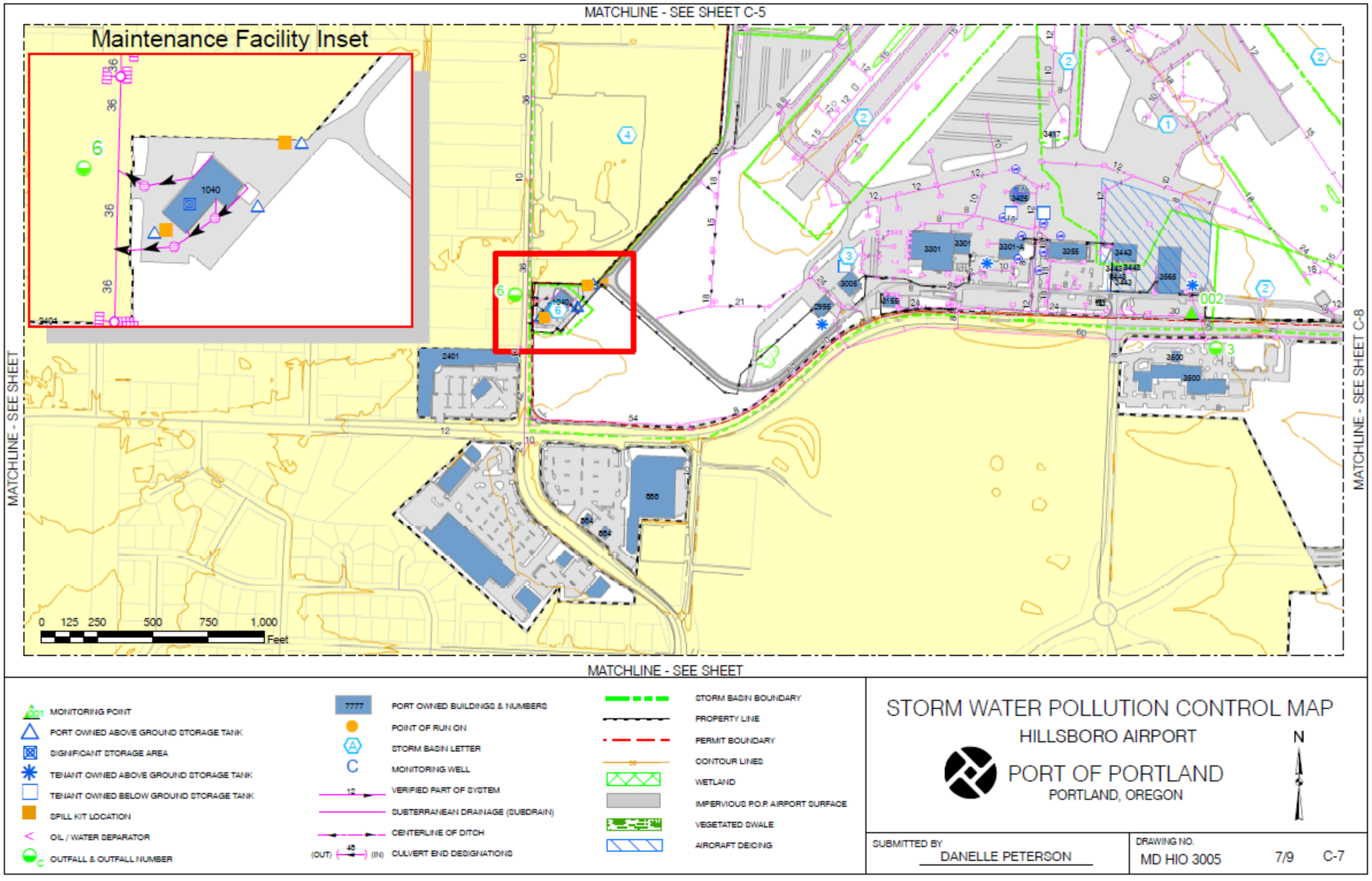

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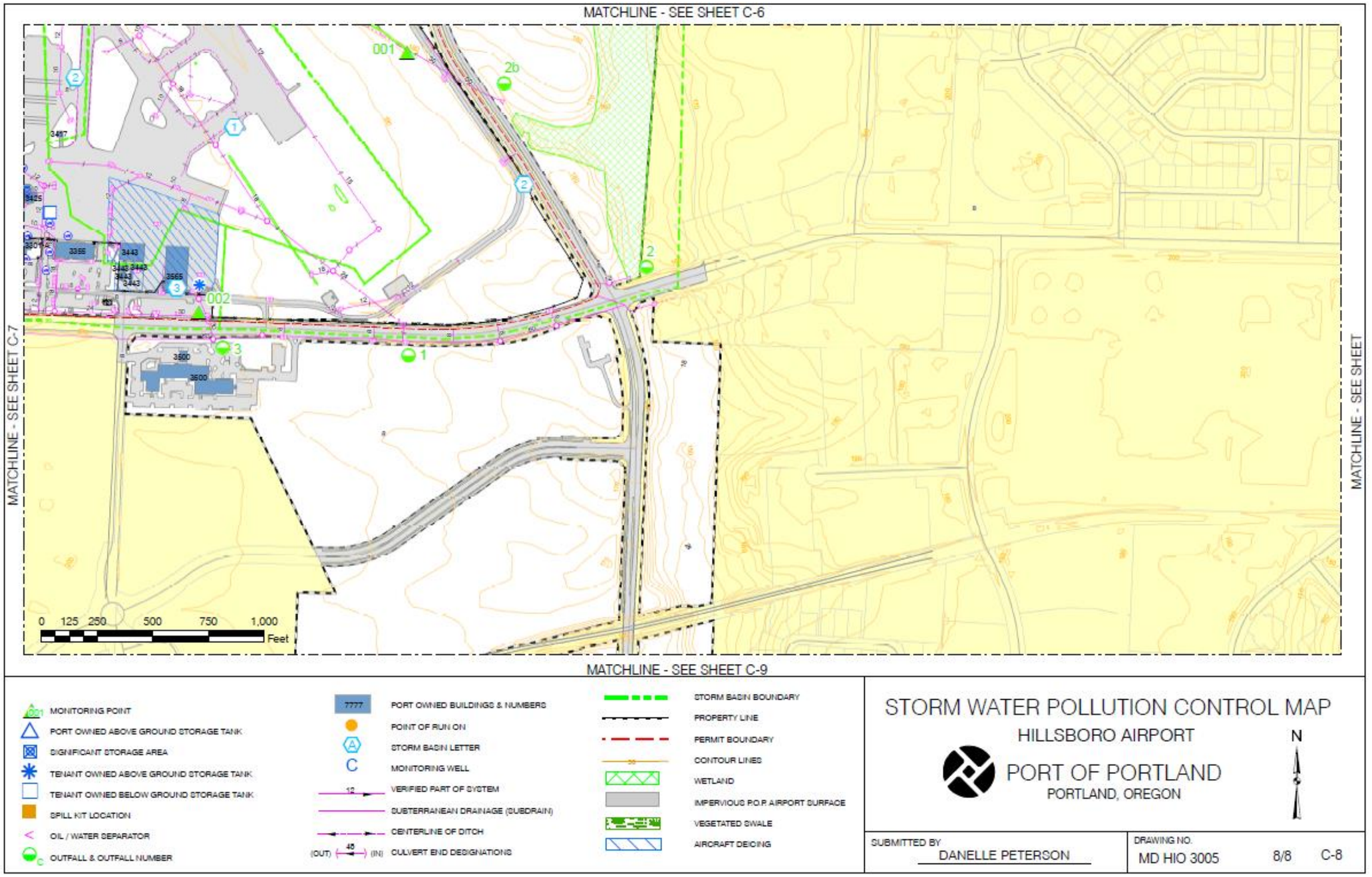

Table 1Drainage Area Summary

Drainage Area	Monitoring Points	Description	Industrial Activities	Potential Pollutants	Drainage Area* (sqft)	Impervious Area* (sqft)
1	NA	Portion of runway 13/31, and its respective taxiways, one of Hillsboro Aviation's buildings, and Hillsboro Aviation's tie-down area. This stormwater runoff discharges via a 21-inch pipe into a 60-inch pipe under Cornell Road approximately 100 feet west of the NE Brookwood Parkway intersection. The water flows east under Cornell Road to Dawson Creek. Dawson Creek discharges to the Tualatin River.	Aircraft fueling, aircraft storage, aircraft taxi, aircraft landing and takeoff.	Petroleum products, antifreeze, hydraulic fluids, pesticides, herbicides, sediments and pavement deicers.	1,622,296	747,681
2	001	Runway 2/20 and a portion of runway 13/31, their respective parallel taxiways, the northeast t-hangars and the Twy F corporate hangars. The major outfall from drainage area 2 discharges via a 30-inch pipe to a pipe under NE Brookwood Parkway, approximately 1200 feet north of the Cornell Road intersection. The stormwater flows south to Cornell Road, and then joins the 60-inch pipe to flow east to Dawson Creek then to the Tualatin River.	Aircraft hangar rentals, aircraft fueling, aircraft storage, aircraft taxi, aircraft landing and takeoff. HIO maintenance sweeper debris containment area and equipment storage.	Petroleum products, antifreeze, hydraulic fluids, pesticides, herbicides, sediments and pavement deicers.	9,749,967	2,621,264
3	002	Terminal building, the businesses located along NE Cornell Road, and aircraft tie downs. Drainage area 3 discharges via a 24-inch pipe into a 60-	Aircraft storage, aircraft support services including aircraft	Petroleum products, antifreeze, hydraulic fluids, pesticides and herbicides, detergents,	2,457,551	1,226,195

Table 1 Drainage Area Summary **Port Owned Property Only*

Drainage Area	Monitoring Points	Description	Industrial Activities	Potential Pollutants	Drainage Area* (sqft)	Impervious Area* (sqft)
		inch pipe under Cornell Road approximately 500 feet east of the intersection of NE 34th Avenue. The stormwater then flows east under Cornell Road to Dawson Creek and then to the Tualatin River.	loading/unloading, fueling, unscheduled aircraft maintenance, equipment parking and maintenance, truck fueling, and parking	sediments, aircraft deicing and anti-icing materials and pavement deicers.		
4	003	Hangars and surrounding areas including associated ramps and tie-down areas, the FAA control tower, and some non-Port property. Drainage area 4 discharges via a 36-inch pipe into a pipe under NE 25th Avenue approximately 500 feet north of the Global Aviation Facility and 3,000 feet south of the NW Evergreen Parkway intersection. The stormwater flows west under NE 25th Avenue to McKay Creek then to the Tualatin River.	Aircraft taxi, aircraft landing and takeoff, aircraft storage, truck fueling, maintenance, and washing, loading docks, parking, landscape maintenance.	Petroleum products, antifreeze, hydraulic fluids, pesticides and herbicides, detergents, sediments, aircraft deicing and anti-icing materials, pavement deicers.	3,448,636	2,039,094
5	004	Northeast end of Runways 13/31, Taxiway D, undeveloped properties on both sides of NE 30th Avenue, and the undeveloped area adjacent to Evergreen Road and NE Sewell Avenue. The drainage discharges via a 24-inch pipe and ditch to an unnamed tributary to McKay Creek approximately 500 feet east of where the tributary crosses NE	Aircraft taxi, aircraft landing and takeoff, aircraft storage, aircraft support services including aircraft loading/unloading, fueling,	Petroleum products, antifreeze, hydraulic fluids, pesticides and herbicides, detergents, sediments, aircraft deicing and anti-icing materials and pavement deicers.	10,968,848	1785131

Table 1 Drainage Area Summary **Port Owned Property Only*

Drainage Area	Monitoring Points	Description	Industrial Activities	Potential Pollutants	Drainage Area* (sqft)	Impervious Area* (sqft)
		25th. McKay Creek discharges into the Tualatin River. Sub-basin 5A, which drains a portion of Taxiway A, also flows to McKay Creek via a 24-inch pipe and ditch located on NE 25th Avenue. The Hillsboro Aviation facility discharges stormwater into the roadway ditch on NE 30th Avenue.	unscheduled aircraft maintenance, equipment parking and maintenance, truck fueling, and parking			
6	NA	Port maintenance compound. It discharges via two 4-inch pipes into a 36-inch pipe under NE 25th Avenue approximately 500 feet north of the intersection with Cornell Road. The stormwater flows south to a 54-inch pipe under Cornell Road where it then heads east under Cornell Road to Dawson Creek. Dawson Creek discharges to the Tualatin River.	Vehicle maintenance and storage. Fuel truck transfers, fuel storage, used oil storage, material storage, landscape maintenance and pavement deicing.	Petroleum products, antifreeze, hydraulic fluids, pesticides and herbicides, detergents, sediments and pavement deicing.	47,126	32,917
7	NA	Undeveloped property adjacent to Brookwood Pkwy and north east of runway 2/20.	No industrial activities.	No pollutants associated with industrial activity.	1,245,846	0.00

D. Receiving Waters

The airport lies on high ground between two watersheds. McKay Creek drains the northerly and westerly portions of the site. Dawson Creek serves the southern and eastern portions of the site. Drainage basin 6 drains into the City of Hillsboro's storm sewer system. Both creeks and the City of Hillsboro's storm sewer system are part of the Tualatin River watershed.

E. Outfalls and Monitoring Locations (Table 3)

Consistent with the United States Environmental Protection Agency (EPA) and DEQ requirements, stormwater discharge from site areas not associated with industrial activity are not subject to monitoring requirements. For example, office buildings and parking lots are not regulated activities and are therefore not subject to monitoring requirements. Outfalls of drainage areas with industrial activities exposed to stormwater are monitored consistent with 1200-Z permit requirements.

Stormwater at HIO is currently discharged from seven major outfall points corresponding to drainage areas 1, 2, 3, 4, 5, 6 and 7 are identified in Figure 2. Runoff collected from drainage areas 2, 3, 4 and 5 is representative of the runoff quality from all industrial activities conducted by the Port and its tenants at the airport (i.e., the runoff water quality from landscaping, aircraft and vehicle refueling, aircraft and vehicle maintenance, equipment repair and maintenance). Drainage areas 2, 3, 4 and 5 have the following monitoring points 001, 002, 003, and 004 respectively. Drainage areas 1 and 6 have similar industrial activities to drainage areas 2, 3, and 4 and the discharge is expected to be similar in composition; therefore, stormwater runoff from these drainage basins is not monitored in accordance with Schedule B.1.c of the 1200-Z Permit. Most of drainage area 5 is undeveloped; the discharge from the undeveloped area is visually inspected each month at monitoring location 4. Drainage area 7 contains no industrial activities therefore stormwater samples are not collected from this basin.

Stormwater discharged from the designated monitoring locations is visually monitored monthly and sampled for water quality four times each year. All monitoring points are visually monitored monthly for color, clarity, floating solids, odor and oil and grease sheen. A sample inspection form is included in Appendix D.

Sampling of the monitoring points is conducted four times per fiscal year. Two samples are taken prior to December 31 and two samples are taken after that date. Sampling events must be at least 14 calendar days apart and during the first 12 hours of the discharge event. All samples are analyzed for the constituents listed in Schedule B of the permit. The monitored parameters are summarized in Table 2. Monitoring waivers may be requested for eligible parameters per schedule B.4 of the permit.

Table 2 1200-Z Permit Monitoring Requirements

Parameter	Frequency	Permit Benchmarks
Total Copper	Four times per calendar year	0.020 mg/L
Total Lead	Four times per calendar year	0.015 mg/L
Total Zinc	Four times per calendar year	0.12 mg/L
pH	Four times per calendar year	5.5 - 9.0 S.U.
Total Suspended Solids	Four times per calendar year	100 mg/L
Oil and Grease	Four times per calendar year	10 mg/L

Table 3 Outfalls and Monitoring Locations

Basin	Monitoring Location	Monitoring Point	Comments
1	No	NA	Industrial activities and BMPs do not differ from basins 2, 3 and 4. Primarily runways, taxiways, and vegetated fields. See Table 1.
2	Yes	001	
3	Yes	002	
4	Yes	003	
5	Yes	004	Hillsboro Aviation sub-basin.
6	No	NA	Industrial activities and BMPs do not differ from basins 2, 3 and 4. See Table 1.
7	No	NA	No industrial activities.

The Port submits discharge monitoring reports to Clean Water Services, DEQ authorized agent quarterly, November 15, February 15, May 15, and August 15. All records are retained for a minimum of 5 years by the Port at the Administrative Offices at 7200 NE Airport Way Portland, OR 97218 per Schedule B Reporting and Recordkeeping Requirements. The annual report is sent to:

Source Control Division
Clean Water Services
2550 SW Hillsboro Highway
Hillsboro, OR 97123-9379

VII. Industrial Activities and Potential Pollutants

All industrial activities that require permit coverage at HIO are aviation related. Port industrial activities include equipment maintenance, equipment fueling and equipment washing. Tenant activities include aircraft and equipment maintenance, deicing, washing and fueling. These

activities are described in greater detail in the sections that follow. ***There are no known historically significant materials from previous operations on the site.***

A. Airport Maintenance Facility (Port)

The HIO maintenance facility is located on the airport's west perimeter road off NE 25th Avenue. The maintenance facility has an office area and a vehicle and equipment maintenance garage. Maintenance activities conducted by Port maintenance staff or Port contractors include asphalt repair and maintenance, painting, mowing, and other miscellaneous landscaping operations. Equipment and vehicle repair are conducted inside the maintenance garage. Most significant materials that may contaminate runoff are stored indoors and are not exposed to stormwater; however, diesel fuel is stored outdoors in a 500-gallon double-walled Above Ground Storage Tank (AST) and there are two 280-gallon double-walled ASTs that store used oil.

B. Vehicle and Equipment Refueling (Port)

The Port maintains one 500-gallon double-walled diesel AST for maintenance vehicle and equipment refueling. The tank is located on the south side of the maintenance shop and located in a secured area to restrict access. There is a catch basin adjacent to the fuel tank.

C. Storage of Significant Materials (Port)

Significant materials that may contaminate runoff are stored indoors and are not exposed to stormwater; however, diesel fuel is stored outdoors in a 500-gallon double-walled AST. The Port provides used oil collection for the airfield tenants in two 280-gallon double-walled ASTs located just north and west of the maintenance facility. Significant materials stored indoors include used oil, lubricants, solvents, paints, pesticides and herbicides. Vehicle maintenance conducted at the HIO facility includes routine oil changes and equipment repair. The used oil generated from these activities is stored in a 1,500 gallon above ground storage tank inside the maintenance shop. Used oil from the two 280-gallon tanks is transferred into the 1,500-gallon indoor AST about once per year.

D. Equipment Washing (Port)

Port maintenance staff uses a designated area located adjacent to the HIO maintenance shop for rinsing equipment, such as mowers. Runoff from the rinsing area drains to land. This is also a de minimis activity allowed without a wash water permit. Potential pollutants of concern from rinsing of equipment include metals, oil and grease. The Port's pavement sweeper, which is used to remove Foreign Objects and Debris (FOD) from the airfield, is rinsed in a designated area. The designated grassy area does not drain to the stormwater system. The sweeper is used only on the runways and taxiways with grass, rocks, and other debris representing the majority of the solids collected in the sweeper. The solids are disposed of at an appropriate landfill.

E. Aircraft and Equipment Washing (Tenant)

Port policy prohibits the discharge of wash water into the stormwater drainage system. Various practices are acceptable under the Port policy; they include collection of the wash water for

discharge to the sanitary system, or the use of wash facilities that drain to the sanitary sewer. Facilities with wash facilities that drain to the sanitary sewer are operated by Premier Jets, Global Aviation, Hillsboro Aero Academy and Hillsboro Aviation.

F. Aircraft and Equipment Fueling (Tenant)

Tenants at HIO own and operate storage tanks, both ASTs and Underground Storage Tanks (USTs), for the fueling of their mobile fuel trucks and aircraft and storing used oil. The fueling operations and storage of petroleum products have the potential to impact stormwater. Significant materials stored and transferred are Jet-A, aviation gasoline (100LL), unleaded gasoline, and diesel fuel. The fuel is pumped from the UST or AST into a mobile fuel truck or directly to aircraft. All fuel transfers are performed on an impervious surface. Each Mobile Storage Tank (MST) is required to carry a spill kit and each AST or UST location is required to have a spill kit associated with it. Co-permittees are required to develop and implement their own spill plans. Potential pollutants of concern associated with this activity include Jet-A, aviation gasoline (100LL), unleaded gasoline, and diesel fuel.

G. Aircraft and Equipment Maintenance (Tenant)

Commercial and private aircraft maintenance is conducted at HIO by Co-permittees listed in Appendix B. The maintenance activities generally take place inside the buildings. Private aircraft may have minimal maintenance conducted on the ramps. The significant materials associated with these activities include oil, used oil, solvents, brake fluid, hydraulic fluid, grease, and fuel. Most of these materials are stored indoors and should have no contact with stormwater. A portion of tenant used oil is collected in two 280-gallon ASTs located outdoors. Used oil, hydraulic fluid and brake fluid are required to be recycled or disposed of properly. Spent solvents are required to be collected and disposed of appropriately. Potential pollutants of concern associated with this activity include used oil and other lubricants.

H. Aircraft Manufacturing (Tenant)

Commercial and private aircraft manufacturing is conducted at HIO by various tenants. The manufacturing activities are conducted inside. The significant materials associated with these activities include solvents, paint, thinners, lubricants, oil, hydraulic fluid, and brake fluid. All the chemicals are stored indoors and should have no contact with stormwater. Used oil may be stored in collection tanks equipped with secondary containment, which are located outdoors. Used oil is a potential pollutant of concern.

I. Storage of Significant Materials (Tenant)

Significant materials that may contaminate runoff are generally stored indoors and are not exposed to stormwater; however, fuels, including jet fuels, aviation gasoline, and gasoline and diesel fuel are stored outdoors in ASTs, USTs, and MSTs. Used oil collected from tenants is stored outdoors in two 280-gallon ASTs. Significant materials stored indoors include oils, lubricants, solvents, cleaning chemicals, paints, pesticides and herbicides. ***There are no known historically significant materials from previous operations on the site***

J. Aircraft and Pavement Deicing and Anti-icing (Tenant and Port)
Chemical from anti-icing and deicing pavement and aircraft activities have the potential to impact stormwater. When weather conditions warrant, Port maintenance may apply pavement deicer to runways and taxiways to remove snow and ice. The following Co-permittees may deice aircraft and pavement within their leased areas; Premier Jets, Global Aviation, Aero Air ADI and Hillsboro Aviation. Appendix F lists BMPs for managing stormwater runoff from deicing and anti-icing activities.

VIII. SITE CONTROLS

Table 4 Industrial Activity and Corresponding Site Controls

Port and Tenant Industrial Activities	Site Controls
Fueling of aircraft and equipment	Implement spill response procedures, spill prevention education and awareness; spill response equipment, preventative maintenance; maintain secondary containment; maintain oil booms at the outfall in basin 2.
Storage of significant materials (fuel, oils, and lubricants, paint, thinner, antifreeze, solvents, pesticides, herbicides)	Covered and indoor material storage areas, visual inspections including tank and container integrity.
Washing of equipment and aircraft	Use a wash facility that drains to the sanitary sewer system or wash in an area that does not drain to the stormwater system. The Port has implemented policy and procedures to minimize the impact to the storm system from washing activities.
Aircraft and pavement deicing	Follow Deicing BMPs outlined in Appendix F.
Construction	Implement erosion control plan, comply with the applicable construction permit 1200-CA, 1200-C or 1200-CN, as well as the City of Hillsboro and CWS requirements for construction and the Port's construction contract specifications.
Aircraft and equipment maintenance	Materials are stored indoors; work conducted indoors; perform visual inspections; dispose and manage waste appropriately.

A. Stormwater Best Management Practices (BMPs)
Minimizing Exposure and Containment
Chemical drums, fuel tanks and used oil stored out of doors and exposed to stormwater are required to be secondarily contained and if possible covered to prevent leaks and spills from entering stormwater runoff.

The Port stores chemicals, lubricants and used oil inside the HIO maintenance shop. Chemicals are labeled and stored in one of four areas within the shop. Flammable chemicals are stored in fire-resistant cabinets.

The Port's 500-gallon diesel fuel AST is double-walled for secondary containment. A spill kit, and spill stopper mat are located immediately next to the tank. Additional spill equipment is stored inside the maintenance facility. The tank and pump are inspected monthly for integrity, spills, and leaks. The inspections are documented on the monthly industrial stormwater inspection form.

Minimizing Exposure and Oil and Grease
Existing control measures include both source control and structural/treatment BMPs. The source control BMPs consist of spill prevention and control measures. Co-permittees conduct vehicle and equipment maintenance indoors when possible to eliminate stormwater exposure to pollutants from these activities. When feasible, Co-permittees use drip pans or other means of collection, when conducting maintenance outdoors, to minimize the oil and grease dripped onto paved surfaces. Structural controls include catch basins designed to capture oil and grease. The invert discharge pipe in these catch basins helps to minimize oil and grease that enters the stormwater system. Catch basins located in industrial areas are inspected by the responsible Co-permittee and are cleaned on an as needed basis. Some Co-permittees may be responsible for the cleaning and maintenance of the catch basins on their leaseholds. Responsibilities are outlined in each tenants' individual lease agreement. Preventative maintenance performed by the Port is documented on the General Aviation Preventative Maintenance tracking sheet (Appendix G). Other structural/treatment control BMPs include oil/water separators (tenant) and absorbent booms placed in drainage ditches at HIO. Two 280 gallon used oil tanks are kept on the north and west side of the facility. The used oil tanks are doubled-walled and sit in a containment system that requires stormwater to run through oil booms before draining out of the containment to the surface below.

Waste Chemical Storage and Disposal
Waste generated at HIO complies with RCRA, DEQ, METRO, and City of Hillsboro waste and recycling regulations. HIO has a Conditional Exempt Generator (CEG) status for RCRA wastes. Waste and recycling generated from the HIO maintenance facility are closely tracked and are on regular pick-up schedules. Table 5 summarizes the minimum pick-up frequency for each material generated at HIO.

Materials such as used oil and solvents are stored indoors when possible and disposed of or recycled off-site.

Table 5 Waste and Recycling Collection Pick-up Schedule

Waste Material	Minimum Pick-up Frequency
Metals	Annually
Solid Waste	Weekly
Co-mingled Recycling	Weekly

Wood/Landscaping	As generated, not stored on-site
Used Oil	Annually

Erosion and Sediment Control
Port personnel implement the 1200-CA Permit requirements and any applicable local agency rules and regulations related to construction activity. Port and tenant construction activities that disturb more than one acre are subject to stringent controls, including development and implementation of erosion control plans. Port engineers develop the erosion control plans for Port construction projects. Tenants are required to obtain and comply with 1200-C or 1200-CN permits when applicable.

Dust and Debris Control
The facility catch basins prevent a large portion of the debris in the storm runoff from entering the storm system. The catch basins are cleaned of debris on an as needed basis to ensure they are working appropriately. Grassy swales and vegetated filter strips are also used to reduce the amount of debris in stormwater discharges.

The Port periodically sweeps pavements, which reduces the debris and sediment entering the storm drains. The material collected is profiled and stored in a designated area until it can be disposed of at a landfill. This area is isolated from stormwater catch basins and inlets.

Minimizing Exposure, Covering of Potential Contaminated Sources
Vehicle and aircraft maintenance activities are generally conducted indoors. Maintenance of vehicles and equipment is conducted indoors by the Port at its maintenance facility. Co-permittees also conduct various maintenance activities in their respective hangars and shops. Co-permittee activities conducted indoors include aircraft and vehicle maintenance, aircraft manufacturing, aircraft parts manufacturing, aircraft painting and other miscellaneous activities. Conducting these activities indoors and storing the associated chemicals indoors effectively reduces the exposures/contact of potential pollutants to stormwater runoff.

Housekeeping
Areas that potentially contribute to pollutants in stormwater are kept clean. Under the terms of their leases, tenants are responsible for their leasehold areas. The Port is responsible for non-leased and common use areas. Prompt cleanup of spills and leaks are the responsibility of the responsible party regardless of the location.

B. Spill Prevention and Response Procedures

Under Schedule A.2.b.ii of the 1200-Z Permit, the Port and Co-permittees are each required to prepare and implement a Spill Plan applicable to their operations. Spill plans required by other regulations may be substituted for this provision providing that stormwater management concerns are adequately addressed. Tenants who are not Co-permittees are required to prepare a spill plan under the terms of their leases. Tenants are responsible for activities performed on their leasehold including their contractor's actions, equipment, and materials.

The spill plan must include methods to prevent spills along with cleanup, regulatory agency, and Port notification procedures. The required cleanup materials and equipment shall be kept on-site; this equipment, at a minimum, will consist of absorbent booms, absorbent material, storm drain covers, and appropriate personal protective equipment. All tenants are also required to promptly cleanup spills and to notify the Port if there are any releases to the environment. The Port and Co-permittees will report illicit discharges, not reportable to Oregon Emergency Response System (OERS) and the National Resource Center

The Port's Spill Plan is reviewed with all Port employees at HIO upon initial hire and annually thereafter. The spill training includes spill response procedures, spill equipment locations and emergency contact lists. Co-permittees are responsible for training their personnel regarding their facility's spill plan.

Hazardous Materials Spill Prevention and Spill Response Guidelines for Hillsboro Airport tenants have been developed by Port staff. However, the Port plan does not meet all the Co-permittee requirements for a spill plan and is not intended to replace the Co-permittee's operation-specific spill plan. The Spill Response Guidelines outline the basic reporting procedures and the immediate actions that should be taken to contain and cleanup a spill. A copy of these guidelines has been provided to all Co-permittees and additional copies are available from the Port's Environmental Department.

Tenants who own or operate above ground petroleum storage tanks may be required to prepare an SPCC plan under the federal Oil Pollution Prevention Regulation (40 Code of Federal Regulations Part 112) to address spill prevention to navigable waters of the United States. Tenants who trigger SPCC plan requirements will also trigger stormwater permitting requirements, and thus, will also need to be a Co-permittee on the 1200-Z Permit. It is the responsibility of tenants who own and operate storage tanks to assess their operations and determine if an SPCC plan is required. More information may be obtained at the EPA website www.epa.gov. Regulations allow the spill plan and SPCC plan to be combined into a single document. Tenants and Co-permittees are also responsible for compliance with any SPCC plan requirements applicable to their operations.

C. Preventative Maintenance and Inspections

The Port is responsible for conducting inspections of common use and non-leased areas. Co-permittees are responsible for conducting and documenting monthly inspections of activities on their leasehold, maintaining records on-site, and for performing preventative maintenance. Monthly inspections of the following are the responsibility of each Co-permittee:

- Areas with the potential for spills of significant materials;
- Areas with industrial activities including outdoor storage and maintenance areas;
- Stationary and mobile fueling equipment including tanks, nozzles, and associated secondary containment structures; and
- Stormwater control structures such as catch basins, oil/water separators, and swales.

Immediate maintenance and/or corrective action must be performed to correct any issues identified during the inspection relative to housekeeping, spills, staining, leaks, drips, structural integrity, or needed repairs to prevent the discharge of pollutants to stormwater.
Port personnel conduct monthly visual inspections of outfalls, conveyance ditches, and storage tanks. The Hillsboro airport has 409 stormwater inlets. Only those catch basins in industrial areas with the potential for spills or releases of significant materials are also inspected monthly and cleaned as needed. Other maintenance or cleaning of stormwater controls or material storage areas is conducted on an as needed basis. Port preventative maintenance records are kept in the Environmental Department office at 7200 NE Airport Way, Portland, OR 97218. Table 6 summarizes the Port's preventative maintenance responsibilities.

Table 6 Port Preventative Maintenance, Cleaning and Inspection

Site Control/BMP	Locations	Cleaning Frequency	Visual Inspection
Ditches and Vegetated Swales	Basin 2, 4, and 5	Annually	The swale in basin 2 area inspected monthly
Oil Boom	Basin 2	Annually or more frequently if needed	Monthly
Water Quality Manholes and Vaults	Basins 2 and 3	Annually if needed	Annually
Catch Basin Filters	HIO MX Facility	Annually or as needed	Monthly
Sweeping	Taxiways, Runways and Terminal Ramp Area	Annually or as needed	Daily
Catch Basins[1]	HIO MX Facility & Terminal Ramp	As needed	Monthly

Notes: 1. Only catch basins in Only those catch basins in industrial areas with the potential for spills or releases of significant materials are also inspected monthly and cleaned as needed.

D. Employee Education

The Port provides stormwater training to the General Aviation staff at Hillsboro Airport within thirty days of the time of initial hire, and annually thereafter. Annual training typically occurs during the winter months. The Port's training program addresses best management practices and spill prevention and response procedures. The training program also provides training to consultants responsible for stormwater sampling and reporting, and covers documentation requirements, inspection procedures, and the appropriate follow up to stormwater issues.

Co-permittees are responsible for training their employees. Each Co-permittee is required to develop an employee orientation and education program that informs personnel of the components and goals of the SWPCP.

Employee training must be documented, and records kept on file for a minimum of three years by each Co-permittee and must be available for review during business hours by the Port, Clean Water Services, or DEQ staff. All Port training records are filed in the Environmental Department office at Portland International Airport.

E. Non-Stormwater Discharges

Port has developed an illicit detection and elimination program for all unauthorized non-stormwater discharges for its facilities (Appendix C). The Port will eliminate any unauthorized non-stormwater discharges if detected during routine industrial area inspections, annual dry weather field screening or upon discovering evidence of an illicit discharge in non-industrial areas anywhere on Port property. Dry weather field screening will be conducted annually in the summer months.
The Port may occasionally have the following authorized non-stormwater discharges:

- Routine external building wash-down after pavements are swept and meet permit requirements
- Landscape watering
- Pavement wash down
- Uncontaminated spring water or groundwater

Drainage ditches, swales and sub-drains may convey uncontaminated spring water or groundwater into the Port's storm system throughout the year. Sub-drains are located under the taxiways and runways to protect the integrity of the infrastructure. All buildings on Port property could potentially be washed down. Landscape watering takes place in landscaped areas around buildings. All impervious surfaces could potentially be washed down. These areas are shown in Figure 2.

IX. Schedule E Sector Specific Requirements

The primary industrial activity at HIO is classified under Transportation by Air SIC 4512-4581 and co-located industrial activities include Aircraft and Parts SIC code 3721. The Transportation by Air classification requires compliance with additional technology-based effluent limits in Schedule E Sector S Air Transportation Facilities of the 1200-Z Permit. There are no additional technology-based effluent limits for Aircraft and Parts as defined in Schedule D and in *Table E-1. Sectors of Industrial Activity with Sector Specific Requirements* within the Hillsboro Airport permit boundary.

A. Sector S Air Transportation

Good Housekeeping Measures E.S.1.1.1 through E.S.1.1.5 and Additional SWPCP requirements E.S.2.1 through E.S.2.3 are addressed under VII. Site Controls. Sections E.S.1.1.6 through E.S.1.2, E.S.2.4 and E.S.3 apply to deicing and anti-icing activities. Deicing and anti-icing operations BMP and site controls are listed in Appendix F.

X. Recordkeeping

Stormwater program records are maintained by the Port, Port contractors, or Co-permittees. These documents are kept a minimum of three years with the SWPCP or at the locations identified below. Each Co-permittee is responsible for complying with permit recordkeeping requirements pertinent to their operations.

Table 7 Recordkeeping Forms

Record of:	Location
Fuel spills	HIO Maintenance office Tenant Facilities* PDX Environmental Department office
Vehicle and equipment maintenance	PDX AVANTIS System Co-permittee Facilities
Preventative maintenance	HIO Airport Maintenance PDX Environmental Department office
Industrial area inspections	PDX Environmental Department office Co-permittee Facilities
Outfall inspections	PDX Environmental Department office
Stormwater employee training records	PDX Environmental Department office

*Documentation of spills applies to all tenants

XI. Underground Injection Control Rules and Regulations

The Oregon Administrative Rules (OAR) 340-044-0050 regulate the discharge of waste disposal, including stormwater discharges, into disposal wells (dry wells, seepage pits, septic tanks). The 1200-Z Permit requires that all permittees comply with these regulations. There are no known underground injection systems in operation at Hillsboro.

Appendix A

1200-Z Permit

Clean Water Services

October 24, 2018

Vince Granato
PO Box 3529
Portland, OR 97208

Re: Monitoring Requirements for 2017-2022 NPDES Permit Number 1200-Z
Facility: Port of Portland - Hillsboro Airport, 2315 NE Brookwood Parkway
File Number: S 107009

Dear Vince,

The Oregon Department of Environmental Quality has reissued the August 1, 2017, 1200-Z industrial stormwater general permit upon reconsideration. Enclosed is a revised monitoring requirements table based on the settlement terms. Changes to monitoring requirements do not affect monitoring waiver approvals or your previously stated Tier II evaluation year. The monitoring year still extends from July 1 to June 30, with two distinct sampling time frames: July 1 through December 31 and January 1 through June 30.

It is your responsibility to take all necessary steps to comply with conditions established in the permit to help protect Oregon's waterways. The permit that was reissued in October 2018 and technical assistance materials are posted on DEQ's industrial stormwater website:

https://www.oregon.gov/deq/wq/wqpermits/Pages/Stormwater-Industrial.aspx.

A summary of changes is included in this mailing. Please print the permit from DEQ's website and read all documents carefully. This reissued permit and updated monitoring requirements replace any permit and monitoring requirements you have previously received. Please note the monitoring frequencies have increased and Discharge Monitoring Reports (DMRs) are now due quarterly.

If you have any questions about this permit, please contact me:

Sincerely,

Joy Ramirez
Clean Water Services
Source Control Investigator
RamirezJ@CleanWaterServices.org
503.681.5147

Cc: File
Enclosure: Summary of Changes

Facility: Port of Portland - Hillsboro Airport at 2315 NE Brookwood Parkway
File Number: S 107009

Monitoring Updates: Total Zinc regional benchmark increased to 0.12 mg/L. Impairment monitoring requirement frequency increased to four times per year.

General Monitoring Requirements				
Outfall	**Pollutant**	**Regional Benchmark**	**Unit**	**Frequency**
All outfalls	Total Copper	0.02	mg/L	Four times per year
All outfalls	Total Lead	0.015	mg/L	Four times per year
All outfalls	Total Zinc	**0.12**	mg/L	Four times per year
All outfalls	pH	5.5-9.0	SU	Four times per year
All outfalls	TSS	100	mg/L	Four times per year
All outfalls	Total Oil & Grease	10	mg/L	Four times per year

Reporting Updates: New quarterly DMR periods and associated deadlines:

Reporting Quarters	Months	DMR Due Dates
1st	July-September	November 15
2nd	October-December	February 15
3rd	January-March	May 15
4th	April-June	August 15

Monitoring notes

- Any Sector Specific Monitoring Requirements listed above apply to both your primary industrial activity and any co-located industrial activities.
- Any Impairment Pollutant Monitoring Requirements apply to discharges to an impaired water without a TMDL for pollutants.
- Monitoring variance requests shall be submitted twice a year with the 2nd and 4th quarter DMRs.

GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORMWATER DISCHARGE PERMIT
Department of Environmental Quality
700 NE Multnomah St., Suite #600 Portland, OR 97232
Telephone: (503) 229-5630 or 1-800-452-4011 toll free in Oregon
Issued pursuant to ORS 468B.050 and the Federal Clean Water Act

ISSUED TO: File # 107009

PORT OF PORTLAND AND CO-PERMITTEES
PO Box 3529
Portland, OR 97208-3529

Date Issued: September 29, 2017
WASHINGTON County
EPA# ORR800175
LLID: 1229329455162
River Mile: 1.4601

Site Location: HILLSBORO AIRPORT, 1040 NE 25TH AVE, HILLSBORO

SOURCES COVERED UNDER THIS PERMIT:
A facility that may discharge industrial stormwater to surface waters or to conveyance systems that discharge to surface waters of the state and

1. The stormwater is associated with an industrial activity identified in Table 1: Sources Covered or listed in Table 2: Additional Activities Covered; or
2. The facility is notified in writing by the Director that coverage under this permit is required for its stormwater discharges (see Note 1 below).

Note 1:

1. The Director designates the facility as requiring stormwater permit pursuant to 40 CFR §122.26(a)(9)(i)(D).
2. Facilities may apply for conditional exclusion from the requirement to obtain coverage under this permit if there is no exposure of industrial activities and materials to stormwater pursuant to 40 CFR §122.26(g); see Permit Coverage and Exclusion from Coverage.
3. The following are not eligible to obtain coverage under this permit:
   i. Construction activities; Primary Standard Industrial Classification codes 2951 and 3273, including mobile asphalt and concrete batch plants; and Standard Industrial Classification code 14, Mining and Quarrying of Nonmetallic Minerals, Except Fuels. These activities are covered under a separate general permit.
   ii. Any source that has obtained an individual NPDES permit for the discharge, unless the source is otherwise eligible for coverage under this permit and DEQ has approved the source's application for coverage under this general permit.
   iii. Any source that discharges to a sanitary sewer system and the discharge is approved by the sanitary sewer operator.

Issuance Date: August 1, 2017

Lydia Emer, Administrator
Operations Division

GENERAL PERMIT
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STORMWATER DISCHARGE GENERAL PERMIT No. 1200-Z

Department of Environmental Quality
700 NE Multnomah St., Suite #600 Portland, OR 97232
Telephone: (503) 229-5630 or 1-800-452-4011 toll free in Oregon

Issued pursuant to ORS 468B.050 and the Federal Clean Water Act

ISSUED TO:

SOURCES COVERED UNDER THIS PERMIT:

A facility that may discharge industrial stormwater to surface waters or to conveyance systems that discharge to surface waters of the state and

1. The stormwater is associated with an industrial activity identified in Table 1: Sources Covered or listed in Table 2: Additional Activities Covered; or
2. The facility is notified in writing by the Director that coverage under this permit is required for its stormwater discharges (see Note 1 below).

Note 1:

1. The Director designates the facility as requiring stormwater permit pursuant to 40 CFR §122.26(a)(9)(i)(D).
2. Facilities may apply for conditional exclusion from the requirement to obtain coverage under this permit if there is no exposure of industrial activities and materials to stormwater pursuant to 40 CFR §122.26(g); see Permit Coverage and Exclusion from Coverage.
3. The following are not eligible to obtain coverage under this permit:
    i. Construction activities; Primary Standard Industrial Classification codes 2951 and 3273, including mobile asphalt and concrete batch plants; and Standard Industrial Classification code 14, Mining and Quarrying of Nonmetallic Minerals, Except Fuels. These activities are covered under a separate general permit.
    ii. Any source that has obtained an individual NPDES permit for the discharge, unless the source is otherwise eligible for coverage under this permit and DEQ has approved the source's application for coverage under this general permit.
    iii. Any source that discharges to a sanitary sewer system and the discharge is approved by the sanitary sewer operator.

_____

Justin Green, Administrator
Water Quality Division

Issuance Date: August 1, 2017
Reissuance: October 22, 2018

PERMITTED ACTIVITIES

Until this permit expires, is modified or revoked, the permit registrant is authorized to construct, install, modify, or operate stormwater treatment or control facilities, and to discharge stormwater and non-stormwater discharges specifically authorized by the permit to public surface waters in conformance with all the requirements, limitations, and conditions set forth in the following schedules:

Unless specifically authorized by this permit, by regulation issued by EPA, by another NPDES permit, or by Oregon Administrative Rule, any other direct or indirect discharge to waters of the state is prohibited, including non-stormwater discharges to an underground injection control system.

Schedule F contains General Conditions that are included in all general permits issued by DEQ. Schedule E contains sector-specific federal requirements. Should conflicts arise between Schedule F or Schedule E and any other schedule of the permit, the requirements in Schedule F or Schedule E may not apply.

Table 1: Sources Covered

Types of Industrial Sources Covered Under this Permit
Facilities with the following primary Standard Industrial Classification (SIC) codes: 10 Metal Mining 12 Coal Mining 13 Oil and Gas Extraction 20 Food and Kindred Products 21 Tobacco Products 22 Textile Mill Products 23 Apparel and Other Finished Products Made From Fabrics and Similar Material 24 Lumber and Wood Products, Except Furniture (Activities with SIC 2411 Logging that are defined in 40 CFR §122.27 as silvicultural point source discharges are covered by this permit.) 25 Furniture and Fixtures 26 Paper and Allied Products 27 Printing, Publishing and Allied Industries 28 Chemicals and Allied Products Manufacturing and Refining (excluding 2874: Phosphatic Fertilizers) 29 Petroleum Refining and Related Industries (excluding 2951, covered by 1200-A) 30 Rubber and Miscellaneous Plastics Products 31 Leather and Leather Products 32 Glass, Clay, Cement, Concrete and Gypsum Products (excluding 3273, covered by 1200-A) 33 Primary Metal Industries 34 Fabricated Metal Products, Except Machinery and Transportation Equipment 35 Industrial and Commercial Machinery and Computer Equipment 36 Electronic and Other Electrical Equipment and Components, Except Computer Equipment 37 Transportation Equipment 38 Measuring, Analyzing, and Controlling Instruments; Photographic, Medical and Optical Goods; Watches and Clocks 39 Miscellaneous Manufacturing Industries 4221 Farm Product Warehousing and Storage 4222 Refrigerated Warehousing and Storage 4225 General Warehousing and Storage 5015 Motor Vehicle Parts, Used 5093 Scrap and Waste Materials
Facilities with the following primary SIC codes that have vehicle maintenance shops (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, or airport deicing operations: 40 Railroad Transportation 41 Local and Suburban Transit and Interurban Highway Passenger Transportation 42 Trucking and Courier Services, Except Air (excluding 4221, 4222, and 4225) 43 United States Postal Service 44 Water Transportation 45 Transportation by Air 5171 Petroleum Bulk Stations and Terminals, except petroleum sold via retail method.
Steam Electric Power Generation including coal handling sites
Landfills, land application sites and open dumps
Hazardous Waste Treatment, storage and disposal facilities
Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, recycling, and reclamation of municipal or domestic sewage (including land dedicated to the disposal of sewage sludge that are located within the confines of the facility) with the design flow capacity of 1.0 mgd or more, or required to have a pretreatment program under 40 CFR §403.

In addition to the industrial sources listed in Table 1, facilities that discharge stormwater into the Columbia Slough or Portland Harbor that is exposed to any of the industrial activities listed in Table 2 below, are eligible to obtain permit coverage under the NPDES 1200-Z.

Table 2: Additional Industrial Activities Covered

Discharges to Columbia Slough and Portland Harbor
Maintenance of vehicles, machinery, equipment, and trailers (including repairs, servicing, washing, testing and painting)
Storage of vehicles, machinery, equipment (including disposal/refuse containers stored by a disposal/refuse contractor/vendor), and trailers (including rental, sales, wrecked vehicles, fleet, and general storage)
Materials storage (including raw materials; bulk fuels, chemicals, detergents, and plastic pellets; finished materials; lumber and food products; wholesale gravel, sand, and soil stockpiles; and bulk liquids other than water)
Waste handling (including recycled product storage, composting, tires, and bulk hazardous waste)
Commercial animal operations (such as kennels, race tracks, and veterinarians not covered under a Confined Animal Feeding Operation permit)
Fuel distribution and sales (including bulk stations, fuel oil dealers, manned and unmanned retail stations, fleet fueling, mobile fueling, and truck stops)
Any former activity that resulted in significant materials (as defined in Schedule D) remaining on-site

PERMIT COVERAGE AND EXCLUSION FROM COVERAGE

1. **New Discharger to Impaired Waters** (see Schedule D.3, Definitions)
   a. A new discharger to an impaired water without a Total Maximum Daily Load (TMDL), based on the EPA-approved 303(d) list (Category 5) that is in effect on May 1, 2017, for pollutant(s) must meet one of the following conditions to obtain coverage under this permit:
      i. Prevent all pollutants for which the waterbody is impaired from exposure to stormwater and document in the Stormwater Pollution Control Plan (SWPCP) procedures taken to prevent exposure on-site; or
      ii. Document in SWPCP that the pollutant(s) for which the waterbody is impaired are not present at the site; or
      iii. Provide data and other technical information that demonstrates that the discharge is not expected to cause or contribute to an exceedance of the water quality standard for which the waterbody is impaired at the point of discharge to the waterbody if the pollutant(s) for which the waterbody is impaired are likely to be present at the site and DEQ has not issued a TMDL for the pollutant(s).
   b. Prior to granting permit coverage to a new discharger to impaired waters without a TMDL, DEQ or agent will make a determination and document that one of the conditions in paragraph 1.a. has been satisfied.
   c. A new discharger that is unable to meet one of the conditions in paragraph 1.a. is ineligible for coverage under this permit; either the discharge must cease or the new discharger will be required to obtain coverage under an individual NPDES permit.
   d. A new discharger to an impaired water with a TMDL (based on the EPA-approved TMDLs as of May 1, 2017) may receive permit coverage under this permit under one of the following circumstances:
      i. The TMDL does not establish industrial stormwater wasteload allocations, the compliance with the terms and conditions of the permit is presumed consistent with the TMDL.
      ii. If the TMDL establishes industrial stormwater wasteload allocations, and if DEQ or agent determines that there are sufficient remaining wasteload allocations in the TMDL to allow for the new industrial stormwater discharge, then the new discharge may be authorized by this permit.
   e. If a new discharge to impaired waters is authorized by DEQ under this permit, DEQ or agent will establish any additional monitoring, site controls or compliance schedules as necessary.
   f. Instead of granting permit coverage to a new discharge under paragraph 1.d., DEQ may determine that coverage under an individual NPDES permit is necessary.
   g. Conditions 1.a and 1.f above do not apply if the waterbody is impaired for:
      i. Biological communities and no pollutant, including indicator or surrogate pollutants, is specified as causing the impairment; or
      ii. Temperature, hydrologic modifications, or impaired hydrology.

2. **New Application for Permit Coverage Requirements**
   a. The following conditions apply to:

i. New facility: Submit a complete application to DEQ or agent (see Schedule D.4 for description of agent) at least 60 calendar days before initiating the activity that requires permit coverage, unless DEQ or agent approved a later date.
ii. Existing facility with stormwater discharges associated with industrial activities identified in Table 1 and operating without coverage under any NPDES permit for those discharges: Immediately submit a complete application to DEQ or agent, unless DEQ or agent approved a later date.
iii. Existing facility with stormwater discharges associated with industrial activities identified in Table 2 operating without coverage under any NPDES permit for those discharges: No later than 60 calendar days from written notification by DEQ or agent that permit coverage is required, submit a complete application to DEQ or agent.
iv. Existing facility that is designated by the Director as needing a stormwater permit pursuant to 40 CFR §122.26(a)(9)(i)(D): No later than 60 calendar days of being notified by DEQ that permit coverage is required, submit a complete application to DEQ or agent.
v. Existing facility operating under permit coverage that intends to change industrial processes at the site to a new primary industrial sector: Submit a complete application to DEQ or agent at least 60 calendar days before initiating the planned change, unless DEQ or agent approved a later date.
vi. Existing facility whose stormwater discharges are authorized by an individual NPDES permit and seeks coverage under this permit: Submit a complete application to DEQ or agent and a copy of the individual NPDES permit.
vii. A complete application must include the following:
(1) Applicable permit fees;
(2) DEQ-approved application form;
(3) A determination, on a DEQ-approved form, from the local government agency with land use jurisdiction that states the use is compatible with acknowledged local land use plans and;
(4) One paper copy and one electronic pdf copy of the SWPCP.

b. Permit Coverage
i. Prior to granting the applicant coverage under this permit, DEQ will provide a 30 calendar day public review period on the applicant's SWPCP and the proposed permit assignment letter. DEQ or agent will respond in writing to any applicable public comments.
ii. DEQ will notify the applicant in writing if coverage is granted or denied. When coverage is granted, DEQ or agent will establish monitoring year and outline monitoring requirements in the permit assignment letter (see Schedule D.3, Definitions).

c. If coverage is denied or the applicant does not wish to be regulated by this permit, the applicant must apply for an individual permit in accordance with OAR 340-045-0030 or cease discharge.

3. Existing Facilities Covered Under the 1200-COLS or 1200-Z NPDES General Permits

a. To ensure uninterrupted permit coverage for industrial stormwater discharges, an owner or operator of a facility covered under the 1200-Z permit that expired on June 30, 2017, must have submitted a DEQ-approved renewal application form to DEQ or agent, by January 3, 2017, unless DEQ or agent approved a later date.

b. To ensure uninterrupted permit coverage for industrial stormwater discharges, an owner or operator of a facility covered under the 1200-COLS permit that expired on September 30, 2016, must have submitted a DEQ-approved renewal application form to DEQ or agent, by August 1, 2016, unless DEQ or agent approved a later date.
c. DEQ will notify registrants in writing if coverage is approved or denied. Renewed facilities must submit updated SWPCP to DEQ or agent by December 29, 2017, unless DEQ or agent approved a later date.
d. For Tier II corrective action requirements triggered during the second year of coverage from the 1200-COLS permit that expired on September 30, 2016 or during the second year of coverage under the 1200-Z permit that expired on June 30, 2017, permit registrants must comply with the implementation deadline in the previous permit.
e. Permit registrants for which the Tier II corrective action implementation deadline was after June 30, 2017, under the 1200-COLS permit that expired on September 30, 2016 or under the 1200-Z permit that expired on June 30, 2017, are exempt from Schedule A.11 for the parameter(s) and discharge point(s) that triggered Tier II.

4. Existing Facilities Covered Under the 1200-ZN or 1200-COLSB

a. Permit registrants for which DEQ or agent has received a renewal application, facilities will automatically be re-assigned coverage under this permit in accordance to condition 3.c.

5. Name Change or Transfer of Permit Coverage

a. For a name change or transfer of permit coverage between legal entities, the new owner or operator must submit to DEQ no later than 30 calendar days after the name change or planned transfer. A complete application must include the following:
   i. One paper copy of a DEQ-approved Name Change and/or Permit Transfer form;
   ii. One paper copy and one electronic pdf copy of an updated SWPCP; and
   iii. Applicable fee.
b. DEQ will notify the applicant in writing if the name change or transfer is approved or denied. Transfer of permit will be effective upon DEQ approval.
c. For a name change or transfer of permit coverage between legal entities where there will also be a change in an industrial process at the site to a new primary industrial sector, the owner or operator must submit a new application for coverage under this permit as required in condition 2.a.iv above.

6. "No Exposure" Conditional Exclusion from Permit Coverage

a. An owner or operator that applies for a "no exposure" conditional exclusion under 40 CFR §122.26(g) from coverage under this permit must:
   i. Protect industrial materials and activities from exposure to rain, snow, snowmelt, and runoff by using a storm resistant shelter, except as provided in the Environmental Protection Agency (EPA) Guidance Manual for Conditional Exclusion from Stormwater Permitting Based on "No Exposure" of Industrial Activities to Stormwater (EPA 833-B-00-001, June 2000) and EPA's Fact Sheet on Conditional No Exposure Exclusion for Industrial Activity (EPA 833-F-00-015, revised December 2005). Storm resistant shelters with unsealed zinc or copper roofing materials are not eligible for the "no exposure" conditional exclusion;

ii. Ensure that known significant materials from previous operations are controlled, removed or otherwise not exposed to stormwater.
iii. Complete and sign a DEQ-approved certification, that there is no stormwater exposure to industrial materials and activities from the entire facility.
iv. Submit the signed certification to DEQ or agent once every five years, beginning five years after the date of first submittal. If DEQ or agent does not comment on the "no exposure" certification within 60 calendar days, the "no exposure" conditional exclusion is deemed approved. DEQ or agent may notify the applicant in writing or by email of its approval. The owner or operator must keep a copy of the approved certification on-site.
v. Allow DEQ or agent to inspect the facility to determine compliance with the "no exposure" conditions; and
vi. If facility discharges through a municipal separate storm sewer system (MS4) submit a copy of the "no exposure" certification to the MS4 operator (for example, local municipality or district), upon their request, and allow inspection and public reporting by the MS4 operator.

b. Limitations for obtaining or maintaining the exclusion:
i. This exclusion is available on a facility-wide basis only, not for individual discharge points.
ii. If any industrial materials or activities become exposed to rain, snow, snowmelt, or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement. Any conditionally exempt discharger who anticipates changes in circumstances must apply for and obtain permit coverage before the change of circumstances.
iii. DEQ or agent retains the authority to make a determination that the "no exposure" conditional exclusion no longer applies and require the owner or operator to obtain permit coverage.

7. Electronic Submissions

a. The applicant for coverage must submit the application and related documents in an electronic format to the initial recipient as specified below or as directed otherwise by DEQ as the National Pollutant Discharge Elimination System (NPDES) regulatory authority in Oregon according to 40 CFR 127.
b. Beginning after December 21, 2020, or when directed by DEQ, the permit registrant must submit application and related documents on DEQ-approved web-based forms including pre-approved attachments.
i. Submit any documents, including the SWPCP, not entered on the NeT format as a separate attachment in the NeT electronic tool. DEQ must pre-approve the attachment forms as an integral part of the DEQ-approved application.
ii. The permit registrant must sign and certify all electronic submissions in accordance with the requirements of Section D8 within Schedule F of this permit.
c. In accordance with 40 CFR 122.41(l)(9), DEQ will identify the initial recipient that is the designated entity for receiving electronic NPDES data. Until further notice from DEQ, EPA is the initial recipient to receive electronic submissions, and the permit registrant will use EPA's NeT for electronic reporting. DEQ will notify the permit registrant in advance of changes to the initial recipient status and use of another electronic reporting system other than NeT.

8. Authorized Non-Stormwater Discharges

a. Subject to the terms and conditions of the permit and Oregon law, the following non-stormwater discharges are authorized:
   i. Discharges from emergency or unplanned fire-fighting activities;
   ii. Fire hydrant flushing and maintenance;
   iii. Potable water, including water line flushing;
   iv. Uncontaminated condensate from air conditioners, coolers, chillers and other compressors, and from outside storage of refrigerated gases and liquids;
   v. Landscape watering and irrigation drainage;
   vi. Exterior vehicle wash water that does not use hot water or detergent; restricted to less than 8 per week;
   vii. Pavement wash water that does not use hot water, detergent or other cleaning products, no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed), and surfaces are swept before washing;
   viii. Routine external building wash down that does not use hot water, detergent or other cleaning products;
   ix. Uncontaminated ground water or spring water;
   x. Foundation or footing drains where flows are not contaminated with process materials; and
   xi. Incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

b. Separate any piping of interior floor drains and process wastewater discharge points from the storm drainage system to prevent unpermitted discharge of pollutants to waters of the state. Discharge from floor drains to the stormwater drainage system is a violation of this permit.

c. Any other wastewater discharge or disposal, including stormwater mixed with wastewater, must be permitted in a separate permit, unless the wastewater is reused or recycled without discharge or disposal, or is discharged to the sanitary sewer with approval from the sanitary sewer system operator.

9. Limitations on Coverage

a. Pursuant to OAR 340-045-0033(10), DEQ may deny permit coverage to an applicant or revoke a permit registrant's coverage under this permit and require the owner or operator to apply for and obtain an individual permit.

b. Coverage under this permit is not available under the following circumstances:
   i. If all stormwater discharges are regulated by another NPDES permit, except a MS4 permit.
   ii. If stormwater discharges were included in a permit that has been or is in the process of denial, termination or revoked unless the source is otherwise eligible for coverage under this permit and DEQ approves the source's application to register under it and simultaneously revokes coverage under the other permit.
   iii. For a new discharger to waters designated as Outstanding Resource Waters for antidegradation purposes under 40 CFR 131.12(a)(3) and OAR 340-041-0004.

c. Any operator not seeking coverage under this general permit must apply for an individual NPDES permit in accordance with the procedures in OAR 340-045-0030.

SCHEDULE A

TECHNOLOGY BASED EFFLUENT LIMITATIONS

1. Narrative Technology-Based Effluent Limits

The permit registrant must meet the following narrative technology based effluent limits and additional sector-specific limits in Schedule E of this permit, if applicable.

a. Minimize exposure - Minimize exposure of manufacturing, processing, material storage areas, including loading and unloading, disposal, cleaning, maintenance and fixed fueling areas to rain, snow, snowmelt and runoff. To the extent technologically available and economically practicable and achievable in light of best industry practice, the permit registrant must do the following:

i. Locate materials and activities indoors or protect them with storm resistant covers if stormwater from affected areas may discharge to surface waters. Acceptable covers include, permanent structures such as roofs or buildings and temporary covers such as tarps;

ii. Use grading, berming, or curbing to divert stormwater away from these areas and prevent stormwater contamination;

iii. Store all hazardous substances (see Schedule D.3, Definitions), petroleum/oil liquids, and other chemical solid or chemical liquid materials that have potential to contaminate stormwater within berms or other secondary containment devices to prevent leaks and spills. If the use of berms or secondary containment devices is not practicable, then store such substances in areas that do not drain off-site or into the storm sewer system;

iv. Locate materials, equipment and activities in containment and diversion systems, including the storage of leaking or leak-prone vehicles and equipment awaiting maintenance, to prevent leaks and spills from contaminating stormwater;

v. Use drip pans or absorbents under or around leaking or leak-prone vehicles/equipment or store indoors. Drain fluids from equipment and vehicles prior to on-site storage or disposal;

vi. Perform all cleaning operations indoors, under cover or in bermed areas that prevent runoff and run-on and also captures overspray;

vii. Clean up spills or leaks promptly using absorbents or other effective methods to prevent discharge of pollutants and use spill/overflow protection equipment;

viii. Ensure that all wash water is managed indoors or in bermed areas, disposed into sanitary sewer or drain to a proper collection system such as a closed-loop system or vegetated area and does not discharge into the stormwater drainage system unless allowed under condition 8, authorized non-stormwater discharge.

b. Oil and Grease - Employ oil/water separators, booms, skimmers or other methods to eliminate or minimize oil and grease contamination in stormwater discharges.

c. Waste Chemicals and Material Disposal - Recycle or properly dispose of wastes to eliminate or minimize exposure of pollutants to stormwater. Cover all waste contained in bins or dumpsters where there is a potential for drainage of stormwater through the waste to prevent exposure of stormwater to these pollutants. Acceptable covers include, storage of bins or dumpsters under roofed areas or use of lids or temporary covers such as tarps.

d. Erosion and Sediment Control - Stabilize exposed areas, including areas where industrial activity has taken place in the past and significant materials remain, and contain runoff using structural and nonstructural controls to minimize erosion of soil at the site and sedimentation. Employ

erosion control methods, such as vegetating exposed areas, graveling or paving to minimize erosion of soil at the site. Employ sediment control methods, such as detention facilities, vegetated filter strips, bioswales, flow velocity dissipation devices or other permanent erosion or sediment controls to minimize sediment loads in stormwater discharges. For activities that involve land disturbance, the permit registrant must contact the local municipality to determine if there are other applicable requirements related to stormwater control.

e. Debris Control - Employ screens, booms, settling ponds, or other methods to eliminate or minimize waste, garbage and floatable debris in stormwater discharges and ensure that this debris is not discharged to receiving waters.
f. Dust Generation and Vehicle Tracking of Industrial Materials - Minimize generation of dust, off-site tracking and discharge of soil, particulates and raw, final or waste materials.
g. Housekeeping - Routinely clean all exposed areas that may contribute pollutants to stormwater with measures such as sweeping at regular intervals, litter pick-up, keeping materials orderly and labeled, prompt clean-up of spills and leaks, proper maintenance of vehicles and stowing materials in appropriate containers.
h. Spill Prevention and Response Procedure - Minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans that include methods for spill prevention and clean-up and notification procedures. At a minimum, the permit registrant must use spill prevention and response measures including the following:
    i. Procedures for plainly labeling containers that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur as required by local, state and federal rules;
    ii. Preventative measures, such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
    iii. Procedures for expeditiously stopping, containing, and cleaning up leaks, spills and other releases. Make the methods and procedures available to appropriate personnel. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures. Have the necessary clean-up material on-site and readily available; and
    iv. Procedures for notification of appropriate facility personnel, DEQ or agent, and the Oregon Emergency Response System (1-800-452-0311), when a spill may endanger health or the environment. Contact information must be in locations that are readily accessible and available.
i. Preventative Maintenance - Regularly inspect, clean, maintain, and repair all industrial equipment and systems and materials handling and storage areas that are exposed to stormwater to avoid situations that may result in leaks, spills, and other releases of pollutants discharged to receiving waters. Clean, maintain and repair all control measures, including stormwater structures, catch basins, and treatment facilities to ensure effective operation as designed and in a manner that prevents the discharge of pollution.
j. Employee Education - Develop and maintain an employee orientation and education program to inform personnel on the pertinent components and goals of this permit and the SWPCP.
    i. Training must cover:
        (1) Specific control measures used to achieve the narrative technology based effluent limits, such as spill response procedures and good housekeeping practices, and
        (2) Monitoring, inspection, reporting and documentation requirements.

ii. Permit registrant must ensure that the following personnel are trained and understand the facility's specific requirements and their responsibilities:
   (1) Personnel who are responsible for the design, installation, maintenance, or repair of controls including, pollution prevention and treatment measures;
   (2) Personnel responsible for the storage and handling of chemicals and materials that could contribute pollutants to stormwater;
   (3) Personnel who are responsible for conducting or documenting monitoring or inspections as required in Schedule B; and
   (4) Personnel who are responsible for conducting and documenting corrective actions.

iii. Education and training must be documented and must occur:
   (1) No later than 30 calendar days of hiring an employee who works in areas where stormwater is exposed to industrial activities or conducts duties related to the implementation of the SWPCP;
   (2) No later than 30 calendar days of change in duties for key personnel in Schedule A.1.j.ii; and
   (3) Annually thereafter.

iv. Education and training must be documented and include which specific employees received training. A log of training dates must kept on-site and submitted to DEQ or agent upon request.

k. Non-Stormwater Discharges - Eliminate any non-stormwater discharges not authorized by a NPDES permit (see condition 8; Permit Coverage and Exclusion from Coverage section of this permit for a list of authorized non-stormwater discharges).

2. Numeric Technology-Based Effluent Limits based on Stormwater Specific Effluent Limitations Guidelines - The permit registrant with the following industrial activities must meet the effluent limits referenced in the Table 3 below. An exceedance of the effluent limitation is a permit violation. See Schedule B.9 for corrective action requirements.

Table 3: Numeric Effluent Limit Guidelines

Regulated Activity	40 CFR Part/Subpart	Effluent Limit
Runoff from asphalt emulsion facilities (co-located SIC code only, 2951 covered under the 1200-A)	Part 443, Subpart A	See Schedule E.D.2
Runoff from material storage piles at cement manufacturing facilities	Part 411, Subpart C	See Schedule E.E.5
Runoff from hazardous waste landfills	Part 445, Subpart A	See Schedule E.K.3
Runoff from non-hazardous waste landfills	Part 445, Subpart B	See Schedule E.L.7
Runoff from coal storage piles at steam electric generating facilities	Part 423, Subpart E	See Schedule E.O.5

Regulated Activity	40 CFR Part/Subpart	Effluent Limit
Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	Part 449, Subpart S	See Schedule E.S.7

3. Control Measures for Technology Based Effluent Limits

a. The permit registrant must select, design, install, implement and maintain control measures, including all best management practices, (BMPs), to meet the narrative technology-based and numeric effluent limits in Schedule A.1, A.2 and Schedule E of this permit and describe these measures, maintenance schedules and frequency of housekeeping measures in the SWPCP.

b. For technology-based effluent limits that require permit registrants to minimize pollutants in the discharge, permit registrants must reduce or eliminate pollutants to the extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice.

c. The term "minimize" means reduce or eliminate, or both, to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice. The term "feasible" means technologically possible and economically practicable and achievable in light of best industry practice. In selecting the appropriate control measures to meet these limits, permit registrant may consider the age of the equipment and facilities involved, the processes employed, the engineering aspects of the application of various types of control techniques, the pollutant reductions likely to be achieved, any adverse environmental or energy effects of potential measures, and the costs of achieving pollutant reductions.

d. The permit registrant must install, implement and maintain the control measures in accordance with good engineering practices and manufacturers' specifications. Justify any deviation from the manufacturer's specifications in the SWPCP.

e. DEQ or agent may require the permit registrant to take corrective actions to meet the narrative technology-based and numeric effluent limits in Schedule A.1, A.2 and Schedule E of this permit.

   i. If the permit registrant is failing to implement the control measures in the SWPCP, they must take corrective actions and implement the measures before the next storm event if practicable, unless otherwise approved by DEQ or agent.

f. If modifications to the control measures are necessary to meet the technology-based effluent limits in this permit, the permit registrant must revise the SWPCP no later than 30 calendar days from completion of the modifications, unless otherwise approved by DEQ or agent. Permit registrant must implement the corrective actions before the next storm event if practicable or no later than 60 calendar days from discovering the violation, unless DEQ or agent approved a later date.

WATER QUALITY BASED EFFLUENT LIMITATIONS

4. Water Quality Standards

a. The permit registrant must not cause or contribute to a violation of instream water quality standards as established in OAR 340-041.

b. If at any time the permit registrant becomes aware, or DEQ or agent determines, that the discharge causes or contributes to an excursion of water quality standards permit registrant must take the following corrective actions:

i. No later than 24-hours of discovering the violation:

(1) Investigate the conditions that triggered the violation; and

(2) Review the SWPCP and the selection, design, installation and implementation of control measures to ensure compliance with this permit.

ii. No later than 30 calendar days after receiving the monitoring results, submit a Water Quality Standards Corrective Action report to DEQ or agent that documents the following:

(1) The results of the investigation, including the date the violation was discovered and a brief description of the conditions that triggered the violation;

(2) Corrective actions taken or to be taken, including the date the corrective action was completed or is expected to be completed; and

(3) Document whether SWPCP revisions are necessary. If permit registrant determines that SWPCP revisions are necessary based on the corrective action review, submit a revised SWPCP to DEQ or agent with the report.

iii. Permit registrant must implement the corrective action before the next storm event, if possible, or no later than 30 calendar days after discovering the violation, whichever comes first, unless DEQ or agent approved a later date.

c. DEQ or agent may impose additional monitoring, site controls or compliance schedules on a site-specific basis, or require the permit registrant to obtain coverage under an individual permit, if information in the application, required reports, or from other sources indicates that the discharge is causing or contributing to a violation of water quality standards, either in the receiving waterbody or a downstream waterbody. If DEQ or agent determines that additional site specific requirements are necessary, DEQ or agent will require the permit registrant to revise the SWPCP. DEQ will hold a 30 calendar day public review period on the revised SWPCP.

5. Discharges to Impaired Waters

a. Existing Discharger to an Impaired Water without a TMDL for Pollutant(s) - Permit registrant that discharges to an impaired water without a TMDL, based on the EPA-approved 303(d) list (Category 5) that is in effect on May 1, 2017, for the pollutant(s) must meet Schedule A.4 and B.1.b of this permit.

b. Existing Discharger to an Impaired Water with a TMDL for Pollutant(s) - Must comply with all applicable requirements of the EPA-approved TMDL(s). If a TMDL establishes wasteload allocation(s) for industrial stormwater discharges, DEQ will list the permit registrant's requirements to comply with this condition in the permit assignment letter. If DEQ determines that additional monitoring, site controls or compliance schedules are necessary to comply with applicable TMDL wasteload allocations for industrial stormwater discharges, DEQ will include such requirements in the permit assignment letter and require a SWPCP revision. DEQ will hold a

30 calendar day public review period on the revised SWPCP. Permit registrant must meet Schedule A.4 and B.1.b of this permit.

c. New Discharger to an Impaired Water - New discharges to impaired waters authorized to discharge under this permit must implement and maintain any control measures or conditions on the site that enabled the permit registrant to become eligible for permit coverage and modify such measures or conditions as necessary pursuant to corrective action requirements in this permit. Permit registrant must meet Schedule A.4 and B.1.b of this permit.
d. For the purposes of this permit, impaired waters and approved TMDLs will be based on those in effect as of May 1, 2017.

STORMWATER POLLUTION CONTROL PLAN

6. Preparation and Implementation of SWPCP

a. The SWPCP must be prepared by a person knowledgeable in stormwater management and familiar with the facility.
b. The SWPCP must be signed and certified in accordance with 40 CFR §122.22.
c. The SWPCP must include each narrative technology-based effluent limit to eliminate or reduce the potential to contaminate stormwater and prevent any violation of instream water quality standards.
d. Permit registrants must implement the SWPCP and any revisions to the plan. Failure to implement any of the control measures or practices described in the SWPCP is a violation of this permit.
e. The SWPCP must be kept current and revised as necessary to reflect applicable changes to the site.
f. Revisions must be made in accordance with Schedule A.8.

7. Required Elements

The SWPCP, at a minimum, must include the components below and describe how the permit registrants intends to comply with the narrative technology-based effluent limit to eliminate or reduce the potential to contaminate stormwater and prevent any violation of instream water quality standards.

a. Title Page - The title page of the SWPCP must contain the following information:
   i. Plan date.
   ii. Name of the site.
   iii. Name of the site operator or owner.
   iv. The name of the person(s) preparing the SWPCP.
   v. File number and EPA permit number as indicated in permit coverage documents.
   vi. Primary SIC code and any co-located SIC codes.
   vii. Contact person(s) name, telephone number and email.
   viii. Physical address, including county, and mailing address if different.
b. Site Description - The SWPCP must contain the following information, including any applicable information required in Schedule E of the permit:
   i. Site map(s) including the following:
      (1) general location of the site in relation to surrounding properties, transportation routes, surface waters and other relevant features;

(2) drainage patterns;
(3) conveyance and discharge structures, such as piping or ditches;
(4) all discharge points assigned a unique three-digit identifying number starting with 001, 002 used for electronic reporting;
(5) outline of the drainage area for each discharge point;
(6) paved areas and buildings within each drainage area;
(7) areas used for outdoor manufacturing, treatment, storage, or disposal of significant materials;
(8) existing structural control measures for minimizing pollutants in stormwater runoff;
(9) structural features that reduce flow or minimize impervious areas;
(10) material handling and access areas;
(11) hazardous waste treatment, storage and disposal facilities;
(12) location of wells including waste injection wells, seepage pits, drywells;
(13) location of springs, wetlands and other surface waterbodies both on-site and adjacent to the site;
(14) location of groundwater wells;
(15) location and description of authorized non-stormwater discharges;
(16) exact location of monitoring points, indicating if any discharge points are "substantially similar" and not being monitored;
(17) location and description of spill prevention and cleanup materials; and
(18) locations of the following materials and activities if they are exposed to stormwater and applicable:
(A) fueling stations;
(B) vehicle and equipment maintenance cleaning areas;
(C) loading/unloading areas;
(D) locations used for the treatment, storage, or disposal of wastes;
(E) liquid storage tanks;
(F) processing and storage areas;
(G) immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
(H) transfer areas for substances in bulk;
(I) machinery; and
(J) locations and sources of run-on to your site from adjacent property.

ii. A description of industrial activities conducted at the site and significant materials stored, used, treated or disposed of in a manner which exposes those activities or materials to stormwater. Include in the description the methods of storage, usage, treatment or disposal.
iii. Location and description, with any available characterization data, of areas of known or discovered significant materials from previous operations.
iv. Regular business hours of operation.
v. For each area of the site where a reasonable potential exists for contributing pollutants to stormwater runoff, a description of the potential pollutant sources that could be present in stormwater discharges and if associated with a co-located SIC code.
vi. A description of control measures installed and implemented to meet the technology and water quality based requirements in Schedule A.1 –A.5 and any applicable sector-specific

requirements in Schedule E of this permit. Include a description of how the stormwater control measures address potential pollutant sources from industrial activities and significant materials on-site, spills and leaks and authorized non-stormwater discharges.

vii. A description of treatment controls or source control, including low impact development, in response to corrective action requirements and operation and maintenance procedures.

viii. An estimate of the amount of impervious surface area (including paved areas and building roofs) and the total area drained by each stormwater discharge point to be reported in area units.

ix. The name(s) of the receiving water(s) for stormwater drainage. If drainage is to a municipal storm sewer system, the name(s) of the ultimate receiving waters and the name of the municipality; and

x. The identification of each discharge point and the location(s) where stormwater monitoring will occur as required by Schedule B.2. The monitoring location must also be labeled in the SWPCP as "monitoring location." Existing discharge points excluded from monitoring must include a description of the discharge point(s) and data or analysis supporting that the discharge point(s) are substantially similar as described in Schedule B.2.c.ii of this permit.

c. Procedures and Schedules -The SWPCP must contain the following information to meet the narrative technology-based effluent limits in Schedule A.1 of this permit:

i. Spill Prevention and Response - Procedures for preventing and responding to spills and clean-up and notification procedures. Indicate who is responsible for on-site management of significant materials and include their contact information. Spills prevention plans required by other regulations may be substituted for this provision if the spill prevention plan addresses stormwater management concerns and the plan is included with the SWPCP.

(1) Indicate how spill response will be coordinated between the permit registrant and otherwise unpermitted tenants. The permit registrant is ultimately responsible for spills of tenant and appropriate response.

ii. Preventative maintenance - Procedures for conducting inspections, maintenance and repairs to prevent leaks, spills, and other releases from drums, tanks and containers exposed to stormwater and the scheduled regular pickup and disposal of waste materials. Include the schedule or frequency for maintaining all control measures and waste collection.

iii. Operation and Maintenance Plans - Include an operation and maintenance plan for active treatment systems, such as electro-coagulation, chemical flocculation, or ion-exchange. The O&M plan must include, as appropriate to the type of treatment system, items such as system schematic, manufacturer's maintenance/operation specifications, chemical use, treatment volumes and a monitoring or inspection plan and frequency. For passive treatment and low impact development control measures, include routine maintenance standards.

iv. Employee Education - The elements of the training program must include the requirements in Schedule A.1.j. Include a description of the training content and the required frequency.

8. SWPCP Revisions

a. Permit registrants must prepare SWPCP revisions in compliance with Schedule A.6; and

b. SWPCP revisions must be submitted if they are made for any of the following reasons:

i. Change in site contact(s);

ii. In response to a corrective action or inspection;

iii. Changes to the site, operations or control measures that may significantly change the nature of pollutants present in stormwater discharge; or significantly increase the pollutant(s) levels, discharge frequency, discharge volume or flow rate; and
iv. Changes to the monitoring locations or discharge points.

c. If submission of SWPCP revisions is required, permit registrant must submit the revised pages of the SWPCP and site map if applicable, to DEQ or agent no later than 30 calendar days after the completion of modification.
d. Review of the revisions by DEQ or agent prior to implementation is not required, except revision to location of monitoring locations. The proposed revisions are deemed accepted after 30 calendar days of receipt unless the permit registrant receives a response from DEQ or agent.
e. DEQ or agent may require the permit registrant to revise the SWPCP at any time. The permit registrant must submit the revisions no later than 30 calendar days from the request date, unless DEQ or agent approved a later date.
f. SWPCP revisions are not subject to public notice and comment unless revisions are in response to water quality based effluent limit requirements in Schedule A.4 and A.5 of this permit.
g. For Tier II SWPCP submittal requirements, refer to Schedule A.11.

STORMWATER DISCHARGE BENCHMARKS

9. Benchmarks

Benchmarks and reference concentrations for impairment pollutants are guideline concentrations, not numeric effluent limits. A benchmark or reference concentration exceedance, therefore, is not a permit violation. Benchmark monitoring assist the permit registrant in determining whether site controls are effectively reducing pollutant concentrations in stormwater discharged from the site.

Permit registrants must monitor for the following applicable benchmarks at all discharge points. See Schedule E of this permit for sector-specific benchmarks that apply to certain industrial sectors and co-located industrial activities.

Table 4: Statewide Benchmarks

Parameter	Units	Columbia River	Columbia Slough	Portland Harbor	Regional
Total Copper	mg/L	0.020	0.020	0.020	0.020
Total Lead	mg/L	0.040	0.060	0.040	0.015
Total Zinc	mg/L	0.12	0.24	0.12	0.12
pH	SU	5.5 – 9.0	5.5 – 8.5	5.5 – 9.0	5.5 – 9.0
TSS	mg/L	100	30	30	100
Total Oil & Grease	mg/L	10	10	10	10
E. coli	counts/100 ml	406*	406	406*	406*
BOD5	mg/L	N/A	33	N/A	N/A
Total Phosphorus	mg/L	N/A	0.16	N/A	N/A

*The benchmark for E. coli applies only to active landfills and sewage treatment plants.
N/A: Not Applicable (no benchmark or required sampling for this parameter)

CORRECTIVE ACTIONS FOR IMPAIRMENT POLLUTANT AND BENCHMARK EXCEEDANCES

10. Tier I Corrective Action Response to Exceedances of Impairment Pollutants and Benchmarks:

a. If stormwater monitoring results exceed any of the applicable statewide benchmarks in Schedule A.9 of this permit, sector-specific benchmarks in Schedule E of this permit, or reference concentrations for impairment pollutants identified in the permit assignment letter, the permit registrant must, no later than 30 calendar days after receiving the monitoring results or visual observations show signs of pollution:

i. Investigate the cause of the elevated pollutant levels, including conducting, commencing or planning for any needed pollutant source tracing activities. Develop a plan to ensure that known or discovered significant materials from previous operations are controlled, removed or otherwise not exposed.

ii. Review the SWPCP and the selection, design, installation and implementation of control measures to ensure compliance with this permit and manufacturers' specifications. Evaluate whether any previous removal or pollutant source isolation actions are complete and whether additional removal or modifications to pollutant source isolation are necessary. Evaluate any treatment measures, including if they were properly installed, maintained and implemented and whether maintenance, corrections, or modifications to treatment measures are necessary.

iii. If permit registrant determines that additional control measures or other changes are necessary based on corrective action review, revise the SWPCP and submit the revised pages of the SWPCP to DEQ or agent, including a schedule for implementing the control measures.

iv. Tier I report - Summarize the following information in a Tier I report:

(1) The results of the investigation referred to in condition 10.a.i, above.

(2) Corrective actions taken or to be taken, including date corrective action completed or expected to be completed. Where the permit registrant determines that corrective action is not necessary, provide the basis for this determination.

(3) Document whether SWPCP revisions are necessary.

v. The Tier I report must be kept on site, and a copy provided to DEQ or agent upon request. In the event of an exceedance of a reference concentration for any impairment pollutant identified in the permit assignment letter, the Tier I report must be submitted to DEQ or agent no later than 60 calendar days after receiving monitoring results.

b. Implement corrective actions before the next storm event, if possible, or no later than 30 calendar days after receiving the monitoring results, whichever comes first. If permit registrant fails to complete the corrective action within this time frame, the reasoning should be documented in the Tier 1 Report, and corrective actions must be completed as soon as practicable.

c. Permit registrants are exempt from the Tier I investigation and reporting requirements for exceedances of benchmark parameter(s) addressed by proposed Tier II corrective action requirements in Schedule A.11. The exemption applies from the end of second monitoring year through the Tier II implementation deadline only. Tier I investigation and reporting must resume once Tier II is implemented.

11. Tier II Corrective Action Response based on second year Geometric Mean Benchmark Evaluation:

a. Permit registrants must evaluate the sampling results collected during the second monitoring year of permit coverage and determine if the geometric mean of the qualifying samples collected at each monitored discharge point exceeds any applicable statewide benchmarks in Schedule A.9 of this permit. DEQ or agent will identify in the permit assignment letter the registrant's Tier II evaluation year. The permit registrant must report the geometric mean of qualifying samples in the 4th quarter Discharge Monitoring Report due on August 15 of the second monitoring year of permit coverage. Permit registrants are not required to conduct this evaluation for the benchmark parameter(s) for which DEQ or agent has granted a monitoring waiver in accordance with Schedule B.4 of this permit.

b. For the pH benchmark, Tier II corrective action requirements are triggered if 50 percent or more of qualifying samples during the first two monitoring years of permit coverage are outside of the pH benchmark range.

c. For permit registrants that received new coverage under a previous industrial stormwater general permit (that is, the 1200-COLS, 1200-COLSB or 1200-Z) on or after July 1, 2016, time spent covered under the previous permit is included in determining the second year of permit coverage and other Tier II deadlines.

d. The permit registrant must use all qualifying samples to calculate the geometric mean.

e. If fewer than four qualifying samples were collected during the second monitoring year of permit coverage, qualifying sample results from the previous monitoring year may be used to obtain four consecutive values for the Tier II calculation.

f. If the geometric mean of the qualifying sampling results for any monitored discharge point exceeds any applicable statewide benchmark in Schedule A.9 of this permit (or if 50 percent or more of any pH sampling results for any monitored discharge point are outside of the pH benchmark range), permit registrant must submit a Tier II report, a Tier II mass reduction waiver request, or a Tier II natural background waiver request, along with associated revisions of the SWPCP, to DEQ or agent no later than December 31 of the third year of permit coverage, unless a later date is approved in writing by DEQ or agent. DEQ or agent will notify permit registrant within 60 calendar days of receipt if the Tier II corrective action response is accepted or denied.

g. Tier II corrective action(s) or mass reduction action(s) must be installed and implemented no later than June 30 of the fourth monitoring year, unless DEQ or agent approved a later date in writing. If the permit registrant changes the specifics of the corrective actions before implementation, revisions must be submitted and accepted by DEQ or agent before implementation. Corrective action revisions do not change the implementation deadline.

h. No later than 30 calendar days from implementing all Tier II corrective actions or mass reduction measures, the permit registrant must submit written confirmation to DEQ or agent with the date Tier II corrective action response was implemented in accordance with the revised approved SWPCP.

i. Properly apply and size approved Tier II corrective action responses and mass reduction measures to all substantially similar discharge points.

j. <u>Tier II Report</u>

   i. The Tier II report must include a proposal for active or passive treatment. This may include a combination of source removal, control and treatment measures, with the goal of achieving

the benchmark(s) in Schedule A.9 of this permit. The report must include the rationale for the selection of the control and treatment measures, the projected reduction of pollutant concentration(s) and the schedule for implementing these measures.

ii. An Oregon registered professional engineer (PE) must design and stamp the portion of the SWPCP that addresses these control measures.

iii. At discharge points where Tier II has been implemented:
   (1) Permit registrants must take Tier I corrective actions in accordance with A.10.
   (2) Monitoring must resume at substantially similar discharge points.
   (3) Permit registrants may request a monitoring waiver if the geometric mean of four consecutive qualifying samples is equal to or below the benchmark.

k. Tier II Mass Reduction Waiver

i. A permit registrant may request a mass reduction waiver from the requirements in Schedule A.11.j above if the permit registrant implements or has implemented volume reduction measures, such as low impact development practices, that will or has resulted in reductions of the mass load of pollutants in the discharge below the mass equivalent of the applicable statewide benchmarks in Schedule A.9 of this permit.

ii. The mass reduction waiver request and the revised SWPCP must include data and analysis to support the rationale for the mass load reduction selection. Include in the waiver request a description of the measure(s), and a mass load analysis, and expected implementation date(s).

iii. An Oregon Professional Engineer (PE) or Oregon certified engineering geologist (CEG) must design and stamp the portion of the SWPCP that addresses the mass reduction measures.

iv. At discharge points at which a Tier II mass reduction waiver has been implemented:
   (1) Permit registrants must take Tier I corrective actions in accordance with A.10.
   (2) Monitoring must resume at substantially similar discharge points.
   (3) Permit registrants may request a monitoring waiver if the geometric mean of four consecutive qualifying samples is equal to or below the benchmark.

l. Tier II Natural Background Waiver

i. A permit registrant may request a natural background waiver from the requirements in Schedule A.11.j above if the benchmark exceedance(s) is attributed solely to the presence of the pollutant(s) in natural background and is not associated with industrial activities at the site (see Schedule D.3, Definitions). The Tier II natural background waiver request must include the investigation and analysis used to demonstrate that the exceedances are due only to natural background conditions and data collected by the permit registrant or others (including peer-reviewed literature studies) that describe the levels of natural background pollutants in the discharge.

12. Permit Compliance

a. Any noncompliance with any of the requirements of this permit constitutes a violation of the Clean Water Act.

b. Any corrective actions and time periods specified for remedying noncompliance with the permit do not absolve permit registrants of the initial underlying violations.

c. Where corrective action is triggered by an event that does not itself constitute a violation, such as a benchmark exceedance, there is no permit violation associated with the trigger event provided that the permit registrant takes the corrective action within the deadlines identified in this permit.

d. A new permit registrant with a new facility (that begins operation after August 1, 2017) or an existing facility (that was in operation before August 1, 2017, without a stormwater discharge permit) must implement stormwater control measures to meet new technology and water quality based requirements in Schedule A.1 – A.5, including applicable sector-specific requirements in Schedule E of this permit, no later than 90 calendar days after receiving permit coverage. Control measures that require capital improvements must be completed no later than two years after receiving permit coverage, unless DEQ or agent approved a later date.

13. Corrective Action Triggers

The permit contains many types of corrective action triggers: statewide benchmarks, sector-specific benchmarks, numeric effluent limits and impairment reference concentrations. The numeric value of the corrective action trigger for a particular pollutant is often different for different types of triggers. For a particular facility, multiple corrective action triggers may apply for a particular pollutant. When exceeding multiple applicable corrective action triggers, the permit registrant must follow the corrective actions for each trigger.

SCHEDULE B

MONITORING REQUIREMENTS

1. Pollutant Parameters

a. Benchmarks - Permit registrants must monitor for the applicable statewide benchmark pollutants identified in Schedule A.9 of this permit. Permit registrants must also monitor for benchmarks specified for applicable industrial sector(s) identified in Schedule E, for both primary industrial activity and any co-located industrial activities.

b. Impairment Pollutants

i. Permit registrants that discharge to impaired waterbodies, based on the EPA-approved 303(d) list (Category 5) that is in effect as of May 1, 2017, (see Schedule D.3, Definitions) for pollutant(s), must monitor for impairment pollutant(s) identified in the permit assignment letter for which a standard analytical method exists (see 40 CFR Part 136).

ii. Before granting coverage under this permit, DEQ or agent will identify in the permit assignment letter the impairment pollutants that the permit registrant is required to monitor and reference concentrations for these pollutants. Reference concentrations reflect the approved acute aquatic life criterion for the pollutant when applicable. If there is not an acute criterion for the pollutant, DEQ or agent will use an applicable chronic criterion. If there is not a chronic criterion for the pollutant, DEQ or agent will use an applicable human health criterion.

(1) If the pollutant for which the waterbody is impaired is suspended solids, turbidity or sediment/sedimentation, permit registrants must monitor for Total Suspended Solids (TSS).

(2) If the pollutant for which the waterbody is impaired is expressed in the form of an indicator or surrogate pollutant, permit registrants must monitor for that indicator or surrogate pollutant.

(3) No monitoring is required when a waterbody's impairment is due to one of the following:

(A) Biological communities and no pollutant, including indicator or surrogate pollutants, is specified as causing the impairment; or
(B) Temperature, hydrologic modifications, or impaired hydrology.

iii. Permit registrants must meet Schedule B.1.b.i. unless the permit registrant:
(1) Prevents all pollutants for which the waterbody is impaired from being exposed to stormwater, and documents in the SWPCP those procedures it has taken to prevent exposure on site; or
(2) Provides monitoring data demonstrating that the pollutant(s) for which the waterbody is impaired are not present in the discharge.

c. Numeric Effluent limits pursuant to Federal Effluent Limit Guidelines - Permit registrants subject to effluent limit guidelines must monitor for the parameters in Schedule A.2 of this permit at each discharge point containing the discharges from industrial activities identified in the guidelines and report the monitoring results in the Discharge Monitoring Report required by Schedule B.8.

d. Multiple Requirements - When more than one type of monitoring for the same pollutant at the same discharge point applies, the permit registrant may use a single sample to satisfy both monitoring requirements. Permit registrant must complete corrective action and reporting requirement for each parameter.

2. Sampling Procedures

a. Grab Sampling
i. For each discharge point monitored, collect a single grab sample of stormwater discharge or a series of composite samples.
ii. Composite samples may be used as an alternative to grab sampling, except when monitoring for pH, oil and grease and E. coli. Composited samples must be collected from same storm event. Registrants may not switch between grab sampling to composite sampling during a monitoring year without DEQ or agent approval.
iii. Permit registrants may use a single grab sample or composite to satisfy multiple pollutant parameter monitoring requirements (for example, required to monitor for zinc as benchmark and impairment pollutant).

b. Representative Sample
i. Samples must be representative of the discharge.
ii. Monitoring locations must be identified in the SWPCP.
iii. Stormwater discharges regulated by this permit include stormwater run-on that commingles with stormwater discharges associated with industrial activity.
iv. If discharges authorized by this permit commingle with discharges authorized under a separate NPDES permit, any required sampling of the authorized discharges must be performed at a point before they mix with other waste streams, to the extent practicable. When combined flows are unavoidable, sampling must include all permitted parameters.
v. Authorized non-stormwater discharges under condition 8 of this permit must be sampled when commingled with stormwater discharges associated with industrial activity.
vi. Stormwater flows may combine into a common on-site treatment facility.
vii. The permit registrant shall, to the extent practicable, sample stormwater associated with industrial activity as it flows off-site before it combines with stormwater, wastewater or other waste streams from another facility or mixes with any surface water.

c. Multiple Discharges - Each discharge point must be monitored unless:

i. Discharge point serves an area without exposure of stormwater to industrial activities; or
ii. Discharge point has effluent that is substantially similar to the effluent(s) of a monitored discharge point and the same BMPs are implemented and maintained at the substantially similar discharge points or drainage areas that lead to the discharge points. Substantially similar effluent(s) are discharges from drainage areas serving comparable activities where the discharges are expected to be similar in composition. The determination of substantial similarity of effluent(s) must be based on past monitoring data or an analysis supporting that the discharge points are substantially similar. The supporting data or analysis must be included in the SWPCP. This provision does not apply to discharge point(s) covered by a numeric effluent limit.

d. Timing - Monitor the discharge during the first 12 hours of the discharge event, which is a storm event or snowmelt resulting in an actual discharge from a site. If it is not practicable to collect the sample within this period, collect the sample as soon as practicable and provide documentation with the Discharge Monitoring Report why it was not practicable to take samples within the period. Permit registrant is not required to sample outside of regular business hours of operation or during unsafe conditions.
e. Sampling for pH - Approved methods for pH sampling require either measuring the pH directly in the flow, or analyzing the sample within 15 minutes of sample collection.
   i. Obtain accurate pH readings with a properly calibrated pH meter.
   ii. Permit registrant must follow manufacturers' specifications and keep meter in good working order.
   iii. pH paper may not be used for determining the precise parameters established in this permit.
f. Monitoring Frequency - Permit registrants must monitor their stormwater discharge according to the frequency described in Table 5 below unless DEQ or agent grant a monitoring waiver in writing or approve a monitoring variance.
   i. Stormwater samples must be collected at least 14 calendar days apart.
   ii. Permit registrant may collect more samples than the minimum frequency described below, but must report this additional data in the Discharge Monitoring Report. All qualifying samples must be included to establish a monitoring waiver in Schedule B.4 or to conduct the geometric mean evaluation in Schedule A.11 of this permit.
   iii. Exceedance of Numeric Effluent Limit in Schedule A.2 of this permit – Permit registrants must conduct follow-up monitoring of any pollutant that exceeds the numeric effluent limit(s) no later than 30 calendar days (or during the next storm event should none occur within 30 calendar days) of receiving the monitoring results. If the follow-up monitoring exceeds the numeric effluent limit, the permit registrant must monitor the discharge four times per year until compliance with the numeric effluent limit is achieved. Once monitoring achieves the effluent limit value, semi-annual frequency may resume.

Table 5: Monitoring Frequency

Pollutant Category	Minimum Frequency
All applicable statewide benchmarks in Schedule A.9, any applicable sector-specific benchmarks in Schedule E and any applicable impairment pollutants	Four times per year, two samples between January 1 and June 30, and two samples between July 1 and December 31
Any applicable numeric effluent limitations based upon Effluent Limitation Guidelines (see Schedule A.2. and Schedule E)	Two times per year, One sample between January 1 and June 30, and one sample between July 1 and December 31

3. Monitoring Variance

a. Permit registrants may request a monitoring variance for missed samples due to no storm events of sufficient magnitude to produce run-off during regular business hours of operation and safe conditions. For each missed sample, variance requests are due on February 15 and August 15. Report no discharge in the Discharge Monitoring Report and include supporting data and analysis demonstrating why the monitoring did not occur at the time of DMR submission. If DEQ or agent has evidence contradicting the permit registrant's no discharge claim, failure to complete the required monitoring may be a permit violation. Supporting data may include:
   i. State or federal authorities declared the year a drought year.
   ii. Demonstration that rainfall in the area where the permit registrant's facility is located was 20 percent or more below the three-year average rainfall for that area.
   iii. Photo documentation, rain gauge data, detention basin storage volumes, storm infiltration rate or retention capacity.

4. Monitoring Waiver for Benchmark and Impairment Pollutant Monitoring

a. A monitoring waiver may be requested from DEQ or agent in the following circumstances:
   i. When the benchmark or impairment reference concentration has been achieved, as demonstrated by:
      (1) The geometric mean of four consecutive qualifying samples is equal to or below the impairment reference concentration, applicable statewide or sector-specific benchmarks.
      (2) pH results are within the range for four consecutive qualifying readings.
      (3) For Tier II parameters and discharge points once the corrective action has been implemented, and the geometric mean of four consecutive qualifying samples is equal to or below the applicable statewide benchmark, or pH results are within the range for four consecutive readings.
   ii. If the exceedance(s) is attributed solely to the presence of the pollutant(s) in natural background and is not associated with industrial activities at the site. Permit registrant may submit a natural background waiver report to DEQ or agent that describes the investigation and analysis to demonstrate that the exceedances are due to natural background conditions and includes any data collected by the permit registrant or others (including peer-review literature studies) that describe the levels of natural background pollutants in the discharge.

iii. If a facility is inactive and unstaffed and no industrial materials or activities are exposed to stormwater, the permit registrant is not required to conduct monitoring for the remainder of the permit term.
(1) Permit registrant must provide documentation with the Discharge Monitoring Report indicating that the site is inactive and unstaffed, and that there are no industrial materials or activities exposed to stormwater, in accordance with the substantive requirements in 40 CFR 122.26(g)(4)(iii).
(2) Sign and certify the statement in accordance with D8 in Schedule F of this permit.

b. The permit registrant's request must include documentation to support the request. Monitoring waivers may be allowed for individual parameters and separate discharge points.
c. If the facility has triggered Tier II during this permit term, permit registrants are ineligible for monitoring waivers at all discharge points and parameters that exceeded the geometric mean in Schedule A.11. The ineligibility applies to the end of second monitoring year through Tier II implementation date.
d. DEQ or agent will notify the permit registrant in writing if a monitoring waiver is approved or denied. Until written approval of the monitoring waiver is received, the permit registrant must continue monitoring.
e. Monitoring waivers are valid for the remainder of the permit term. Upon renewal into a subsequent permit, permit registrants must reinstate all monitoring, and re-establish the basis for all monitoring waivers.
f. There is no reduction in monitoring allowed for:
i. Visual observations, unless the site is inactive or unstaffed and there are no industrial materials or activities exposed to stormwater and permit registrant meets requirements in Schedule B.4.a.iii of this permit.
ii. Monitoring for federal numeric effluent limit guidelines.
g. Reinstatement of Monitoring
i. It is the responsibility of the permit registrant to reinstate discharge monitoring under the following circumstances or if notified by DEQ or agent:
(1) Prior monitoring used to establish the monitoring waiver was improper or sampling results were incorrect;
(2) Changes to site conditions are likely to affect stormwater discharge characteristics, such as change in SIC code, process change or increased pollutants sources exposed to stormwater;
(3) Additional monitoring occurs and the sampling results exceed benchmark(s) or impairment reference concentration(s); or
(4) For inactive or unstaffed sites, the facility becomes active or staffed, or industrial materials or activities become exposed to stormwater.
h. Revocation of Monitoring Waiver
DEQ or agent may revoke the monitoring waiver based on any of the above conditions or in response to an inspection or corrective action. In this event, DEQ or agent will notify the permit registrant in writing that the monitoring waiver is revoked.

5. Additional Monitoring- DEQ may notify permit registrants in writing of additional discharge monitoring requirements. Any such notice will state the reasons for the monitoring, locations and

pollutants to be monitored, frequency and period of monitoring, sample types and reporting requirements.

6. **For new permit registrants discharging to Clackamas River, McKenzie River above Hayden Bridge (River Mile 15), North Santiam River or North Fork Smith River subbasin** under OAR 340-041-0350 (For potential or existing dischargers that did not have a permit prior to January 28, 1994, and existing dischargers that have a NPDES stormwater discharge permit but request an increased load limitation.)
   a. No later than 180 calendar days after obtaining permit coverage, permit registrant must submit to DEQ a monitoring and water quality evaluation program. This program must be effective in evaluating the in-stream impacts of the discharge as required by OAR 340-041-0350.
   b. No later than 30 calendar days from DEQ approval, the permit registrant must implement the monitoring and water quality evaluation program.

INSPECTIONS

7. **Permit registrant must meet the following monthly inspection requirements:**
   a. Inspect areas where industrial materials or activities are exposed to stormwater and areas where stormwater control measures, structures, catch basins, and treatment facilities are located. Inspections must include all discharge points and the following areas:
      i. Industrial materials, residue, or trash that may have or could come into contact with stormwater;
      ii. Leaks or spills from industrial equipment, drums, tanks, and other containers;
      iii. Offsite and internal tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;
      iv. Tracking or blowing of raw, final, or waste materials that results in exposure of stormwater falling on the site;
      v. Evidence of, or the potential for, pollutants entering the drainage system;
      vi. Evidence of pollutants discharging to receiving waters at all discharge point(s);
      vii. Visual observation for the presence of floating, suspended or settleable solids, color, odor, foam, visible oil sheen, or other obvious indicators of pollution in the stormwater discharge at all discharge point(s), including discharge points that have been authorized to be substantially similar in accordance with Schedule B.2.c.ii; and
      viii. Stormwater control measures, including treatment, to ensure they are functioning properly.
   b. Conduct all inspections by personnel that have completed employee training and are familiar with aspects of the SWPCP.
   c. Conduct and document visual inspections at the site on a monthly basis when the facility is in operation. Visual observations above must be conducted during a discharge event if one occurs during the month, regardless whether the monthly site inspection has already occurred.
   d. For exceptionally large facilities where monthly inspections of all areas or visual observation at all substantially similar discharge points are infeasible, DEQ or agent may approve in writing a modified inspection frequency.
   e. Conduct visual observations during regular business hours of operation and safe conditions.

f. Document the following in an inspection report that is retained on-site and submitted to DEQ or agent upon request:
   i. The inspection date and time;
   ii. The name(s) of inspector(s);
   iii. Control measures and treatment facilities needing cleaning, replacement, maintenance, reconditioning or repair;
   iv. The condition of the drainage and conveyance system and need for maintenance;
   v. Previously unidentified sources of pollutants;
   vi. Stormwater discharge visual observations, a Tier I report is required if visual observation shows evidence of stormwater pollution as indicated condition Schedule B.7.a.vii.;
   vii. Nature of the discharge; whether snow or rain; and
   viii. Any corrective action, source control or maintenance taken or scheduled to remedy problems found.

REPORTING AND RECORDKEEPING REQUIREMENTS

8. Reporting Monitoring Data

a. Paper Submissions
   i. Permit registrant must submit all monitoring results required in this permit via DEQ-approved Discharge Monitoring Report (DMR) forms until directed by DEQ to do otherwise.
      (1) DMRs are due quarterly as outlined in Table 6 for samples taken during the preceding calendar quarter.
      (2) Reports must include laboratory results from the testing laboratory, including minimum detection level, Quality Assurance/Quality Control and analytical methods for the parameters analyzed.
      (3) Submit pH field notes and chain of custody.
      (4) Report non-detections as directed by DEQ. In calculating the geometric mean, use one-half of the detection level for non-detections.
      (5) Report all sample results from discharge points.
      (6) The permit registrant must sign and certify submittals of Discharge Monitoring Reports, any additional reports, and other information in accordance with the requirements of Section D8 within Schedule F of this permit.
   ii. Until directed by DEQ to begin electronic submission, paper DMR forms must be received by the due dates in Table 6, regardless of whether semi-annual monitoring has been satisfied in the 1st or 3rd quarter.
   iii. All monitoring results received between July 1, 2018, and December 31, 2018, must be reported in the 2nd quarter DMR, February 2019.
   iv. Permit registrant must report Tier II geometric mean benchmark evaluation on the 4th quarter DMR after the second monitoring year of permit coverage.

Table 6: DMR Submission Deadlines

Reporting Quarters	Months	DMR Due Dates
1st	July-September	November 15
2nd	October-December	February 15*
3rd	January-March	May 15
4th	April-June	August 15*

*Variance request may be submitted semi-annually as applicable

b. Electronic Submission
   i. Permit registrant must submit the sampling and analysis results and other required information of Schedule B in an electronic format to the initial recipient as specified below or as directed otherwise by DEQ as the NPDES regulatory authority in Oregon according to 40 CFR 127.
   ii. When directed by DEQ, the permit registrant must submit monitoring results and other information required by this permit on DEQ-approved web-based Discharge Monitoring Report forms including pre-approved attachments.
   iii. The permit registrant must report monitoring requirements listed in Schedule B of this permit via NetDMR when directed by DEQ. Submit laboratory results from the testing laboratory and other required reporting not entered on the NetDMR form via NetDMR as a separate attachment.
      (1) The permit registrant must submit a Discharge Monitoring Report to DEQ or agent as outlined in Table 6. Report the sampling results for the previous monitoring year and include the laboratory results from the testing laboratory, including minimum detection level, QA/QC and analytical methods for the parameters analyzed.
      (2) Submit pH field notes and chain of custody.
      (3) Report non-detections as directed by DEQ. In calculating the geometric mean, use one-half of the detection level for non-detections.
      (4) Report all sample results from discharge points.
      (5) The permit registrant must sign and certify submittals of Discharge Monitoring Reports, any additional reports, and other information in accordance with the requirements of Section D8 within Schedule F of this permit.
   iv. In accordance with 40 CFR 122.41(l)(9), DEQ will identify the initial recipient that is the designated entity for receiving electronic NPDES data. Until further notice from DEQ, EPA is the initial recipient to receive electronic submissions, and the permit registrant will use EPA's NetDMR for electronic reporting of Discharge Monitoring Report information. DEQ will notify the permit registrant in advance of changes to the initial recipient status and use of another electronic reporting system other than NetDMR.

9. Exceedance Report for Numeric Effluent Limits - If follow-up monitoring pursuant to Schedule B.2.f.iii of this permit exceeds a numeric effluent limit, permit registrant must submit an Exceedance

Report to DEQ or agent no later than 30 calendar days after receiving the monitoring results. The report must include the monitoring data from this monitoring event and the preceding monitoring event(s), an explanation of the situation, and what the permit registrant has done to correct the violation or intends to do if the corrective actions are not complete.

10. **Record Keeping Procedures -**Permit registrant must record and maintain at the facility the following information. All records must be retained by the permit registrant for at least three years and made available to DEQ, agent or local municipality upon request.
    a. A copy of the SWPCP and any revisions, including revised stamped SWPCP from Tier II corrective action;
    b. A copy of this permit;
    c. Permit assignment letter and coverage documents from DEQ for the current permit term;
    d. Documentation of maintenance and repairs of control measures and treatment systems;
    e. Tier I reports;
    f. All inspection reports;
    g. Documentation of any benchmark exceedance and corrective action taken;
    h. All copies of any reports or corrective action submitted to DEQ or agent;
    i. Spills or leaks of significant materials (See Schedule D.3, Definitions) that impacted or had the potential to impact stormwater or surface waters. Include the corrective actions to clean up the spill or leak as well as measures to prevent future problems of the same nature;
    j. Documentation to support your claim that your facility has changed its status from active to inactive and unstaffed with respect to the requirements to conduct routine facility inspections;
    k. Discharge Monitoring Reports, laboratory reports and field sampling notes; and
    l. Employee education materials and records of training.

11. Summary of Reporting Requirements and Submittal Date.

Table 7: Reporting

Permit Condition	Permit Schedule	Report Required	Due Date
Must not cause or contribute to a violation of instream water quality standard	Schedule A.4	Water Quality Standards Corrective Action Report	No later than 30 calendar days after receiving monitoring results
SWPCP submission	Schedule A.8	SWPCP revision	No later than 30 calendar days after the completion of modification
Sample results exceed applicable statewide or sector-specific benchmarks	Schedule A.10	Tier I Report*	No later than 30 calendar days after receiving monitoring results; Retain on-site and submit upon request
Sample results exceed applicable impairment reference concentrations	Schedule A.10.a.v	Tier I report	No later than 60 calendar days after receiving monitoring results
Second year geometric mean exceeds benchmarks	Schedule A.11	Tier II Report Tier II Mass Reduction Waiver Tier II Natural Background Waiver	No later than December 31 of third monitoring year of coverage
Written confirmation of Tier II implementation	Schedule A.11	Email or letter confirming Tier II proposal installation	No later than 30 calendar days of implementation
Sample results continue to exceed benchmark for Tier II parameters post implementation	Schedule A.11.j.iii	Tier I Report*	No later than 30 calendar days after receiving monitoring results; Retain on-site and submit upon request
Sample results exceed numeric effluent limits	Schedule B.9	Exceedance Report	No later than 30 calendar days after receiving monitoring results
Submission of monitoring results after the preceding calendar quarter	Schedule B.8	Discharge Monitoring Report	No later than February 15, May 15, August 15, and November 15

***Do not submit Tier I report for exceedance of statewide or sector-specific benchmarks unless requested by DEQ or agent**

SCHEDULE D

SPECIAL CONDITIONS

1. **Releases in Excess of Reportable Quantities.** This permit does not relieve the permit registrant of the reporting requirements of 40 CFR §117 Determination of Reportable Quantities for Hazardous Substances and 40 CFR §302 Designation, Reportable Quantities, and Notification.

2. **Availability of SWPCP and Monitoring Data.** The Stormwater Pollution Control Plan and stormwater monitoring data must be made available to government agencies responsible for stormwater management in the permit registrant's area.

3. **Definitions**
   For the purpose of this permit:
   a. Arid areas means portion of the state where annual precipitation averages range from 0 to 10 inches.
   b. Capital Improvements means the following improvements that require capital expenditures:
      i. Removal or permanent isolation from exposure to stormwater of significant materials left from previous activities on the site.
      ii. Treatment best management practices including to settling basins, oil/water separation equipment, grassy swales, detention/retention basins, and media filtration devices.
      iii. Manufacturing modifications that incur capital expenditures, including process changes for reduction of pollutants or wastes at the source.
      iv. Concrete pads, dikes and conveyance or pumping systems utilized for collection and transfer of stormwater to treatment systems.
      v. Roofs and appropriate covers for manufacturing areas.
      vi. Volume reduction measures, including low impact development control measures.
   c. Best management practices ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See 40 CFR 122.2.
   d. Co-located Industrial Activities means any industrial activities, excluding the primary industrial activity(ies), located on-site that are defined by the stormwater regulations at 122.26(b)(14)(i - ix, xi) and identified in Table 1: Sources Covered of the permit. An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the stormwater regulations or identified in Table 1.
   e. Columbia Slough means the waterway in northern Multnomah County flowing roughly parallel to the Columbia River between Fairview Lake and the Willamette River. *Confirm discharges to Columbia Slough by contacting the cities of Portland or Gresham.*
   f. Control Measure means any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the state.

g. Discharge Point means the location where collected and concentrated stormwater flows discharge from the facility such that the first receiving waterbody into which the discharge flows, either directly or through a separate storm sewer system, is a waters of the state.
h. Existing Discharger means an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.
i. Feasible means technologically possible and economically practicable and achievable in light of best industry practices.
j. Hazardous Substances is defined in 40 CFR §302 Designation, Reportable Quantities, and Notification.
k. High Quality Waters means those waters that meet or exceed levels that are necessary to support the propagation of fish, shellfish, and wildlife; recreation in and on the water; and other designated beneficial. Waters identified on the 303(d) (Category 5) list as not meeting applicable state water quality standards for a given pollutant are not high quality waters.
l. Impaired Waters means those waters identified by a State or EPA pursuant to Section 303(d) (Category 5) of the Clean Water Act as not meeting applicable State water quality standards for one or more pollutants. This may include both waters with approved TMDLs (Category 4), and those for which a TMDL has not yet been approved.
m. Industrial Activity means the categories of industrial activities included in the definition of "stormwater discharges associated with industrial activity" as defined in 40 CFR 122.26(b)(14)(i)-(ix) and (xi) or activities identified by DEQ as a significant contributor of pollutants, such as Table 2.
n. Industrial Stormwater means stormwater discharge associated with industrial activity (40 CFR 122.26(b)(14)).
o. Material Handling Activities include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.
p. Minimize means reduce or eliminate, or both, to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practice.
q. Monitoring year is from July 1 of one year to June 30 of the following year (for example, the 2017/2018 monitoring year is from July 1, 2017, through June 30, 2018).
r. Natural background pollutants include substances that are naturally occurring in soils or groundwater. Natural background pollutants do not include legacy pollutants from earlier activity on the site, or pollutants in run-on from neighboring sources that are not naturally occurring.
s. New Discharger means a facility from which there is or may be a discharge, that did not commence the discharge of pollutants at a particular site prior to August 13, 1979, which is not a new source, and which has never received a finally effective NPDES permit for discharges at that site. See 40 CFR 122.2.
t. New Source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants," the construction of which commenced: after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal. See 40 CFR 122.2.

u. No Exposure means all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. See 40 CFR 122.26(g).
v. Operator means any entity with a stormwater discharge associated with industrial activity that meets either of the following two criteria:
    i. The entity has operational control over industrial activities, including the ability to modify those activities; or
    ii. The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with this permit (e.g., the entity is authorized to direct workers at a facility to carry out activities required by this permit).
w. Outstanding Resource Waters means those waters designated by the Environmental Quality Commission where existing high quality waters constitute an outstanding state or national resource based on their extraordinary water quality or ecological values or where special water quality protection is needed to maintain critical habitat areas.
x. Permit Assignment Letter means a document sent by DEQ when coverage is granted or renewed that establishes registrant's monitoring year, sampling requirements, pollutant concentrations and monitoring frequency based on applicants' site information. Monitoring parameters include applicable statewide benchmarks, sector-specific benchmarks (primary and co-located), impairment reference concentrations and numeric effluent limits. This document may contain additional site-specific requirements.
y. Portland Harbor means the study area of EPA's Portland Harbor Superfund site located in the Lower Willamette River from approximately river mile 1.9 to 11.8.
z. Primary industrial activity means any activities performed on-site that are (1) identified by the facility's primary SIC code; or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), or (vii), and (ix). Narrative descriptions in 40 CFR 122.26(b)(14) identified above include: (i) activities subject to stormwater effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application-sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works with a design flow of 1.0 mgd or more.
aa. Qualifying samples are samples that are collected at least 14 calendar days apart, are analyzed using approved methods (see Schedule F), and satisfy the Quality Assurance/Quality Control requirements of the method.
bb. Regular business hours of operation means those time frames when the facility is engaged in its primary production process, with personnel that have completed the required SWPCP training.
cc. Run-on sources of stormwater means stormwater that drains from land located upslope or upstream from the regulated facility.
dd. Semi-arid areas means where annual rainfall averages range from 10 to 20 inches.
ee. Significant Materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with stormwater discharges.

ff. Stormwater means stormwater runoff, snow melt runoff and surface runoff drainage. See 40 CFR 122.26(b)(13).

gg. Stormwater associated with industrial activity (40 CFR 122.26(b)(14)), means the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to:

i. Industrial plant yards;
ii. Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
iii. Material handling sites (Material handling activities include the storage, loading and unloading, transportation or conveyance of raw material, intermediate product, finished product, by-product or waste product.);
iv. Refuse sites;
v. Sites used for the application or disposal of process waste waters (as defined in 40 CFR part401);
vi. Sites used for storage or maintenance of material handling equipment;
vii. Sites used for residual treatment, storage, or disposal; shipping and receiving areas;
viii. Manufacturing buildings;
ix. Storage areas (including tank farms) for raw materials, and intermediate and finished products;
x. Areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. Significant materials include, but are not limited to: raw materials storage; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical that a facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ash, slag, and sludge that have the potential to be released with stormwater discharges; or
xi. Stormwater run-on that commingles with stormwater discharges associated with industrial activity at the facility.
xii. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with stormwater drained from the above described areas.

hh. Stormwater Conveyance means a sewer, ditch, or swale that is designed to carry stormwater; a stormwater conveyance may also be referred to as a storm drain or storm sewer.

ii. Total Maximum Daily Load (TMDL) is the sum of the individual Waste Load Allocations (WLAs) for point sources and Load Allocations (LAs) for nonpoint sources and background. See OAR 340-041-0002(65) and OAR 340-042-0030(15).

jj. Treatment Measures mean Best Management Practices that are intended to remove pollutants from stormwater. These measures include: settling basins, oil/water separation equipment, detention/retention basins, media filtration devices, electrocoagulation, constructed wetlands and bioswales.

kk. Wasteload Allocation (WLA) means the portion of receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution. WLAs constitute a type of water quality-based effluent limitation. See OAR 340-041-0002(67).

4. Local Public Agencies Acting as DEQ's Agent

DEQ has authorized certain local governments and special districts to act as its agent in implementing portions of this permit. The agent conducts the following activities, including: application and SWPCP review, inspections, monitoring data review, stormwater and wastewater monitoring, and verification and approval of no-exposure certifications. Where DEQ has entered into such an agreement, DEQ or agent will notify the permit registrant of where to submit no-exposure certifications, and other notifications or correspondence associated with this permit.

5. Terminating Permit Coverage

a. Registrants must meet one or more of the following conditions:
   i. Cease all industrial operations and stormwater discharge associated with industrial activity as defined in 40 CFR 122.26(b)(14);
   ii. Obtain NPDES coverage under an individual permit;
   iii. A new owner or operator legally acquires responsibility of property or industrial activity;
   iv. Conditions for termination under sector G and H have been met.

b. To terminate permit coverage, registrants must:
   i. Complete and submit a Notice of Termination to DEQ or agent for approval.
   ii. Resolve all outstanding compliance issues.

c. Until termination has been approved by DEQ, permit registrants must comply with all permit conditions.

SCHEDULE E

SECTOR-SPECIFIC REQUIREMENTS

1. Permit registrants must meet the sector-specific requirements in Schedule E associated with their primary industrial activity and any co-located industrial activities, as defined in Schedule D of this permit. The sector-specific requirements apply to the areas of the facility where the sector-specific activities occur.
2. These sector-specific requirements in Schedule E are in addition to the requirements in Schedule A and B of this permit.
3. Samples may qualify for one or more monitoring requirement; however, corrective action is based on each exceedance.
4. Table E-1 below identifies SIC codes and activities descriptions that are required to meet the sector-specific requirements in Schedule E of the permit.

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
SECTOR A: TIMBER PRODUCTS	
2421	General Sawmills and Planing Mills
2411	Logging
2426	Hardwood Dimension and Flooring Mills
2429	Special Product Sawmills, Not Elsewhere Classified
2431-2439 (except 2434, see Sector W)	Millwork, Veneer, Plywood, and Structural Wood
2448	Wood Pallets and Skids
2449	Wood Containers, Not Elsewhere Classified
2451, 2452	Wood Buildings and Mobile Homes
2491	Wood Preserving
2493	Reconstituted Wood Products
2499	Wood Products, Not Elsewhere Classified
2441	Nailed and Lock Corner Wood Boxes and Shook
SECTOR B: PAPER AND ALLIED PRODUCTS	
2631	Paperboard Mills
2611	Pulp Mills
2621	Paper Mills
2652-2657	Paperboard Containers and Boxes
2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
SECTOR C: CHEMICALS AND ALLIED PRODUCTS MANUFACTURING AND REFINING	
2873-2879 (excluding 2874)	Agricultural Chemicals
2812-2819	Industrial Inorganic Chemicals
2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations
2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass
2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; in vitro and in vivo Diagnostic Substances; and Biological Products, Except Diagnostic Substances
2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products
2861-2869	Industrial Organic Chemicals
2891-2899	Miscellaneous Chemical Products
3952 (limited to list of inks and paints)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors
2911	Petroleum Refining
SECTOR D: PETROLEUM REFINING AND RELATED INDUSTRIES **Asphalt Paving Mixtures and Blocks, Primary SIC code 2951, Covered by 1200-A General Permit**	
2951 (co-located SIC code only), 2952	Asphalt Paving and Roofing Materials
2992, 2999	Miscellaneous Products of Petroleum and Coal
SECTOR E: GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS **Ready-Mixed Concrete, Primary SIC code 3273, Covered by 1200-A General Permit**	
3251-3259	Structural Clay Products
3261-3269	Pottery and Related Products
3271-3275 (3273 co-located SIC code only)	Concrete, Gypsum and Plaster Products
3211	Flat Glass
3221, 3229	Glass and Glassware, Pressed or Blown
3231	Glass Products Made of Purchased Glass
3241	Hydraulic Cement
3281	Cut Stone and Stone Products
3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products
SECTOR F: PRIMARY METALS	
3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
3321-3325	Iron and Steel Foundries

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
3351-3357	Rolling, Drawing, and Extruding of Nonferrous Metals
3363-3369	Nonferrous Foundries (Castings)
3331-3339	Primary Smelting and Refining of Nonferrous Metals
3341	Secondary Smelting and Refining of Nonferrous Metals
3398, 3399	Miscellaneous Primary Metal Products
SECTOR G: METAL MINING (ORE MINING AND DRESSING)	
1021	Copper Ore and Mining Dressing Facilities
1011	Iron Ores
1021	Copper Ores
1031	Lead and Zinc Ores
1041, 1044	Gold and Silver Ores
1061	Ferroalloy Ores, Except Vanadium
1081	Metal Mining Services
1094, 1099	Miscellaneous Metal Ores
SECTOR H: COAL MINES AND COAL MINING-RELATED FACILITIES	
1221-1241	Coal Mines and Coal Mining-Related Facilities
SECTOR I: OIL AND GAS EXTRACTION AND REFINING	
1311	Crude Petroleum and Natural Gas
1321	Natural Gas Liquids
1381-1389	Oil and Gas Field Services
SECTOR J: MINERAL MINING AND DRESSING- Discharges Covered by 1200-A General Permit	
SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES	
HZ	Hazardous Waste Treatment, Storage, or Disposal Facilities: • Hazardous waste storage • Hazardous waste disposal • Hazardous waste facilities operating under interim status • Hazardous waste facilities operating under a permit under Subtitle C of RCRA HZ is the Activity Code for this Sector. It potentially applies to any facility regardless of SIC, in addition to these specifically related to hazardous waste: • SIC 4953 Refuse Systems (hazardous waste treatment and disposal)
SECTOR L: LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS	

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
LF	All Landfill, Land Application Sites and Open Dumps
LF	All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60
SECTOR M: MOTOR VEHICLE PARTS, USED	
5015	Automobile Salvage Yards
SECTOR N: SCRAP AND WASTE MATERIALS	
5093	Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling
5093	Source-separated Recycling Facility
SECTOR O: STEAM ELECTRIC GENERATING FACILITIES	
SE	Steam Electric Generating Facilities, including coal handling sites: • steam electric power generation using coal, including coal handling areas • steam electric power generation using natural gas • steam electric power generation using oil • steam electric power generation using nuclear energy • steam electric power generation using any other fuel to produce a steam source • coal pile runoff (includes effluent limitations established by 40 CFR 423) • dual fuel co-generation (i.e., steam generation using fossil fuel to augment a heat-capture generation system) SE is the Activity Code for this Sector. It may apply to any facility SIC Code, in addition to these specifically related to steam electric generation: • SIC 4911 Electric Services (fossil fuel power generation, nuclear electric power generation & other electric power generation)
SECTOR P: LAND TRANSPORTATION AND WAREHOUSING	
4011, 4013	Railroad Transportation
4111-4173	Local and Highway Passenger Transportation
4212-4215	Trucking and Courier Services, Except Air
4226, 4231	Special Warehousing and Storage, Not Otherwise Classified, Terminal and Joint Terminal Maintenance Facilities for Motor Freight Transportation
4311	United States Postal Service
5171	Petroleum Bulk Stations and Terminals

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
SECTOR Q: WATER TRANSPORTATION	
4412-4499	Water Transportation Facilities
SECTOR R: SHIP AND BOAT BUILDING AND REPAIRING YARDS	
3731, 3732	Ship and Boat Building or Repairing Yards
SECTOR S: AIR TRANSPORTATION FACILITIES	
4512-4581	Air Transportation Facilities
SECTOR T: TREATMENT WORKS	
TW	Treatment Works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403.
SECTOR U: FOOD AND KINDRED PRODUCTS	
2041-2048	Grain Mill Products
2074-2079	Fats and Oils Products
2011-2015	Meat Products
2021-2026	Dairy Products
2032-2038	Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties
2051-2053	Bakery Products
2061-2068	Sugar and Confectionery Products
2082-2087	Beverages
2091-2099	Miscellaneous Food Preparations and Kindred Products
2111-2141	Tobacco Products
SECTOR V: TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING; LEATHER AND LEATHER PRODUCTS	
2211-2299	Textile Mill Products
2311-2399	Apparel and Other Finished Products Made from Fabrics and Similar Materials
3131-3199	Leather and Leather Products (note: see Sector Z1 for Leather Tanning and Finishing)
SECTOR W: FURNITURE AND FIXTURES	

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
2434	Wood Kitchen Cabinet and countertop Manufacturing
2511-2519	Household Furniture
2521, 2522	Office Furniture
2531	Public Building and Related Furniture
2541, 2542	Partitions, Shelving, Lockers, and Office and Store Fixtures
2591, 2599	Miscellaneous Furniture and Fixtures
SECTOR X: PRINTING AND PUBLISHING	
2711-2796	Printing, Publishing, and Allied Industries
SECTOR Y: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES	
3011	Tires and Inner Tubes
3021	Rubber and Plastics Footwear
3052, 3053	Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting
3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified
3081-3089	Miscellaneous Plastics Products
3931	Musical Instruments
3942-3949	Dolls, Toys, Games, and Sporting and Athletic Goods
3951-3955 (except 3952 – see Sector C)	Pens, Pencils, and Other Artists' Materials
3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
3991-3999	Miscellaneous Manufacturing Industries
SECTOR Z: LEATHER TANNING AND FINISHING	
3111	Leather Tanning and Finishing
SECTOR AA: FABRICATED METAL PRODUCTS	
3411-3499 (except 3479)	Fabricated Metal Products, Except Machinery and Transportation Equipment, and Coating, Engraving, and Allied Services.
3911-3915	Jewelry, Silverware, and Plated Ware
3479	Fabricated Metal Coating and Engraving
SECTOR AB: TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY	
3511-3537	Engines and Turbines, Farm and Garden Machinery and Equipment, Construction, Mining and Materials Handling Machinery and Equipment
3541-3549	Metalworking Machinery and Equipment

Table E-1. Sectors of Industrial Activity with Description

SIC Code or Activity Code	Activity Represented
3552-3559	Special Industry Machinery, Except Metalworking Machinery
3561-3569	General Industrial Machinery and Equipment
3581-3599	Refrigeration and Service Industry Machinery, Miscellaneous Industrial and Commercial Machinery and Equipment
3711-3716	Motor Vehicles and Motor Vehicle Equipment
3721-3751	Aircraft and Parts, Ship and Boat Building and Repairing, Railroad Equipment, Motorcycles, Bicycles and Parts
3761-3799	Guided Missiles and Space Vehicles and Parts, Miscellaneous Transportation Equipment
SECTOR AC: ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC AND OPTICAL GOODS ***No Sector-specific requirements***	
3571-3579	Computer and Office Equipment
3612-3699	Electronic and Other Electrical Equipment and Components, Except Computer Equipment
3812-3829	Measuring, Analyzing, Optical and Controlling Instruments
3841-3861	Photographic, Medical and Optical Goods
3873	Watches and Clocks

Sector A – Timber Products.
Additional Technology-Based Effluent Limits

E.A.1 *Good Housekeeping*. In areas where storage, loading and unloading, and material handling occur, perform good housekeeping to limit the discharge of wood debris, minimize the leachate generated from decaying wood materials, and minimize the generation of dust.

E.A.2 Additional SWPCP Requirements

E.A.2.1 *Drainage Area Site Map*. Document in your SWPCP where any of the following may be exposed to precipitation or surface runoff: processing areas, treatment chemical storage areas, treated wood and residue storage areas, wet decking areas, dry decking areas, untreated wood and residue storage areas, and treatment equipment storage areas.

E.A.2.2 *Inventory of Exposed Materials*. Where such information exists, if your facility has used chlorophenolic, creosote, or chromium-copper-arsenic formulations for wood surface protection or preserving, document in your SWPCP the following: areas where contaminated soils, treatment equipment, and stored materials still remain and the management practices employed to minimize the contact of these materials with stormwater runoff.

E.A.2.3 *Description of Stormwater Management Controls*. Document measures implemented to address the following activities and sources: log, lumber, and wood product storage areas; residue storage areas; loading and unloading areas; material handling areas; chemical storage areas; and equipment and vehicle maintenance, storage, and repair areas. If your facility performs wood surface protection and preservation activities, address the specific control measures, including any BMPs, for these activities.

E.A.3 Additional Inspection Requirements.

E.A.3.1. If your facility is a wood preserving facility under SIC 2491, inspect processing areas, transport areas, and treated wood storage areas monthly to assess the usefulness of practices to minimize the deposit of treatment chemicals on unprotected soils and in areas that will come in contact with stormwater discharges.

E.A.4 Sector-Specific Benchmarks

Table E.A-1 identifies benchmarks that apply to the specific subsectors of Sector A. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table E.A-1

Subsector (You may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Concentration**
General Sawmills and Planing Mills (SIC 2421)	Chemical Oxygen Demand (COD)	120.0 mg/L
Hardwood Dimension and Flooring Mills; Special Products Sawmills, not elsewhere classified; Millwork, Veneer, Plywood, and Structural Wood; Wood Pallets and Skids; Wood Containers, not elsewhere classified; Wood Buildings and Mobile Homes; Reconstituted Wood Products; and Wood Products Facilities not elsewhere classified (SIC 2426, 2429, 2431-2439 (except 2434), 2441, 2448, 2449, 2451, 2452, 2493, and 2499)	Chemical Oxygen Demand (COD)	120.0 mg/L
Wood Preserving (SIC 2491)	Total Arsenic	0.15 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector B – Paper and Allied Products

E.B.1 Sector-Specific Benchmarks

Table E.B-1 identifies benchmarks that apply to the specific subsectors of Sector B. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.B-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Concentration**
Paperboard Mills (SIC Code 2631)	Chemical Oxygen Demand (COD)	120 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector C – Chemical and Allied Products Manufacturing, and Refining

E.C.1 Sector-Specific Benchmarks

Table E.C-1 identifies benchmarks that apply to the specific subsectors of Sector C. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.C-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Agricultural Chemicals (SIC 2873-2879, excluding 2874)	Nitrate plus Nitrite Nitrogen	0.68 mg/L
	Total Iron	1.0 mg/L
	Phosphorus	2.0 mg/L
Industrial Inorganic Chemicals (SIC 2812-2819)	Total Aluminum	0.75 mg/ L
	Total Iron	1.0 mg/L
	Nitrate plus Nitrite Nitrogen	0.68 mg/L
Soaps, Detergents, Cosmetics, and Perfumes (SIC 2841-2844)	Nitrate plus Nitrite Nitrogen	0.68 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector D – Petroleum Refining and Related Industries

E.D.1 Limitation of Coverage

Asphalt Paving Mixtures and Blocks, Primary SIC code 2951, must apply for coverage under the 1200-A General Permit.

E.D.2 Effluent Limitations Based on Effluent Limitations Guidelines

Table E.D-1 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.D-1[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from asphalt emulsion facilities. **Co-located SIC code only.**	Total Suspended Solids (TSS)	23.0 mg/L, daily maximum
		15.0 mg/L, 30-day avg.
	pH	6.0 - 9.0 s.u.
	Oil and Grease	15.0 mg/L, daily maximum
		10 mg/L, 30-day avg.

[1]Monitor semi-annually.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector E – Glass, Clay, Cement, Concrete, and Gypsum Products

E.E.1 Limitations of coverage

Ready-Mixed Concrete, primary SIC code 3273, must apply for coverage under the 1200-A General Permit.

E.E.2 Additional Technology-Based Effluent Limits

E.E.2.1 *Good Housekeeping Measures*. With good housekeeping, prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), kiln dust, fly ash, settled dust, or other significant material in stormwater from paved portions of the site that are exposed to stormwater. Consider sweeping regularly or using other equivalent measures to minimize the presence of these materials. Indicate in your SWPCP the frequency of sweeping or equivalent measures. Determine the frequency based on the amount of industrial activity occurring in the area and the frequency of precipitation, but it must be performed at least once a week if cement, aggregate, kiln dust, fly ash, or settled dust are being handled or processed. You must also prevent the exposure of fine granular solids (cement, fly ash, kiln dust, etc.) to stormwater, where practicable, by storing these materials in enclosed silos, hoppers, or buildings, or under other covering.

E.E.3 Additional SWPCP Requirements

E.E.3.1 *Drainage Area Site Map*. Document in the SWPCP the locations of the following, as applicable: bag house or other dust control device; recycle/sedimentation pond, clarifier, or other device used for the treatment of process wastewater; and the areas that drain to the treatment device.

E.E.3.1 *Discharge Testing*. For facilities producing ready-mix concrete, concrete block, brick, or similar products, include in the non-stormwater discharge testing a description of measures that ensure that process wastewaters resulting from washing trucks, mixers, transport buckets, forms, or other equipment are discharged in accordance with NPDES wastewater permit requirements or are recycled.

E.E.4 Sector-Specific Benchmarks

Table E.E-1 identifies benchmarks that apply to the specific subsectors of Sector E. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table E.E-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Concentration**
Clay Product Manufacturers (SIC 3251-3259, 3261-3269)	Total Aluminum	0.75 mg/L
Concrete and Gypsum Manufacturers (SIC 3271-3275) **3273: co-located SIC code only.**	Total Iron	1.0 mg/L

E.E.5 Effluent Limitations Based on Effluent Limitations Guidelines

Table E.E-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.E-2[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from material storage piles at cement manufacturing facilities(3241)	Total Suspended Solids (TSS)	50 mg/L, daily maximum
	pH	6.0 - 9.0 s.u.
[1]Monitor semi-annually.		

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector F – Primary Metal

E.F.1 Additional Technology-Based Effluent Limits

E.F.1.1 *Good Housekeeping Measures*. As part of your good housekeeping program, include a cleaning and maintenance program for all impervious areas of the facility where particulate matter, dust, or debris may accumulate, especially areas where material loading and unloading, storage, handling, and processing occur; and, where practicable, the paving of areas where vehicle traffic or material storage occur but where vegetative or other stabilization methods are not practicable (institute a sweeping program in these areas too). For unstabilized areas where sweeping is not practicable, consider using stormwater management devices such as sediment traps, vegetative buffer strips, filter fabric fence, sediment filtering boom, gravel outlet protection, or other equivalent measures that effectively trap or remove sediment.

E.F.2 Additional SWPCP Requirements

E.F.2.1 *Drainage Area Site Map*. Identify in the SWPCP where any of the following activities may be exposed to precipitation or surface runoff: storage or disposal of wastes such as spent solvents and baths, sand, slag and dross; liquid storage tanks and drums; processing areas including pollution control equipment (e.g., baghouses); and storage areas of raw material such as coal, coke, scrap, sand, fluxes, refractories, or metal in any form. In addition, indicate where an accumulation of significant amounts of particulate matter could occur from such sources as furnace or oven emissions, losses from coal and coke handling operations, etc., and could result in a discharge of pollutants to waters of the United States.

E.F.2.2 *Inventory of Exposed Material*. Include in the inventory of materials handled at the site that potentially may be exposed to precipitation or runoff, areas where deposition of particulate matter from process air emissions or losses during material-handling activities are possible.

E.F.3 Additional Inspection Requirements

As part of conducting your monthly inspections address all potential sources of pollutants, including (if applicable) air pollution control equipment (e.g., baghouses, electrostatic precipitators, scrubbers, and cyclones), for any signs of degradation (e.g., leaks, corrosion, or improper operation) that could limit their efficiency and lead to excessive emissions. Consider monitoring air flow at inlets and outlets (or use equivalent measures) to check for leaks (e.g., particulate deposition) or blockage in ducts. Also inspect all process and material handling equipment (e.g., conveyors, cranes, and vehicles) for leaks, drips, or the potential loss of material; and material storage areas (e.g., piles, bins, or hoppers for storing coke, coal, scrap, or slag, as well as chemicals stored in tanks and drums) for signs of material losses due to wind or stormwater runoff.

E.F.4 Sector-Specific Benchmarks

Table E.F-1 identifies benchmarks that apply to the specific subsectors of Sector F. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.F-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Cutoff Concentration
Steel Works, Blast Furnaces, and Rolling and Finishing Mills (SIC 3312-3317)	Total Aluminum	0.75 mg/L
Iron and Steel Foundries (SIC 3321-3325)	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector G – Metal Mining

E.G.1 Covered Stormwater Discharges

The requirements in Sector G apply to stormwater discharges associated with industrial activity from Metal Mining facilities, including mines abandoned on Federal lands, as identified by the SIC Codes specified under types of industrial sources required to obtain coverage, Table 1. Coverage is required for metal mining facilities that discharge stormwater contaminated by contact with, or that has come into contact with, any overburden, raw material, intermediate product, finished product, byproduct, or waste product located on the site of the operation.

E.G.1.1 *Covered Discharges from Inactive Facilities.* All stormwater discharges.

E.G.1.2 *Covered Discharges from Active and Temporarily Inactive Facilities*. Only the stormwater discharges from the following areas are covered:

- Waste rock and overburden piles if composed entirely of stormwater and not combined with mine drainage;
- Topsoil piles;
- Offsite haul and access roads;
- Onsite haul and access roads constructed of waste rock, overburden or spent ore if composed entirely of stormwater and not combining with mine drainage;
- Onsite haul and access roads not constructed of waste rock, overburden or spent ore except if mine drainage is used for dust control;
- Runoff from tailings dams or dikes when not constructed of waste rock or tailings and no process fluids are present;
- Runoff from tailings dams or dikes when constructed of waste rock or tailings and no process fluids are present, if composed entirely of stormwater and not combining with mine drainage;
- Concentration building if no contact with material piles;
- Mill site if no contact with material piles;
- Office or administrative building and housing if mixed with stormwater from industrial area;
- Chemical storage area;
- Docking facility if no excessive contact with waste product that would otherwise constitute mine drainage;
- Explosive storage;
- Fuel storage;
- Vehicle and equipment maintenance area and building;
- Parking areas (if necessary);
- Power plant;
- Truck wash areas if no excessive contact with waste product that would otherwise constitute mine drainage;
- Unreclaimed, disturbed areas outside of active mining area;
- Reclaimed areas released from reclamation requirements prior to December 17, 1990;
- Partially or inadequately reclaimed areas or areas not released from reclamation requirements.

E.G.1.3 *Covered Discharges from Earth-Disturbing Activities Conducted Prior to Active Mining Activities*. All stormwater discharges.

E.G.1.4 *Covered Discharges from Facilities Undergoing Reclamation*. All stormwater discharges.

E.G.2 Limitations on Coverage

E.G.2.1 *Prohibition of Stormwater Discharges.* Stormwater discharges not authorized by this permit: discharges from active metal mining facilities that are subject to effluent limitation guidelines for the Ore Mining and Dressing Point Source Category (40 CFR Part 440).
Note: Stormwater runoff from these sources are subject to 40 CFR Part 440 if they are mixed with other discharges subject to Part 440. In this case, they are not eligible for coverage under this permit. Discharges from overburden/waste rock and overburden/waste rock-related areas are not subject to 40 CFR Part 440 unless they: (1) drain naturally (or are intentionally diverted) to a point source; and (2) combine with "mine drainage" that is otherwise regulated under the Part 440 regulations. For such sources, coverage under this permit would be available if the discharge composed entirely of stormwater does not combine with other sources of mine drainage that are not subject to 40 CFR Part 440. Operators bear the initial responsibility for determining if they are eligible for coverage under this permit, or must seek coverage under another NPDES permit.

E.G.2.2 *Prohibition of Non-Stormwater Discharges*. Not authorized by this permit: adit drainage, and contaminated springs or seeps discharging from waste rock dumps that do not directly result from precipitation events.

E.G.3 Definitions

The following definitions are not intended to supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii).

E.G.3.1 *Mining operation* – For this permit, mining operations are grouped into two distinct categories, with distinct technology based effluent limits and requirements applicable to each: a) earth-disturbing activities conducted prior to active mining activities); and b) active mining activities, which includes reclamation. "Mining operations" can occur at both inactive mining facilities and temporarily inactive mining facilities.

E.G.3.2 *Earth-disturbing activities conducted prior to active mining activities* – Consists of two classes of earth-disturbing (i.e., clearing, grading and excavation) activities:
a. activities performed for purposes of mine site preparation, including: cutting new rights of way (except when related to access road construction); providing access to a mine site for vehicles and equipment (except when related to access road construction); other earth disturbances associated with site preparation activities on any areas where active mining activities have not yet commenced (e.g., for heap leach pads, waste rock facilities, tailings impoundments, wastewater treatment plants); and
b. construction of staging areas to prepare for erecting structures such as to house project personnel and equipment, mill buildings, etc., and construction of access roads. Earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining are considered to be "construction" and have additional technology based effluent limits in E.G.4.2.

E.G.3.3 *Active mining activities* – Activities related to the extraction, removal or recovery, and benefication of metal ore from the earth; removal of overburden and waste rock to expose mineable minerals; and site reclamation and closure activities. All such activities occur within

the "active mining area." Reclamation involves activities undertaken, in compliance with applicable mined land reclamation requirements, to return the land to an appropriate post-mining contour and land use in order to meet applicable federal and state reclamation requirements. In addition, once earth-disturbing activities conducted prior to active mining activities have ceased and all related requirements in E.G.4 have been met, and a well-delineated "active mining area" has been established, all activities (including any clearing, grading, and excavation) that occur within the active mining area are "active mining activities."

E.G.3.4 *Active mining area* – A place where work or other activity related to the extraction, removal or recovery of metal ore is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.
Note: Earth-disturbing activities described in the definition in E.G.3.2 that occur on areas outside the active mining area (e.g., for expansion of the mine into undeveloped territory) are considered "earth-disturbing conducted prior to active mining activities", and must comply with the requirements in E.G.4

E.G.3.5 *Inactive metal mining facility* – A site or portion of a site where metal mining and/or milling occurred in the past but there are no active mining activities occurring as defined above, and where the inactive portion is not covered by an active mining permit issued by the applicable state or federal agency. An inactive metal mining facility has an identifiable owner / operator. Sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials and sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim are not considered either active or inactive mining facilities and do not require an NPDES industrial stormwater permit.

E.G.3.6 *Temporarily inactive metal mining facility* – A site or portion of a site where metal mining and/or milling occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by the applicable State or Federal agency.

E.G.4 Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities

Stormwater discharges from earth-disturbing activities conducted prior to active mining activities (defined in E.G.3.3) are covered under this permit. For such earth-disturbing activities, permit registrants do not need to comply the technology-based effluent limits or Schedule B, monitoring or inspection frequency in Schedule B or E.G.5, E.G.7 or E.G.8.

Authorized discharges from areas where earth-disturbing activities have ceased and stabilization as specified in E.G.4.1.9 or E.G.4.2.11, where appropriate, has been completed (stabilization is not required for areas where active mining activities will occur), are no longer subject to E.G.4 requirements. At such time, authorized discharges become subject to all other applicable requirements in the permit, including not need to comply the technology-based effluent limits or Schedule B, monitoring or inspection frequency in Schedule B and Sector E.G.5, E.G.7 and E.G.8.

E.G.4.1 *Technology-Based Effluent Limits Applicable to All Earth-Disturbing Activities Conducted Prior to Active Mining Activities*. The following technology-based effluent limits apply to authorized discharges from all earth-disturbing activities conducted prior to active mining activities defined in E.G.3. These limits supersede the technology-based limits listed in Schedule A.

E.G.4.1.1 *Erosion and sediment control installation requirements*.

- By the time construction activities commence, install and make operational downgradient sediment controls, unless this timeframe is infeasible. If infeasible

you must install and make such controls operational as soon as practicable or as soon as site conditions permit.

- All other stormwater controls described in the SWPCP must be installed and made operational as soon as conditions on each portion of the site allows.

E.G.4.1.2 *Erosion and sediment control maintenance requirements*. You must:

- Ensure that all erosion and sediment controls remain in effective operating condition.
- Wherever you determine that a stormwater control needs maintenance to continue operating effectively, initiate efforts to fix the problem immediately after its discovery, and complete such work by the end of the next work day.
- When a stormwater control must be replaced or significantly repaired, complete the work within 7 days, unless infeasible. If 7 days is infeasible, you must complete the installation or repair as soon practicable.

E.G.4.1.3 *Perimeter controls*. You must:

- Install sediment controls along those perimeter areas of your disturbed area that will receive stormwater, except where site conditions prevent the use of such controls (in which case, maximize their installation to the extent practicable).
- Remove sediment before it accumulates to one-half of the above-ground height of any perimeter control.

E.G.4.1.4 *Sediment track-out*. For construction vehicles and equipment exiting the site directly onto paved roads, you must:

- Install sediment controls along those perimeter areas of your disturbed area that will receive stormwater, except where site conditions prevent the use of such controls (in which case, maximize their installation to the extent practicable).
- Remove sediment before it accumulates to one-half of the above-ground height of any perimeter control.
- Note: DEQ recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have implemented sediment removal practices. Such "staining" is not a violation of E.G.4.1.4.

E.G.4.1.5 *Soil or sediment stockpiles*. You must:

- Minimize erosion of stockpiles from stormwater and wind via temporary cover, if feasible.
- Prevent up-slope stormwater flows from causing erosion of stockpiles (e.g., by diverting flows around the stockpile).
- Minimize sediment from stormwater that runs off of stockpiles, using sediment controls (e.g., a sediment barrier or downslope sediment control).

E.G.4.1.6 *Sediment basins*. If you intend to install a sediment basin to treat stormwater from your earth-disturbing activities, you must:

- Provide storage for either (1) the 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained.
- Prevent erosion of (1) basin embankments using stabilization controls (e.g., erosion control blankets), and (2) the inlet and outlet points of the basin using erosion controls and velocity dissipation devices.

E.G.4.1.7 *Minimize dust*. You must minimize the generation of dust through the appropriate application of water or other dust suppression techniques that minimize pollutants being discharged into surface waters.

E.G.4.1.8 *Restrictions on use of treatment chemicals*. If you intend to use sediment treatment chemicals at your site, you are subject to the following minimum requirements:

- Use conventional erosion and sediment controls prior to and after application of chemicals;
- Select chemicals suited to soil type, and expected turbidity, pH, flow rate;
- Minimize the discharge risk from stored chemicals;
- Comply with state/local requirements;
- Use chemicals in accordance with good engineering practices and specifications of chemical supplier;
- Ensure proper training;
- Provide proper SWPCP documentation.

If you plan to use cationic treatment chemicals, you are ineligible for coverage under this permit, unless you notify your applicable DEQ regional office or agent in advance and receive authorization under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

E.G.4.1.9 *Site stabilization requirements for earth-disturbing activities performed for purposes of mine site preparation as defined in E.G.3.2(a) (i.e., not applicable to construction of staging areas for structures and access roads as defined in E.G.3.2(b)).* You must comply with the following stabilization requirements except where the intended function of the site accounts for such disturbed earth (e.g., the earth disturbances will become actively mined, or the controls implemented at the active mining area effectively control the disturbance) (although you are encouraged to do so within the active mining area, where appropriate):

- *Temporary stabilization of disturbed areas*. Stabilization measures must be initiated immediately in portions of the site where earth-disturbing activities performed for purposes of mine site preparation (as defined in E.G.3.2(a)) have temporarily ceased, but in no case more than 14 days after such activities have temporarily ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities performed for purposes of mine site preparation has temporarily ceased, temporary vegetative stabilization measures must be initiated as soon as practicable. Until temporary vegetative stabilization is achieved, interim measures such as erosion control blankets with an appropriate seed base and tackifiers must be employed. In areas of the site where earth-disturbing activities performed for purposes of mine site preparation have permanently ceased prior to active mining, temporary stabilization measures must be implemented to minimize mobilization of sediment or other pollutants until active mining activities commence.
- *Final stabilization of disturbed areas*. Stabilization measures must be initiated immediately where earth-disturbing activities performed for purposes of mine site preparation (as defined in E.G.3.2(a)) have permanently ceased, but in no case more than 14 days after the earth-disturbing activities have permanently ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities have permanently ceased, final vegetative stabilization measures must be initiated as soon as possible. Until

final stabilization is achieved, temporary stabilization measures, such as erosion control blankets with an appropriate seed base and tackifiers, must be used.

E.G.4.2 *Additional Technology-Based Effluent Limits Applicable Only to the Construction of Staging Areas for Structures and Access Roads*. The following technology-based effluent limits apply to authorized discharges from earth-disturbing activities associated with the construction of staging areas and the construction of access roads, as defined in E.G.3.2(b). These limits supersede the technology-based limits listed in Schedule B and E.G.5 of this sector. These limits do not apply to earth-disturbing activities performed for purposes of mine site preparation (as defined in E.G.3.2(a)).

E.G.4.2.1 *Area of disturbance*. You must minimize the amount of soil exposed during construction activities.

E.G.4.2.2 *Erosion and sediment control design requirements*. You must:

- Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants from earth-disturbing activities. Account for the following factors in designing your erosion and sediment controls:
  - The expected amount, frequency, intensity and duration of precipitation;
  - The nature of stormwater runoff and run-on at the site, including factors such as impervious surfaces, slopes and site drainage features;
  - The range of soil particle sizes expected to be present on the site.
- Direct discharges from your stormwater controls to vegetated areas of your site to increase sediment removal and maximize stormwater infiltration, including any natural buffers, unless infeasible. Use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.
- If any stormwater flow becomes or will be channelized at your site, you must design erosion and sediment controls to control both peak flowrates and total stormwater volume to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.
- If you install stormwater conveyance channels, they must be designed to avoid unstabilized areas on the site and to reduce erosion, unless infeasible. In addition, you must minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters during discharge conditions through the use of erosion controls and velocity dissipation devices within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

E.G.4.2.3 *Natural Buffers*. For any stormwater discharges from earth-disturbing activities within 50 feet of a water of the U.S., you must comply with one of the following compliance alternatives:

1. Maintain a 50-foot undisturbed natural buffer between earth-disturbing activities and the water of the U.S.; or
2. Provide an undisturbed natural buffer that is less than 50 feet, permit registrant must implement one or more of the BMPs listed below to control and treat sediment and turbidity:
   - Compost berms, compost blankets, or compost socks;
   - Erosion control mats;
   - Takifiers used in combination with perimeter sediment controls;

- Approved water treatment by electro-coagulation, flocculation, or filtration; and/or
- Other substantially equivalent sediment or turbidity control measures approved by DEQ or agent.

3. Ensure all discharges are treated by control measures prior to entering the natural buffer.
4. Delineate and clearly mark off all natural buffers.

There are exceptions when buffer requirements do not apply:

- The natural buffer has already been eliminated by preexisting development disturbances;
- The disturbance is for a water-dependent structure or earth-disturbing approved under a CWA section 404 permit.

E.G.4.2.4 *Soil or sediment stockpiles*. In addition to the requirements in E.G.4.1.5, you must locate any piles outside of any natural buffers established under E.G.4.2.3.

E.G.4.2.5 *Sediment basins*. In addition to the requirements in E.G.4.1.6, you must locate sediment basins outside of any surface waters and any natural buffers established under E.G.4.2.3, and you must utilize outlet structures that withdraw water from the surface, unless infeasible.

E.G.4.2.6 *Native topsoil preservation*. You must preserve native topsoil removed during clearing, grading, or excavation, unless infeasible. Store topsoil in a manner that will maximize its use in reclamation or final vegetative stabilization (e.g., by keeping the topsoil stabilized with seed or similar measures). This requirement does not apply if the intended function of the disturbed area dictates that topsoil be disturbed or removed.

E.G.4.2.7 *Steep slopes*. You must minimize the disturbance of steep slopes. The permit does not prevent or prohibit disturbance on steep slopes.

Depending on site conditions and needs, disturbance on steep slopes may be necessary (e.g., a road cut in mountainous terrain; for grading steep slopes prior to erecting the mine office). Where steep slope disturbances are necessary, you can minimize the disturbances to steep slopes through the implementation of a number of standard erosion and sediment control practices, such as by phasing disturbances in these areas and using stabilization practices specifically for steep grades.

E.G.4.2.8 *Soil compaction*. Where final vegetative stabilization will occur or where infiltration practices will be installed, you must either restrict vehicle/ equipment use in these areas to avoid soil compaction or use soil conditioning techniques to support vegetative growth. Minimizing soil compaction is not required where compacted soil is integral to the functionality of the site.

E.G.4.2.9 *Dewatering Practices*. You are prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls (e.g., sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems).

Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

You must also meet the following requirements for dewatering activities:

- Discharge requirements:
  - No discharging visible floating solids or foam;

- Remove oil, grease and other pollutants from dewatering water via an oil-water separator or suitable filtration device (such as a cartridge filter);
- Utilize vegetated upland areas of the site, to the extent feasible, to infiltrate dewatering water before discharge. In no case shall waters of the U.S. be considered part of the treatment area;
- Implement velocity dissipation devices at all points where dewatering water is discharged;
- Haul backwash water away for disposal or return it to the beginning of the treatment process; and
- Clean or replace the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturers' specifications.

- Treatment chemical restrictions: If you use polymers, flocculants or other chemicals to treat dewatering water, you must comply with the requirements in E.G.4.1.8.

E.G.4.2.10 *Pollution prevention requirements*.

- Prohibited discharges:
  - Wastewater from washout of concrete;
  - Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other materials;
  - Fuels, oils, or other pollutants used for operation and maintenance of vehicles or equipment;
  - Soaps, solvents, or detergents used in vehicle or equipment washing;
  - Toxic or hazardous substances from a spill or other release.
  - Design and location requirements: Minimize the discharge of pollutants from pollutant sources by:
- *Minimizing exposure*;
  - Using secondary containment, spill kits, or other equivalent measures;
  - Locating pollution sources away from surface waters, storm sewer inlets, and drainageways;
  - Cleaning up spills immediately (do not clean by hosing area down).
- *Pollution prevention requirements for wash waters*: Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- *Pollution prevention requirements for the storage, handling, and disposal of construction products, materials, and wastes*: Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to stormwater. Minimization of exposure is not required in cases where the exposure to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

E.G.4.2.11 *Site Stabilization requirements for the construction of staging areas for structures and access roads as defined in E.G.3.2(b) (i.e., not applicable to earth-disturbing activities performed for purposes of mine site preparation as defined in E.G.3.2(a)).* You must comply with the following stabilization requirements, except where the intended function of the site accounts for such disturbed earth (e.g., the area of

construction will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- By no later than the end of the next work day after construction work in an area has stopped permanently or temporarily ("temporarily" means the land will be idle for a period of 14 days or more but earth-disturbing activities will resume in the future), immediately initiate stabilization measures;
- If using vegetative measures, by no later than 14 days after initiating stabilization:
  - Seed or plant the area, and provide temporary cover to protect the planted area;
  - Once established, vegetation must be uniform (evenly distributed without large bare areas) perennial vegetation, which provides 70 percent or more coverage based on density of native vegetation.
- If using non-vegetative stabilization, by no later than 14 days after initiating stabilization:
  - Install or apply all non-vegetative measures;
  - Cover all areas of exposed soil.

  Note: For the purposes of this permit, DEQ will consider any of the following types of activities to constitute the initiation of stabilization: 1. Prepping the soil for vegetative or non-vegetative stabilization; 2. Applying mulch or other non-vegetative product to the exposed area; 3. Seeding or planting the exposed area; 4. Starting any of the activities in #1 – 3 on a portion of the area to be stabilized, but not on the entire area; and 5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

Exceptions:

- Arid, semi-arid or drought-stricken areas:
  - Within 14 days of stopping construction work in an area, install any necessary non-vegetative stabilization measures;
  - Initiate vegetative stabilization as soon as conditions on the site allow;
  - Document the schedule that will be followed for initiating and completing vegetative stabilization;
  - Cover planted or seeded area with bio or photo degradable erosion controls designed to prevent erosion without active maintenance.
- Sites affected by severe storm events or other unforeseen circumstances:
  - Initiate vegetative stabilization as soon conditions on the site allow;
  - Document the schedule that will be followed for initiating and completing vegetative stabilization;
  - Add a suitable interim measures (such as mulch or bark) are in place if 70 percent coverage of vegetation is expected to expand.

E.G.4.3 *Water Quality-Based Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* The following water quality-based limits apply to earth-disturbing activities conducted prior to active mining activities defined in E.G.3.2(a) and E.G.3.2(b), in addition to the water quality-based limits in Schedule A.4 and Schedule A.5.

Stricter requirements apply if your site will discharge to an impaired waters that are listed for turbidity or sedimentation or have an EPA-approved TMDL for sedimentation or turbidity:

- More rapid stabilization of exposed areas: Complete initial stabilization activities within 7 days of stopping earth-disturbing work.

- More frequent site inspections: Once every 7 days and within 24 hours of a storm event of 0.25 inches or greater.

E.G.4.4 *Inspection Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* The following requirements supersede the inspection requirements in Schedule B and E.G.7 for earth-disturbing activities conducted prior to active mining activities defined in E.G.3.2(a) and E.G.3.2(b).

E.G.4.4.1 *Inspection frequency*

- At least once every 7 calendar days, or
- Once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.

Note:

- Inspections only required during working hours;
- Inspections not required during unsafe conditions; and
- If you choose to inspect once every 14 days, you must have a method for measuring rainfall amount on site (either rain gauge or representative weather station)

Note: To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that day.
Note: You are required to specify in your SWPCP which schedule you will be following.
Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

E.G.4.4.2 *Reductions in inspection frequency*.

- Stabilized areas: You may reduce the frequency of inspections to once per month in any area of your site where stabilization has occurred pursuant to E.G.4.1.9 or E.G.4.2.11.
- Arid, semi-arid, and drought stricken areas: If earth-disturbing activities are occurring during the seasonally dry period or during a period in which drought is predicted to occur, you may reduce inspections to once per month and within 24 hours of a 0.25 inch storm event.
- Frozen conditions: You may temporarily suspend or reduce inspections to once per month until thawing conditions occur if frozen conditions are continuous and disturbed areas have been stabilized. For extreme conditions in remote areas, e.g., where transit to the site is perilous/restricted or temperatures are routinely below freezing, you may suspend inspections until the conditions are conducive to safe access, and more frequent inspections can resume.

E.G.4.4.3 *Areas to be inspected*. You must at a minimum inspect the all of the following areas:

- Disturbed areas;
- Stormwater controls and pollution prevention measures;

- Locations where stabilization measures have been implemented;
- Material, waste, borrow, or equipment storage and maintenance areas;
- Areas where stormwater flows;
- Points of discharge.

E.G.4.4.4 *What to check for during inspections*. At a minimum you must check:

- Whether all stormwater controls are installed, operational and working as intended;
- Whether any new or modified stormwater controls are needed;
- For conditions that could lead to a spill or leak;
- For visual signs of erosion/sedimentation at points of discharge.
- If a discharge is occurring, check:
- The quality and characteristics of the discharge;
- Whether controls are operating effectively.

E.G.4.4.5 *Inspection report*. Within 24 hours of an inspection, complete a report that includes:

- Inspection date;
- Name and title of inspector(s);
- Summary of inspection findings;
- Rainfall amount that triggered the inspection (if applicable);
- If it was unsafe to inspect a portion of the site, include documentation of the reason and the location(s);
- Each inspection report must be signed;
- Keep a current copy of all reports at the site or at an easily accessible location.

E.G.5 Technology-Based Effluent Limits for Active Mining Activities

Note: These requirements do not apply for any discharges from earth-disturbing activities conducted prior to active mining as defined in E.G.3.2(a) or E.G.3.2(b).

E.G.5.1 *Employee training*. (See also Schedule A.1.j) Conduct employee training at least annually at active and temporarily inactive facilities.

E.G.5.2 *Stormwater controls.* Apart from the control measures you implement to meet Schedule A technology-based effluent limits, where necessary to minimize pollutant discharges in stormwater, implement the following control measures at your site. The potential pollutants identified in E.G.6.3 shall determine the priority and appropriateness of the control measures selected. For mines subject to dust control requirements under DEQ or county air quality permits, provided the requirements are equivalent, compliance with such air permit dust requirements shall constitute compliance with the dust control effluent limit in Schedule A.1.f.

Stormwater diversions: Divert stormwater away from potential pollutant sources through implementation of control measures such as the following, where determined to be feasible including: interceptor or diversion controls (e.g., dikes, swales, curbs, berms); pipe slope drains; subsurface drains; conveyance systems (e.g., channels or gutters, open-top box culverts, and waterbars; rolling dips and road sloping; roadway surface water deflector and culverts); or their equivalents.

Capping: When capping is necessary to minimize pollutant discharges in stormwater, identify the source being capped and the material used to construct the cap.

Treatment: If treatment of stormwater (e.g., chemical or physical systems, oil - water separators, artificial wetlands) is necessary to protect water quality, describe the type and location of treatment used. Passive and/or active treatment of stormwater runoff is encouraged, where feasible. Treated runoff may be discharged as a stormwater source regulated under this permit

provided the discharge is not combined with discharges subject to effluent limitation guidelines for the Ore Mining and Dressing Point Source Category (40 CFR Part 440).

E.G.5.3 *Discharge testing.* Test or evaluate all off-site discharge points covered under this permit for the presence of specific mining-related but unauthorized non-stormwater discharges such as seeps or adit discharges, or discharges subject to effluent limitations guidelines (40 CFR Part 440), mine drainage or process water. Alternatively (if applicable), you may keep a certification with your SWPCP consistent with E.G.6.6.

E.G.6 Additional SWPCP Requirements for Mining Operations

Note: The requirements in E.G.6 are not applicable to inactive metal mining facilities. Some requirements may be already a requirement under Schedule A.7.

E.G.6.1 *Nature of industrial activities.* Briefly document in your SWPCP the mining and associated activities that can potentially affect the stormwater discharges covered by this permit, including a general description of the location of the site relative to major transportation routes and communities.

E.G.6.2 *Site map.* Document in your SWPCP the locations of the following (as appropriate): mining or milling site boundaries; access and haul roads; outline of the drainage areas of each stormwater outfall within the facility with indications of the types of discharges from the drainage areas; location(s) of all permitted discharges covered under an individual NPDES permit; outdoor equipment storage, fueling, and maintenance areas; materials handling areas; outdoor manufacturing, outdoor storage, and material disposal areas; outdoor chemicals and explosives storage areas; overburden, materials, soils, or waste storage areas; location of mine drainage (where water leaves mine) or other process water; tailings piles and ponds (including proposed ones); heap leach pads; off-site points of discharge for mine drainage and process water; surface waters; boundary of tributary areas that are subject to effluent limitations guidelines; and location(s) of reclaimed areas.

E.G.6.3 *Potential pollutant sources*. For each area of the mine or mill site where stormwater discharges associated with industrial activities occur, identify the types of pollutants (e.g., heavy metals, sediment) likely to be present in significant amounts. Consider these factors: the mineralogy of the ore and waste rock (e.g., acid forming); toxicity and quantity of chemicals used, produced, or discharged; the likelihood of contact with stormwater; vegetation of site (if any); and history of significant leaks or spills of toxic or hazardous pollutants. Also include a summary of any existing ore or waste rock or overburden characterization data and test results for potential generation of acid rock. If any new data is acquired due to changes in ore type being mined, update your SWPCP with this information.

E.G.6.4 *Documentation of control measures.* Document all control measures that you implement consistent with E.G.5.2. If control measures are implemented or planned but are not listed in E.G.5.2 (e.g., substituting a less toxic chemical for a more toxic one), include descriptions of them in your SWPCP. If you are in compliance with dust control requirements under state or county air quality permits, you must include (or summarize, as necessary) what the state or county air quality permit dust control requirements are and how you've achieved compliance with them.

E.G.6.5 *Employee training.* All employee training(s) must be documented in the SWPCP.

E.G.6.6 *Certification of permit coverage for commingled non-stormwater discharges*. If you are able, consistent with E.G.5.3 above, to certify that a particular discharge composed of commingled stormwater and non-stormwater is covered under a separate NPDES permit, and that permit subjects the non-stormwater portion to effluent limitations prior to any commingling, retain such certification with your SWPCP. This certification must identify the non-stormwater

discharges, the applicable NPDES permit(s), the effluent limitations placed on the non-stormwater discharge by the permit(s), and the points at which the limitations are applied.

E.G.7 Additional Inspection Requirements

Except for earth-disturbing activities conducted prior to active mining activities as defined in E.G.3.2(a) and E.G.3.2(b), which are subject to E.G.4.4, inspect sites at least monthly unless adverse weather conditions make the site inaccessible. See E.G.8.4 for inspection requirements for inactive and unstaffed sites.

E.G.8 Monitoring and Reporting Requirements. (See also Schedule B)

Note: There are no monitoring and reporting or impaired waters monitoring requirements for inactive and unstaffed sites.

E.G.8.1 Benchmark Monitoring for Active Copper Ore Mining and Dressing Facilities. Table E.G-1 identifies benchmarks that apply to active copper ore mining and dressing facilities. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.G-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Active Copper Ore Mining and Dressing Facilities (SIC 1021)	Nitrate plus Nitrite Nitrogen	0.68 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L

E.G.8.2 *Benchmark Monitoring Requirements for Discharges From Waste Rock and Overburden Piles at Active Metal Mining Facilities*. For discharges from waste rock and overburden piles, perform benchmark monitoring once in the first year for the parameters listed in Table E.G-2, and twice annually in all subsequent years of coverage under this permit for any parameters for which the benchmark has been exceeded. You are also required to conduct analytic monitoring for the parameters listed in Table E.G-3 in accordance with the requirements in E.G.8.3. DEQ may also notify you that you must perform additional monitoring to accurately characterize the quality and quantity of pollutants discharged from your waste rock and overburden piles.

Table E.G-2

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Iron Ores; Copper Ores; Lead and Zinc Ores; Gold and Silver Ores; Ferroalloy Ores, Except Vanadium; and Miscellaneous Metal Ores (SIC Codes 1011, 1021, 1031, 1041, 1044, 1061, 1081, 1094, 1099)	Turbidity	50 NTU
	pH	6.0-9.0 s.u.
	Total Antimony	0.64 mg/L
	Total Arsenic	0.15 mg/L
	Total Beryllium	0.13 mg/L
	Total Iron	1.0 mg/L
	Total Mercury	0.0014 mg/L
	Total Nickel	0.5 mg/L
	Total Selenium	0.005 mg/L
	Total Silver	0.0005 mg/L

E.G.8.3 *Additional Analytic Monitoring Requirements for Discharges From Waste Rock and Overburden Piles at Active Metal Mining Facilities*. In addition to the monitoring required in E.G.8.2 for discharges from waste rock and overburden piles, you must also conduct monitoring for additional parameters based on the type of ore you mine at your site. Where a parameter in Table E.G-3 is the same as a pollutant you are required to monitor for in Table E.G-2 (i.e., for all of the metals), you must use the corresponding benchmark in Table E.G-2 and you may use any monitoring results conducted for E.G.8.2 to satisfy the monitoring requirement for that parameter for E.G.8.3. For radium and uranium, which do not have corresponding benchmarks in Table E.G-2, there are no applicable benchmarks. The frequency and schedule for monitoring for these additional parameters is the same as that specified in Table 5.

Table E.G-3. Additional Monitoring Requirements for Discharges from Waste Rock and Overburden Piles

Supplemental Requirements			
Type of Ore Mined	**Pollutants of Concern**		
	Total Suspended Solids (TSS)	**pH**	**Metals, Total**
Tungsten Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Nickel Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Aluminum Ore	X	X	Iron
Mercury Ore	X	X	Nickel (H)
Iron Ore	X	X	Iron (Dissolved)
Platinum Ore			Cadmium (H), Copper (H), Mercury, Lead (H), Zinc (H)
Titanium Ore	X	X	Iron, Nickel (H), Zinc (H)
Vanadium Ore	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Zinc (H)
Molybdenum	X	X	Arsenic, Cadmium (H), Copper (H), Lead (H), Mercury, Zinc (H)
Uranium, Radium, and Vanadium Ore	X	X	Chemical Oxygen Demand, Arsenic, Radium (Dissolved and Total), Uranium, Zinc (H)

Note: An "X" indicated for TSS and/or pH means that you are required to monitor for those parameters. (H) indicates that hardness must also be measured when this pollutant is measured.

E.G.8.4 *Inactive and Unstaffed Sites – Conditional Exemption from No Exposure Requirements for Monthly Visual Assessments and Routine Facility Inspections*. As a Sector G facility, if you are seeking to exercise a monitoring or inspection waiver, you are conditionally exempt from the requirement to certify that "there are no industrial materials or activities exposed to stormwater" in Schedule B.4.iii of the permit. This exemption is conditioned on the following:

- If circumstances change and your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the monitoring and inspection requirements; and
- DEQ retains the authority to revoke this exemption and/or the monitoring waiver where it is determined that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

Table E.G-4. Applicability of the Permit to Stormwater Runoff From Active Mining and Dressing Sites, Temporarily Inactive Sites, and Sites Undergoing Reclamation

Discharge/Source of Discharge	Note/Comment
Piles	
Waste rock/overburden	If composed entirely of stormwater and not combining with mine drainage. See note below.
Topsoil	--
Roads constructed of waste rock or spent ore	
Onsite haul roads	If composed entirely of stormwater and not combining with mine drainage. See note below.
Offsite haul and access roads	--
Roads not constructed of waste rock or spent ore	
Onsite haul roads	Except if mine drainage is used for dust control
Offsite haul and access roads	--
Milling/concentrating	
Runoff from tailings dams and dikes when constructed of waste rock/tailings	Except if process fluids are present and only if composed entirely of stormwater and not combining with mine drainage. See Note below.
Runoff from tailings dams/dikes when not constructed of waste rock and tailings	Except if process fluids are present
Concentration building	If stormwater only and no contact with piles
Mill site	If stormwater only and no contact with piles
Ancillary areas	
Office and administrative building and housing	If mixed with stormwater from the industrial area
Chemical storage area	--
Docking facility	Except if excessive contact with waste product that would otherwise constitute mine drainage
Explosive storage	--
Fuel storage (oil tanks/coal piles)	--
Vehicle and equipment maintenance area/building	--
Parking areas	But coverage unnecessary if only employee and visitor-type parking
Power plant	
Truck wash area	Except when excessive contact with waste product that would otherwise constitute mine drainage
Reclamation-related areas	
Any disturbed area (unreclaimed)	Only if not in active mining area
Reclaimed areas released from reclamation requirements prior to Dec. 17, 1990	--
Partially/inadequately reclaimed areas or areas not released from reclamation requirements	--

Note: Stormwater runoff from these sources are subject to the NPDES program for stormwater unless mixed with discharges subject to 40 CFR Part 440 that are regulated by another permit prior to mixing. Non-stormwater discharges from these sources are subject to NPDES permitting and may be subject to the effluent limitation guidelines under 40 CFR Part 440. Discharges from overburden/waste rock and overburden/waste rock-related areas are not subject to 40 CFR Part 440 unless: (1) it drains naturally (or is intentionally diverted) to a point source; and (2) combines with "mine drainage" that is otherwise regulated under the Part 440 regulations. For such sources, coverage under this permit would be available if the discharge composed entirely of stormwater does not combine with other sources of mine drainage that are not subject to 40 CFR Part 440, as well as meeting other eligibility criteria contained in Part 1.1 of the permit. Operators bear the initial responsibility for determining the applicable technology-based standard for such discharges.

E.G.9. Termination of Permit Coverage

E.G.9.1 *Termination of Permit Coverage for Sites Reclaimed After December 17, 1990.* A site or a portion of a site that has been released from applicable state or federal reclamation requirements after December 17, 1990, is no longer required to maintain coverage under this permit. If the site or portion of a site reclaimed after December 17, 1990, was not subject to reclamation requirements, the site or portion of the site is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed as defined in E.G.3.3.

E.G.9.2 *Termination of Permit Coverage for Sites Reclaimed Before December 17, 1990.* A site or portion of a site that was released from applicable state or federal reclamation requirements before December 17, 1990, or that was otherwise reclaimed before December 17, 1990, is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed. A site or portion of a site is considered to have been reclaimed if: (1) stormwater runoff that comes into contact with raw materials, intermediate byproducts, finished products, and waste products does not have the potential to cause or contribute to violations of state water quality standards, (2) soil disturbing activities related to mining at the sites or portion of the site have been completed, (3) the site or portion of the site has been stabilized to minimize soil erosion, and (4) as appropriate depending on location, size, and the potential to contribute pollutants to stormwater discharges, the site or portion of the site has been revegetated, will be amenable to natural revegetation, or will be left in a condition consistent with the post-mining land use.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector H – Coal Mines and Coal Mining-Related Facilities

E.H.1 Definitions

The following definitions are not intended to supersede the definitions of active and inactive mining facilities established by 40 CFR 122.26(b)(14)(iii).

E.H.1.1 *Mining operations* - For this permit, mining operations are grouped into two distinct categories, with distinct effluent limits and requirements applicable to each: a) earth-disturbing activities conducted prior to active mining activities); and b) active mining activities, which includes reclamation. "Mining operations" can occur at both inactive mining facilities and temporarily inactive mining facilities.

E.H.1.2 *Earth-disturbing activities conducted prior to active mining activities* – Consists of two classes of earth-disturbing (i.e., clearing, grading and excavation) activities:

a. activities performed for purposes of mine site preparation, including: cutting new rights of way (except when related to access road construction); providing access to a mine site for vehicles and equipment (except when related to access road construction); other earth disturbances associated with site preparation activities on any areas where active mining activities have not yet commenced (e.g., for heap leach pads, waste rock facilities, tailings impoundments, wastewater treatment plants); and

b. construction of staging areas to prepare for erecting structures such as to house project personnel and equipment, mill buildings, etc., and construction of access roads. Earth-disturbing activities associated with the construction of staging areas and the construction of access roads conducted prior to active mining are considered to be "construction" and have additional technology based effluent limits in E.H.2.2.

E.H.1.3 *Active mining activities* – Activities related to the extraction, removal or recovery, and preparation of coal; removal of overburden and waste rock to expose mineable minerals; and site reclamation and closure activities. All such activities occur within the "active mining area." Reclamation involves activities undertaken, in compliance with applicable mined land reclamation requirements, to return the land to an appropriate post-mining contour and land use in order to meet applicable federal and state reclamation requirements. In addition, once earth-disturbing activities conducted prior to active mining activities have ceased and all related requirements in E.H.2 have been met, and a well-delineated "active mining area" has been established, all activities (including any clearing, grading, and excavation) that occur within the active mining area are "active mining activities."

E.H.1.4 *Active mining area* – A place where work or other activity related to the extraction, removal or recovery of coal is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.

Note: Earth-disturbing activities described in the definition in E.H.1.2 that occur on areas outside the active mining area (e.g., for expansion of the mine into undeveloped territory) are considered "earth-disturbing conducted prior to active mining activities", and must comply with the requirements in E.H.2.

E.H.1.5 *Inactive coal mining facility* – A site or portion of a site where coal mining and/or milling occurred in the past but there are no active mining operations occurring as defined above, and where the inactive portion is not covered by an active mining permit issued by the applicable state or federal agency. An inactive coal mining facility has an identifiable owner / operator. Sites where mining claims are being maintained prior to disturbances associated with the

extraction, beneficiation, or processing of mined materials and sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim are not considered either active or inactive mining facilities and do not require an NPDES industrial stormwater permit.

E.H.1.6 *Temporarily inactive coal mining facility* – A site or portion of a site where coal mining and/or milling occurred in the past but currently are not being actively undertaken, and the facility is covered by an active mining permit issued by the applicable state or federal agency.

E.H.2 Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities

Stormwater discharges from earth-disturbing activities conducted prior to active mining activities (defined in E.H.1.2) are covered under this permit. For such earth-disturbing activities, you must comply with all applicable requirements in technology-based effluent limits in E.H.3 and Schedule A, the inspection and monitoring requirements in Schedule B and in E.H.5 and E.H.6

Authorized discharges from areas where earth-disturbing activities have ceased and stabilization as specified in E.H.2.1.9 or E.H.2.2.11, where appropriate, has been completed (stabilization is not required for areas where active mining activities will occur), are no longer subject to the E.H.2 requirements. At such time, authorized discharges become subject to all other applicable requirements in the permit, including the technology based effluent limits in limits in E.H.3 and Schedule A, the inspection and monitoring requirements in Schedule B and in E.H.5 and E.H.6.

E.H.2.1 *Technology-Based Effluent Limits Applicable to All Earth-Disturbing Activities Conducted Prior to Active Mining Activities*. The following technology-based effluent limits apply to authorized discharges from all earth-disturbing activities conducted prior to active mining activities defined in E.H.1.2(a) and E.H.1.2(b). These limits supersede the technology-based effluent limits listed in Schedule A.

E.H.2.1.1 *Erosion and sediment control installation requirements*.

- By the time construction activities commence, install and make operational downgradient sediment controls, unless this timeframe is infeasible. If infeasible you must install and make such controls operational as soon as practicable or as soon as site conditions permit.
- All other stormwater controls described in the SWPCP must be installed and made operational as soon as conditions on each portion of the site allows.

E.H.2.1.2 *Erosion and sediment control maintenance requirements*. You must:

- Ensure that all erosion and sediment controls remain in effective operating condition.
- Wherever you determine that a stormwater control needs maintenance to continue operating effectively, initiate efforts to fix the problem immediately after its discovery, and complete such work by the end of the next work day.
- When a stormwater control must be replaced or significantly repaired, complete the work within 7 days, unless infeasible. If 7 days is infeasible, you must complete the installation or repair as soon practicable.

E.H.2.1.3 *Perimeter controls*. You must:

- Install sediment controls along those perimeter areas of your disturbed area that will receive stormwater, except where site conditions prevent the use of such controls (in which case, maximize their installation to the extent practicable).
- Remove sediment before it accumulates to one-half of the above-ground height of any perimeter control.

E.H.2.1.4 *Sediment track-out*. For construction vehicles and equipment exiting the site directly onto paved roads, you must:

- Use appropriate stabilization techniques to minimize sediment track-out from vehicles and equipment prior to exit;
- Use additional controls to remove sediment from vehicle and equipment tires prior to exit, where necessary;
- Remove sediment that is tracked out onto paved roads by end of the work day.

Note: DEQ recognizes that some fine grains may remain visible on the surfaces of off-site streets, other paved areas, and sidewalks even after you have implemented sediment removal practices. Such "staining" is not a violation of E.H.2.1.4.

E.H.2.1.5 *Soil or sediment stockpiles*. You must:

- Minimize erosion of stockpiles from stormwater and wind via temporary cover, if feasible.
- Prevent up-slope stormwater flows from causing erosion of stockpiles (e.g., by diverting flows around the stockpile).
- Minimize sediment from stormwater that runs off of stockpiles, using sediment controls (e.g., a sediment barrier or downslope sediment control).

E.H.2.1.6 *Sediment basins*. If you intend to install a sediment basin to treat stormwater from your earth-disturbing activities, you must:

- Provide storage for either (1) the 2-year, 24-hour storm, or (2) 3,600 cubic feet per acre drained.
- Prevent erosion of (1) basin embankments using stabilization controls (e.g., erosion control blankets), and (2) the inlet and outlet points of the basin using erosion controls and velocity dissipation devices.

E.H.2.1.7 *Minimize dust*. You must minimize the generation of dust through the appropriate application of water or other dust suppression techniques that minimize pollutants being discharged into surface waters.

E.H.2.1.8 *Restrictions on use of treatment chemicals*. If you intend to use sediment treatment chemicals at your site, you are subject to the following minimum requirements:

- Use conventional erosion and sediment controls prior to and after application of chemicals;
- Select chemicals suited to soil type, and expected turbidity, pH, flow rate;
- Minimize the discharge risk from stored chemicals;
- Comply with state/local requirements;
- Use chemicals in accordance with good engineering practices and specifications of chemical supplier;
- Ensure proper training;
- Provide proper SWPCP documentation.

If you plan to use cationic treatment chemicals (as defined in Appendix A), you are ineligible for coverage under this permit, unless you notify your applicable DEQ regional office or agent in advance and the DEQ regional office or agent authorizes coverage under this permit after you have included appropriate controls and implementation procedures designed to ensure that your use of cationic treatment chemicals will not lead to a violation of water quality standards.

E.H.2.1.9 *Site stabilization requirements for earth-disturbing activities performed for purposes of mine site preparation as defined in E.H.1.2(a) (i.e., not applicable to construction*

of staging areas for structures and access roads as defined in E.H.1.2(b)). You must comply with the following stabilization requirements except where the intended function of the site accounts for such disturbed earth (e.g., the earth disturbances will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- *Temporary stabilization of disturbed areas*. Stabilization measures must be initiated immediately in portions of the site where earth-disturbing activities performed for purposes of mine site preparation (as defined in E.H.1.2(a)) have temporarily ceased, but in no case more than 14 days after such activities have temporarily ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities performed for purposes of mine site preparation has temporarily ceased, temporary vegetative stabilization measures must be initiated as soon as practicable. Until temporary vegetative stabilization is achieved, interim measures such as erosion control blankets with an appropriate seed base and tackifiers must be employed. In areas of the site where earth-disturbing activities performed for purposes of mine site preparation have permanently ceased prior to active mining, temporary stabilization measures must be implemented to minimize mobilization of sediment or other pollutants until active mining activities commence.

- *Final stabilization of disturbed areas.* Stabilization measures must be initiated immediately where earth-disturbing activities performed for purposes of mine site preparation (as defined in E.H.1.2(a)) have permanently ceased, but in no case more than 14 days after the earth-disturbing activities have permanently ceased. In arid, semi-arid, and drought-stricken areas, or in areas subject to snow or freezing conditions, where initiating perennial vegetative stabilization measures is not possible within 14 days after earth-disturbing activities have permanently ceased, final vegetative stabilization measures must be initiated as soon as possible. Until final stabilization is achieved, temporary stabilization measures, such as erosion control blankets with an appropriate seed base and tackifiers, must be used.

E.H.2.2 *Additional Technology-Based Effluent Limits Applicable Only to the Construction of Staging Areas for Structures and Access Roads*. The following technology-based effluent limits apply to authorized discharges from earth-disturbing activities associated with the construction of staging areas and the construction of access roads, as defined in E.H.1.2(b). These limits supersede the technology-based limits listed in Schedule A and E.H.3. These limits do not apply to earth-disturbing activities performed for purposes of mine site preparation (as defined in E.H.1.2(a)).

E.H.2.2.1 *Area of disturbance*. You must minimize the amount of soil exposed during construction activities.

E.H.2.2.2 *Erosion and sediment control design requirements*. You must:

- Design, install and maintain effective erosion and sediment controls to minimize the discharge of pollutants from construction activities. Account for the following factors in designing your erosion and sediment controls:
  - The expected amount, frequency, intensity and duration of precipitation;

- The nature of stormwater runoff and run-on at the site, including factors such as impervious surfaces, slopes and site drainage features;
- The range of soil particle sizes expected to be present on the site.

- Direct discharges from your stormwater controls to vegetated areas of your site to increase sediment removal and maximize stormwater infiltration, including any natural buffers, unless infeasible. Use velocity dissipation devices if necessary to prevent erosion when directing stormwater to vegetated areas.
- If any stormwater flow becomes or will be channelized at your site, you must design erosion and sediment controls to control both peak flowrates and total stormwater volume to minimize channel and streambank erosion and scour in the immediate vicinity of discharge points.
- If you install stormwater conveyance channels, they must be designed to avoid unstabilized areas on the site and to reduce erosion, unless infeasible. In addition, you must minimize erosion of channels and their embankments, outlets, adjacent streambanks, slopes, and downstream waters during discharge conditions through the use of erosion controls and velocity dissipation devices within and along the length of any constructed stormwater conveyance channel, and at any outlet to provide a non-erosive flow velocity.

E.H.2.2.3 *Natural Buffers*. For any stormwater discharges from earth-disturbing activities within 50 feet of a water of the U.S., you must comply with one of the following compliance alternatives:

1. Maintain a 50-foot undisturbed natural buffer between earth-disturbing activities and the water of the U.S.; or
2. Provide an undisturbed natural buffer that is less than 50 feet, permit registrant must implement one or more of the BMPs listed below to control and treat sediment and turbidity:
   - Compost berms, compost blankets, or compost socks;
   - Erosion control mats;
   - Takifiers used in combination with perimeter sediment controls;
   - Approved water treatment by electro-coagulation, flocculation, or filtration; and/or
   - Other substantially equivalent sediment or turbidity control measures approved by DEQ or agent.
3. Ensure all discharges are treated by control measures prior to entering the natural buffer.
4. Delineate and clearly mark off all natural buffers.

There are exceptions when buffer requirements do not apply:

- The natural buffer has already been eliminated by preexisting development disturbances;
- The disturbance is for a water-dependent structure or earth-disturbing approved under a CWA section 404 permit.

E.H.2.2.4 *Soil or sediment stockpiles*. In addition to the requirements in E.H.2.1.5, you must locate any piles outside of any natural buffers established under E.H.2.2.3.

E.H.2.2.5 *Sediment basins*. In addition to the requirements in E.H.2.1.6, you must locate sediment basins outside of any surface waters and any natural buffers established

under E.H.2.2.3, and you must utilize outlet structures that withdraw water from the surface, unless infeasible.

E.H.2.2.6 *Native topsoil preservation*. You must preserve native topsoil removed during clearing, grading, or excavation, unless infeasible. Store topsoil in a manner that will maximize its use in reclamation or final vegetative stabilization (e.g., by keeping the topsoil stabilized with seed or similar measures). This requirement does not apply if the intended function of the disturbed area dictates that topsoil be disturbed or removed.

E.H.2.2.7 *Steep slopes*. You must minimize the disturbance of steep slopes. The permit does not prevent or prohibit disturbance on steep slopes.

Depending on site conditions and needs, disturbance on steep slopes may be necessary (e.g., a road cut in mountainous terrain; for grading steep slopes prior to erecting the mine office). Where steep slope disturbances are necessary, you can minimize the disturbances to steep slopes through the implementation of a number of standard erosion and sediment control practices, such as by phasing disturbances in these areas and using stabilization practices specifically for steep grades.

E.H.2.2.8 *Soil compaction*. Where final vegetative stabilization will occur or where infiltration practices will be installed, you must either restrict vehicle/ equipment use in these areas to avoid soil compaction or use soil conditioning techniques to support vegetative growth. Minimizing soil compaction is not required where compacted soil is integral to the functionality of the site.

E.H.2.2.9 *Dewatering Practices*. You are prohibited from discharging ground water or accumulated stormwater that is removed from excavations, trenches, foundations, vaults or other similar points of accumulation, unless such waters are first effectively managed by appropriate controls (e.g., sediment basins or sediment traps, sediment socks, dewatering tanks, tube settlers, weir tanks, or filtration systems). Uncontaminated, non-turbid dewatering water can be discharged without being routed to a control.

You must also meet the following requirements for dewatering activities:

- Discharge requirements:
  - No discharging visible floating solids or foam;
  - Remove oil, grease and other pollutants from dewatering water via an oil-water separator or suitable filtration device (such as a cartridge filter);
  - Utilize vegetated upland areas of the site, to the extent feasible, to infiltrate dewatering water before discharge. In no case shall waters of the U.S. be considered part of the treatment area;
  - Implement velocity dissipation devices at all points where dewatering water is discharged;
  - Haul backwash water away for disposal or return it to the beginning of the treatment process; and
  - Clean or replace the filter media used in dewatering devices when the pressure differential equals or exceeds the manufacturers' specifications.
- Treatment chemical restrictions: If you use polymers, flocculants or other chemicals to treat dewatering water, you must comply with the requirements in E.H.2.1.8.

E.H.2.2.10 *Pollution prevention requirements*.

- Prohibited discharges:
  - Wastewater from washout of concrete;
  - Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds, and other materials;
  - Fuels, oils, or other pollutants used for operation and maintenance of vehicles or equipment;
  - Soaps, solvents, or detergents used in vehicle or equipment washing;
  - Toxic or hazardous substances from a spill or other release.
- Design and location requirements: Minimize the discharge of pollutants from pollutant sources by:
  - Minimizing exposure;
  - Using secondary containment, spill kits, or other equivalent measures;
  - Locating pollution sources away from surface waters, storm sewer inlets, and drainageways;
  - Cleaning up spills immediately (do not clean by hosing area down).
- Pollution prevention requirements for wash waters: Minimize the discharge of pollutants from equipment and vehicle washing, wheel wash water, and other wash waters. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge;
- Pollution prevention requirements for the storage, handling, and disposal of construction products, materials, and wastes: Minimize the exposure of building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials present on the site to stormwater. Minimization of exposure is not required in cases where the exposure to stormwater will not result in a discharge of pollutants, or where exposure of a specific material or product poses little risk of stormwater contamination (such as final products and materials intended for outdoor use).

E.H.2.2.11 *Site Stabilization requirements for the construction of staging areas for structures and access roads as defined in E.H.1.2(b) (i.e., not applicable to earth-disturbing activities performed for purposes of mine site preparation as defined in E.H.1.2(a)).* You must comply with the following stabilization requirements, except where the intended function of the site accounts for such disturbed earth (e.g., the area of construction will become actively mined, or the controls implemented at the active mining area effectively control the disturbance):

- By no later than the end of the next work day after construction work in an area has stopped permanently or temporarily ("temporarily" means the land will be idle for a period of 14 days or more but earth-disturbing activities will resume in the future), immediately initiate stabilization measures;
- If using vegetative measures, by no later than 14 days after initiating stabilization:
  - Seed or plant the area, and provide temporary cover to protect the planted area;
  - Once established, vegetation must be uniform (evenly distributed without large bare areas) perennial vegetation, which provides 70 percent or more coverage based on density of native vegetation.

- If using non-vegetative stabilization, by no later than 14 days after initiating stabilization:
  - Install or apply all non-vegetative measures;
  - Cover all areas of exposed soil.

Note: For the purposes of this permit, DEQ will consider any of the following types of activities to constitute the initiation of stabilization: 1. Prepping the soil for vegetative or non-vegetative stabilization; 2. Applying mulch or other non-vegetative product to the exposed area; 3. Seeding or planting the exposed area; 4. Starting any of the activities in #1 – 3 on a portion of the area to be stabilized, but not on the entire area; and 5. Finalizing arrangements to have stabilization product fully installed in compliance with the applicable deadline for completing stabilization.

Exceptions:

- Arid, semi-arid or drought-stricken areas:
  - Within 14 days of stopping construction work in an area, install any necessary non-vegetative stabilization measures;
  - Initiate vegetative stabilization as soon as conditions on the site allow;
  - Document the schedule that will be followed for initiating and completing vegetative stabilization;
  - Cover planted or seeded area with bio or photo degradable erosion controls designed to prevent erosion without active maintenance.
- Sites affected by severe storm events or other unforeseen circumstances:
  - Initiate vegetative stabilization as soon conditions on the site allow;
  - Document the schedule that will be followed for initiating and completing vegetative stabilization;
  - Add a suitable interim measures (such as mulch or bark) are in place if 70 percent coverage of vegetation is expected to expand.

E.H.2.3 *Water Quality-Based Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.*

The following water quality-based limits apply to earth-disturbing activities conducted prior to active mining activities defined in E.H.1.2(a) and E.H.1.2(b), in addition to the water quality-based limits Schedule A.4 and A.5.

Stricter requirements apply if your site will discharge to an impaired waters that are listed for turbidity or sedimentation or have an EPA-approved TMDL for sedimentation or turbidity:

- More rapid stabilization of exposed areas: Complete initial stabilization activities within 7 days of stopping earth-disturbing work.
- More frequent site inspections: Once every 7 days and within 24 hours of a storm event of 0.25 inches or greater.

E.H.2.4 *Inspection Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.*

The following requirements supersede the inspections requirements in Schedule B and E.H.7 of the permit for earth-disturbing activities conducted prior to active mining activities defined in E.H.1.2(a) and E.H.1.2(b).

E.H.2.4.1 *Inspection Frequency*

- At least once every 7 calendar days, or

- Once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.

Note:

- Inspections only required during working hours;
- Inspections not required during unsafe conditions; and
- If you choose to inspect once every 14 days, you must have a method for measuring rainfall amount on site (either rain gauge or representative weather station)

Note: To determine if a storm event of 0.25 inches or greater has occurred on your site, you must either keep a properly maintained rain gauge on your site, or obtain the storm event information from a weather station that is representative of your location. For any day of rainfall during normal business hours that measures 0.25 inches or greater, you must record the total rainfall measured for that.

Note: You are required to specify in your SWPCP which schedule you will be following.

Note: "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.25 inches, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly in and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.25 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours after the end of the storm.

E.H.2.4.2 *Reductions in Inspection Frequency*

- Stabilized areas: You may reduce the frequency of inspections to once per month in any area of your site where stabilization has occurred pursuant to E.H.2.1.9 or E.H.2.2.11.
- Arid, semi-arid, and drought stricken areas: If earth-disturbing activities are occurring during the seasonally dry period or during a period in which drought is predicted to occur, you may reduce inspections to once per month and within 24 hours of a 0.25 inch storm event.
- Frozen conditions: You may temporarily suspend or reduce inspections to once per month until thawing conditions occur if frozen conditions are continuous and disturbed areas have been stabilized. For extreme conditions in remote areas, e.g., where transit to the site is perilous/restricted or temperatures are routinely below freezing, you may suspend inspections until the conditions are conducive to safe access, and more frequent inspections can resume.

E.H.2.4.3 *Areas to be Inspected*. You must at a minimum inspect the following areas:

- Disturbed areas;
- Stormwater controls and pollution prevention measures;
- Locations where stabilization measures have been implemented;
- Material, waste, borrow, or equipment storage and maintenance areas;
- Areas where stormwater flows;
- Points of discharge.

E.H.2.4.4 *What to Check for During Inspections*. At a minimum you must check:

- Whether all stormwater controls are installed, operational, and working as intended;
- Whether any new or modified stormwater controls are needed;

- For conditions that could lead to a spill or leak;
- For visual signs of erosion/sedimentation at points of discharge.

If a discharge is occurring:

- The quality and characteristics of the discharge;
- Whether controls are operating effectively.

E.H.2.4.5 *Inspection Report*. Within 24 hours of an inspection, complete a report that includes:

- Inspection date;
- Name and title of inspector(s);
- Summary of inspection findings;
- Rainfall amount that triggered the inspection (if applicable);
- If it was unsafe to inspect a portion of the site, include documentation of the reason and the location(s);
- Each inspection report must be signed;
- Keep a current copy of all reports at the site or at an easily accessible location.

E.H.2.5 *Cessation of Requirements Applicable to Earth-Disturbing Activities Conducted Prior to Active Mining Activities.* The requirements in E.H.2 no longer apply for any earth-disturbing activities conducted prior to active mining activities as defined in E.H.1.2(a) or E.H.1.2(b) where:

1. Earth-disturbing activities have ceased; and
2. Stabilization has been met consistent with E.H.2.1.9 or E.H.2.2.11 (not required for areas where active mining activities will occur).

E.H.3 Technology-Based Effluent Limits for Active Mining Activities

Note: These requirements do not apply for any discharges from earth-disturbing activities conducted prior to active mining as defined in E.H.1.2(a) or E.H.1.2(b).

E.H.3.1 *Good Housekeeping Measures.* As part of your good housekeeping program, in order to minimize discharges of pollutants in stormwater, implement control measures such as the following, where determined to be feasible including: using sweepers and covered storage; watering haul roads to minimize dust generation; and conserving vegetation to minimize erosion. For mines subject to dust control requirements under state or county air quality permits, provided the requirements are equivalent, compliance with such air permit dust requirements shall constitute compliance with the dust control effluent limit in Schedule A.1.f.

E.H.3.2 *Preventive Maintenance.* Perform inspections or other equivalent measures of storage tanks and pressure lines of fuels, lubricants, hydraulic fluid, and slurry to prevent leaks due to deterioration or faulty connections.

E.H.4 Additional SWPCP Requirements for Mining Operations

Note: The requirements in E.H.6 are not applicable to inactive coal mining facilities. Some requirements may be already a requirement under Schedule A.7.

E.H.4.1 *Other Applicable Regulations.* Most active coal mining-related areas (SIC Codes 1221-1241) are subject to sediment and erosion control regulations of the U.S. Office of Surface Mining (OSM) that enforces the Surface Mining Control and Reclamation Act (SMCRA). OSM has granted authority to most coal-producing states to implement SMCRA through State SMCRA regulations. All SMCRA requirements regarding control of stormwater-related pollutant discharges must be addressed and then documented with the SWPCP (directly or by reference).

E.H.4.2 *Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or surface runoff: haul and access roads; railroad spurs, sliding, and internal hauling lines; conveyor belts, chutes, and aerial tramways; equipment storage and maintenance yards; coal handling buildings and structures; inactive mines and related areas; acidic spoil, refuse, or unreclaimed disturbed areas; and liquid storage tanks containing pollutants such as caustics, hydraulic fluids, and lubricants.

E.H.4.3 *Potential Pollutant Sources.* Document in your SWPCP the following sources and activities that have potential pollutants associated with them: truck traffic on haul roads and resulting generation of sediment subject to runoff and dust generation; fuel or other liquid storage; pressure lines containing slurry, hydraulic fluid, or other potential harmful liquids; and loading or temporary storage of acidic refuse or spoil.

E.H.4.4 If you are in compliance with dust control requirements under state or county air quality permits, you must include (or summarize, as necessary) what the state or county air quality permit dust control requirements are and how you've achieved compliance with them.

E.H.5 Additional Inspection Requirements

E.H.5.1 *Inspections of Active Mining-Related Areas.* Except for earth-disturbing activities conducted prior to active mining activities as defined in E.H.1.2(a) and E.H.1.2(b), which are subject to E.H.2.4, perform routine inspections of active mining areas covered by this permit, corresponding with the inspections as performed by SMCRA inspectors, of all mining-related areas required by SMCRA. Also maintain the records of the SMCRA authority representative. See E.H.8.1 for inspection requirements for inactive and unstaffed sties.

E.H.5.2 *Sediment and Erosion Control.* As indicated in E.H.4.1, SMCRA requirements regarding sediment and erosion control measures must be complied with for those areas subject to SMCRA authority, including inspection requirements.

E.H.5.3 *Routine Site Inspections.* Your inspection program must include inspections for pollutants entering the drainage system from activities located on or near coal mining-related areas. Among the areas to be inspected are haul and access roads; railroad spurs, sliding, and internal hauling lines; conveyor belts, chutes, and aerial tramways; equipment storage and maintenance yards; coal handling buildings and structures; and inactive mines and related areas.

E.H.6 Sector-Specific Benchmarks

Table E.H-1 identifies benchmarks that apply to the specific subsectors of Sector H. These benchmarks apply to both your primary industrial activity and any co-located industrial activities. Note: There are no monitoring and reporting or impaired waters monitoring requirements for inactive and unstaffed sites.

Table E.H-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Coal Mines and Related Areas (SIC 1221-1241)	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L

E.H.6.1 *Inactive and Unstaffed Sites – Conditional Exemption from No Exposure Requirements for Monthly Visual Assessments and Routine Facility Inspections*. As a Sector H facility, if you are seeking to exercise a monitoring or inspection waiver, you are conditionally exempt from the

requirement to certify that "there are no industrial materials or activities exposed to stormwater" in Schedule B.4.iii of the permit. This exemption is conditioned on the following:

- If circumstances change and your facility becomes active and/or staffed, this exception no longer applies and you must immediately begin complying with the monitoring and inspection requirements; and
- DEQ retains the authority to revoke this exemption and/or the monitoring waiver where it is determined that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

Subject to the two conditions above, if your facility is inactive and unstaffed, you are waived from the requirement to conduct routine facility inspections, monthly visual assessments, and benchmark and impaired waters monitoring. You are encouraged to inspect your site more frequently where you have reason to believe that severe weather or natural disasters may have damaged control measures or increased discharges.

E.H.7 Termination of Permit Coverage

E.H.7.1 *Termination of Permit Coverage for Sites Reclaimed After December 17, 1990.* A site or a portion of a site that has been released from applicable state or federal reclamation requirements after December 17, 1990, is no longer required to maintain coverage under this permit. If the site or portion of a site reclaimed after December 17, 1990, was not subject to reclamation requirements, the site or portion of the site is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed.

E.H.7.2 *Termination of Permit Coverage for Sites Reclaimed Before December 17, 1990.* A site or portion of a site that was released from applicable state or federal reclamation requirements before December 17, 1990, or that was otherwise reclaimed before December 17, 1990, is no longer required to maintain coverage under this permit if the site or portion of the site has been reclaimed. A site or portion of a site is considered to have been reclaimed if: (1) stormwater runoff that comes into contact with raw materials, intermediate byproducts, finished products, and waste products does not have the potential to cause or contribute to violations of state water quality standards, (2) soil disturbing activities related to mining at the sites or portion of the site have been completed, (3) the site or portion of the site has been stabilized to minimize soil erosion, and (4) as appropriate depending on location, size, and the potential to contribute pollutants to stormwater discharges, the site or portion of the site has been revegetated, will be amenable to natural revegetation, or will be left in a condition consistent with the post-mining land use.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector I – Oil and Gas Extraction

E.I.1 Additional Technology-Based Effluent Limits

E.I.1.1 *Vegetative Controls.* Implement vegetative practices designed to preserve existing vegetation, where attainable, and revegetate open areas as soon as practicable after grade drilling. Consider the following (or equivalent measures): temporary or permanent seeding, mulching, sod stabilization, vegetative buffer strips, and tree protection practices. Begin implementing appropriate vegetative practices on all disturbed areas within 14 days following the last activity in that area.

E.I.2 Additional SWPCP Requirement

E.I.2.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or surface runoff: Reportable Quantity (RQ) releases; locations used for the treatment, storage, or disposal of wastes; processing areas and storage areas; chemical mixing areas; construction and drilling areas; all areas subject to the effluent guidelines requirements for "No Discharge" in accordance with 40 CFR 435.32; and the structural controls to achieve compliance with the "No Discharge" requirements.

E.I.2.2 *Potential Pollutant Sources.* Also document in your SWPCP the following sources and activities that have potential pollutants associated with them: chemical, cement, mud, or gel mixing activities; drilling or mining activities; and equipment cleaning and rehabilitation activities. In addition, include information about the reportable quantity (RQ) release that triggered the permit application requirements: the nature of the release (e.g., spill of oil from a drum storage area), amount of oil or hazardous substance released, amount of substance recovered, date of the release, cause of the release (e.g., poor handling techniques and lack of containment in the area), areas affected by the release (i.e., land and water), procedure to clean up release, actions or procedures implemented to prevent or improve response to a release, and remaining potential contamination of stormwater from release (taking into account human health risks, the control of drinking water intakes, and the designated uses of the receiving water).

E.I.2.3 *Erosion and Sedimentation Control.* Unless covered by the NPDES Construction Stormwater 1200-C General Permit, the additional documentation requirements for sediment and erosion controls for well drillings and sand/shale mining areas include the following:

E.I.2.3.1 *Site Description.* Also include a description in your SWPCP of the nature of the exploration activity, estimates of the total area of site and area disturbed due to exploration activity, an estimate of runoff coefficient of the site, a site drainage map, including approximate slopes, and the names of all receiving waters.

E.I.2.3.2 *Vegetative Controls.* Document vegetative practices used in the SWPCP.

E.I.3 Additional Inspection Requirements.

All erosion and sediment controls must be inspected either: 1) every 7 days; or 2) once every 14 calendar days and within 24 hours of a storm event of 0.25 inches or greater.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector K – Hazardous Waste Treatment, Storage, or Disposal Facilities

E.K.1 Definitions

K.1.1 *Contaminated stormwater* - stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in E.K.1.4. Some specific areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

K.1.2 *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

K.1.3 *Landfill* - an area of land or an excavation in which wastes are placed for permanent disposal, but that is not a land application or land treatment unit, surface impoundment, underground injection well, waste pile, salt dome formation, salt bed formation, underground mine, or cave as these terms are defined in 40 CFR 257.2, 258.2, and 260.10.

K1.4 *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category), all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated groundwater, and wastewater from recovery pumping wells. Landfill wastewater includes, but is not limited to, leachate, gas collection condensate, drained free liquids, laboratory derived wastewater, contaminated stormwater, and contact wash water from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

K.1.5 *Leachate* - liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

K.1.6 *Non-contaminated stormwater* - stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater as defined in E.K.1.4. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

E.K.2 Sector-Specific Benchmarks

Table E.K-1 identifies benchmarks that apply to the specific subsectors of Sector K. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table E.K-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
ALL - Industrial Activity Code "HZ". Benchmarks only applicable to discharges not subject to effluent limitations in 40 CFR Part 445 Subpart A.	Ammonia	2.14 mg/L
	Total Magnesium	0.064 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Total Arsenic	0.15 mg/L
	Total Cadmium	0.001 mg/L
	Total Cyanide	0.022 mg/ L
	Total Mercury	0.0014 mg/ L
	Total Selenium	0.005 mg/L
	Total Silver	0.0005 mg/L

E.K.3 Effluent Limitations Based on Effluent Limitations Guidelines

Table E.K-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.K-2[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from hazardous waste landfills subject to effluent limitations in 40 CFR Part 445 Subpart A.	Biochemical Oxygen Demand (BOD_5)	220 mg/L, daily maximum
		56 mg/L, monthly avg. maximum
	Total Suspended Solids (TSS)	88 mg/L, daily maximum
		27 mg/L, monthly avg. maximum
	Ammonia	10 mg/L, daily maximum
		4.9 mg/L, monthly avg. maximum
	Alpha Terpineol	0.042 mg/L, daily maximum
		0.019 mg/L, monthly avg. maximum
	Aniline	0.024 mg/L, daily maximum
		0.015 mg/L, monthly avg. maximum
	Benzoic Acid	0.119 mg/L, daily maximum
		0.073 mg/L, monthly avg. maximum
	Naphthalene	0.059 mg/L, daily maximum
		0.022 mg/L, monthly avg. maximum
	p-Cresol	0.024 mg/L, daily maximum
		0.015 mg/L, monthly avg. maximum
	Phenol	0.048 mg/L, daily maximum
		0.029 mg/L, monthly avg. maximum
	Pyridine	0.072 mg/L, daily maximum
		0.025 mg/L, monthly avg. maximum
	Total Arsenic	1.1 mg/L, daily maximum
		0.54 mg/L, monthly avg. maximum

Table E.K-2[1]		
Industrial Activity	**Parameter**	**Effluent Limit**
	Total Chromium	1.1 mg/L, daily maximum
		0.46 mg/L, monthly avg. maximum
	Total Zinc	0.535 mg/L, daily maximum
		0.296 mg/L, monthly avg. maximum
	pH	Within the range of 6-9 standard pH units (s.u.)

[1] Monitor semi-annually. As set forth at 40 CFR Part 445 Subpart A, these numeric limitations apply to contaminated stormwater discharges from hazardous waste landfills subject to the provisions of RCRA Subtitle C at 40 CFR Parts 264 (Subpart N) and 265 (Subpart N) except for any of the following facilities:

(a) landfills operated in conjunction with other industrial or commercial operations when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;

(b) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;

(c) landfills operated in conjunction with Centralized Waste Treatment (CWT) facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or

(d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector L – Landfills, Land Application Sites, and Open Dumps

E.L.1 Definitions

E.L.1.1 *Contaminated stormwater* - stormwater that comes into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Some areas of a landfill that may produce contaminated stormwater include (but are not limited to) the open face of an active landfill with exposed waste (no cover added); the areas around wastewater treatment operations; trucks, equipment, or machinery that has been in direct contact with the waste; and waste dumping areas.

E.L.1.2 *Drained free liquids* - aqueous wastes drained from waste containers (e.g., drums) prior to landfilling.

E.L.1.3 *Landfill wastewater* - as defined in 40 CFR Part 445 (Landfills Point Source Category) all wastewater associated with, or produced by, landfilling activities except for sanitary wastewater, non-contaminated stormwater, contaminated groundwater, and wastewater from recovery pumping wells. Landfill process wastewater includes, but is not limited to, leachate; gas collection condensate; drained free liquids; laboratory-derived wastewater; contaminated stormwater; and contact washwater from washing truck, equipment, and railcar exteriors and surface areas that have come in direct contact with solid waste at the landfill facility.

E.L.1.4 *Leachate* - liquid that has passed through or emerged from solid waste and contains soluble, suspended, or miscible materials removed from such waste.

E.L.1.5 *Non-contaminated stormwater* - stormwater that does not come into direct contact with landfill wastes, the waste handling and treatment areas, or landfill wastewater. Non-contaminated stormwater includes stormwater that flows off the cap, cover, intermediate cover, daily cover, and/or final cover of the landfill.

E.L.2 Additional Technology-Based Effluent Limits

E.L.2.1 *Preventive Maintenance Program.* As part of your preventive maintenance program, maintain the following: all elements of leachate collection and treatment systems, to prevent commingling of leachate with stormwater; the integrity and effectiveness of any intermediate or final cover (including repairing the cover as necessary), to minimize the effects of settlement, sinking, and erosion.

E.L.2.2 *Erosion and Sedimentation Control*. Provide temporary stabilization (e.g., temporary seeding, mulching, and placing geotextiles on the inactive portions of stockpiles) for the following: materials stockpiled for daily, intermediate, and final cover; inactive areas of the landfill or open dump; landfills or open dump areas that have gotten final covers but where vegetation has yet to establish itself; and land application sites where waste application has been completed but final vegetation has not yet been established.

E.L.2.3 *Unauthorized Discharge Test Certification*. The discharge test and certification must also be conducted for the presence of leachate and vehicle washwater.

E.L.3 Additional SWPCP Requirements

E.L.3.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or surface runoff: active and closed landfill cells or trenches, active and closed land application areas, locations where open dumping is occurring or has occurred,

locations of any known leachate springs or other areas where uncontrolled leachate may commingle with runoff, and leachate collection and handling systems.

E.L.3.2 *Summary of Potential Pollutant Sources.* Document in your SWPCP the following sources and activities that have potential pollutants associated with them: fertilizer, herbicide, and pesticide application; earth and soil moving; waste hauling and loading or unloading; outdoor storage of significant materials, including daily, interim, and final cover material stockpiles as well as temporary waste storage areas; exposure of active and inactive landfill and land application areas; uncontrolled leachate flows; and failure or leaks from leachate collection and treatment systems.

E.L.4 Additional Inspection Requirements

E.L.4.1 *Inspections of Active Sites.* Except in arid and semi-arid climates, inspect operating landfills, open dumps, and land application sites at least once every 7 days. Focus on areas of landfills that have not yet been finally stabilized; active land application areas, areas used for storage of material and wastes that are exposed to precipitation, stabilization, and structural control measures; leachate collection and treatment systems; and locations where equipment and waste trucks enter and exit the site. Ensure that sediment and erosion control measures are operating properly. For stabilized sites and areas where land application has been completed, or where the climate is arid or semi-arid, conduct inspections at least once every month.

E.L.4.2 *Inspections of Inactive Sites.* Inspect inactive landfills, open dumps, and land application sites at least monthly. Qualified personnel must inspect landfill (or open dump) stabilization and structural erosion control measures, leachate collection and treatment systems, and all closed land application areas.

E.L.5 Additional Post-Authorization Documentation Requirements

E.L.5.1 *Recordkeeping and Internal Reporting*. Keep records with your SWPCP of the types of wastes disposed of in each cell or trench of a landfill or open dump. For land application sites, track the types and quantities of wastes applied in specific areas.

E.L.6 Sector-Specific Benchmarks

Table E.L-1 identifies benchmarks that apply to the specific subsectors of Sector L. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table E.L-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Concentration[1]**
All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60 (Industrial Activity Code "LF")	Total Iron	1.0 mg/L
[1]Benchmark monitoring required only for discharges not subject to effluent limitations in 40 CFR Part 445 Subpart B (see Table L-2 below).		

E.L.7. Effluent Limitations Based on Effluent Limitations Guidelines

Table E.L-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.L-2[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from non-hazardous waste landfills subject to effluent limitations in 40 CFR Part 445 Subpart B.	Biochemical Oxygen Demand (BOD_5)	140 mg/L, daily maximum
		37 mg/L, monthly avg. maximum
	Total Suspended Solids (TSS)	88 mg/L, daily maximum
		27 mg/L, monthly avg. maximum
	Ammonia	10 mg/L, daily maximum
		4.9 mg/L, monthly avg. maximum
	Alpha Terpineol	0.033 mg/L, daily maximum
		0.016 mg/L monthly avg. maximum
	Benzoic Acid	0.12 mg/L, daily maximum
		0.071 mg/L, monthly avg. maximum
	p-Cresol	0.025 mg/L, daily maximum
		0.014 mg/L, monthly avg. maximum
	Phenol	0.026 mg/L, daily maximum
		0.015 mg/L, monthly avg. maximum
	Total Zinc	0.20 mg/L, daily maximum
		0.11 mg/L, monthly avg. maximum
	pH	Within the range of 6-9 standard pH units (s.u.)

[1] Monitor semi-annually. As set forth at 40 CFR Part 445 Subpart B, these numeric limitations apply to contaminated stormwater discharges from MSWLFs that have not been closed in accordance with 40 CFR 258.60, and to contaminated stormwater discharges from those landfills that are subject to the provisions of 40 CFR Part 257 except for discharges from any of the following facilities:

(a) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives only wastes generated by the industrial or commercial operation directly associated with the landfill;

(b) landfills operated in conjunction with other industrial or commercial operations, when the landfill receives wastes generated by the industrial or commercial operation directly associated with the landfill and also receives other wastes, provided that the other wastes received for disposal are generated by a facility that is subject to the same provisions in 40 CFR Subchapter N as the industrial or commercial operation, or that the other wastes received are of similar nature to the wastes generated by the industrial or commercial operation;

(c) landfills operated in conjunction with CWT facilities subject to 40 CFR Part 437, so long as the CWT facility commingles the landfill wastewater with other non-landfill wastewater for discharge. A landfill directly associated with a CWT facility is subject to this part if the CWT facility discharges landfill wastewater separately from other CWT wastewater or commingles the wastewater from its landfill only with wastewater from other landfills; or

(d) landfills operated in conjunction with other industrial or commercial operations when the landfill receives wastes from public service activities, so long as the company owning the landfill does not receive a fee or other remuneration for the disposal service.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector M – Automobile Salvage Yards

E.M.1 Additional Technology-Based Effluent Limits

E.M.1.1 *Spill and Leak Prevention Procedures.* Drain vehicles intended to be dismantled of all fluids upon arrival at the site (or as soon thereafter as feasible), or employ some other equivalent means to prevent spills and leaks.

E.M.1.2 *Employee Training.* If applicable to your facility, address the following areas (at a minimum) in your employee training program: proper handling (collection, storage, and disposal) of oil, used mineral spirits, anti-freeze, mercury switches, and solvents.

E.M.1.3 *Management of Runoff.* Consider the following management practices: berms or drainage ditches on the property line (to help prevent run-on from neighboring properties); berms for uncovered outdoor storage of oily parts, engine blocks, and above-ground liquid storage; installation of detention ponds; and installation of filtering devices and oil and water separators.

E.M.2 Additional SWPCP Requirements

E.M.2.1 *Drainage Area Site Map.* Identify locations used for dismantling, storage, and maintenance of used motor vehicle parts. Also identify where any of the following may be exposed to precipitation or surface runoff: dismantling areas, parts (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers) storage areas, and liquid storage tanks and drums for fuel and other fluids.

E.M.2.2 *Potential Pollutant Sources.* Assess the potential for the following to contribute pollutants to stormwater discharges: vehicle storage areas, dismantling areas, parts storage areas (e.g., engine blocks, tires, hub caps, batteries, hoods, mufflers), and fueling stations.

E.M.3 Additional Inspection Requirements

Immediately (or as soon thereafter as feasible) inspect vehicles arriving at the site for leaks. Inspect monthly for signs of leakage all equipment containing oily parts, hydraulic fluids, any other types of fluids, or mercury switches. Also, inspect monthly for signs of leakage all vessels and areas where hazardous materials and general automotive fluids are stored, including, but not limited to, mercury switches, brake fluid, transmission fluid, radiator water, and antifreeze.

E.M.4 Sector-Specific Benchmarks

Table E.M-1 identifies benchmarks that apply to the specific subsectors of Sector M. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.M-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Automobile Salvage Yards (SIC 5015)	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector N – Scrap and Waste Materials

E.N.1 Additional Technology-Based Effluent Limits

E.N.1.1 *Scrap and Waste Recycling Facilities (Non-Source Separated, Nonliquid Recyclable Materials).* Requirements for facilities that receive, process, and do wholesale distribution of nonliquid recyclable wastes (e.g., ferrous and nonferrous metals, plastics, glass, cardboard, and paper). These facilities may receive both nonrecyclable and recyclable materials. This section is not intended for those facilities that accept recyclables only from primarily non-industrial and residential sources.

E.N.1.1.1 *Inbound Recyclable and Waste Material Control Program.* Minimize the chance of accepting materials that could be significant sources of pollutants by conducting inspections of inbound recyclables and waste materials. Following are some control measure options: (a) provide information and education to suppliers of scrap and recyclable waste materials on draining and properly disposing of residual fluids (e.g., from vehicles and equipment engines, radiators and transmissions, oil filled transformers, and individual containers or drums) and removal of mercury switches from vehicles before delivery to your facility; (b) establish procedures to minimize the potential of any residual fluids from coming into contact with precipitation or runoff; (c) establish procedures for accepting scrap lead-acid batteries (additional requirements for the handling, storage, and disposal or recycling of batteries are contained in the scrap lead-acid battery program provisions in E.N.3.1.6); (d) provide training targeted for those personnel engaged in the inspection and acceptance of inbound recyclable materials; and (e) establish procedures to ensure that liquid wastes, including used oil, are stored in materially compatible and non-leaking containers and are disposed of or recycled in accordance with the Resource Conservation and Recovery Act (RCRA).

E.N.1.1.2 *Scrap and Waste Material Stockpiles and Storage (Outdoor).* Minimize contact of stormwater runoff with stockpiled materials, processed materials, and nonrecyclable wastes. Following are some control measure options: (a) permanent or semi-permanent covers; (b) sediment traps, vegetated swales and strips, catch basin filters, and sand filters to facilitate settling or filtering of pollutants; (c) dikes, berms, containment trenches, culverts, and surface grading to divert runoff from storage areas; (d) silt fencing; and (e) oil and water separators, sumps, and dry absorbents for areas where potential sources of residual fluids are stockpiled (e.g., automobile engine storage areas).

E.N.1.1.3 *Stockpiling of Turnings Exposed to Cutting Fluids (Outdoor Storage).* Minimize contact of surface runoff with residual cutting fluids by: (a) storing all turnings exposed to cutting fluids under some form of permanent or semi-permanent cover, or (b) establishing dedicated containment areas for all turnings that have been exposed to cutting fluids. Any containment areas must be constructed of concrete, asphalt, or other equivalent types of impermeable material and include a barrier (e.g., berms, curbing, elevated pads) to prevent contact with stormwater run-on. Stormwater runoff from these areas can be discharged, provided that any runoff is first collected and treated by an oil and water separator or its equivalent. You must regularly maintain the oil and water separator (or its equivalent) and properly dispose of or recycle collected residual fluids.

E.N.1.1.4 *Scrap and Waste Material Stockpiles and Storage (Covered or Indoor Storage).* Minimize contact of residual liquids and particulate matter from materials stored indoors or under cover with surface runoff. Following are some control measure options: (a) good housekeeping measures, including the use of dry absorbents or wet vacuuming to contain, dispose of, or recycle residual liquids originating from recyclable containers, or mercury spill kits for spills from storage of mercury switches; (b) not allowing washwater from tipping floors or other processing areas to discharge to the storm sewer system; and (c) disconnecting or sealing off all floor drains connected to the storm sewer system.

E.N.1.1.5 *Scrap and Recyclable Waste Processing Areas.* Minimize surface runoff from coming in contact with scrap processing equipment. Pay attention to operations that generate visible amounts of particulate residue (e.g., shredding) to minimize the contact of accumulated particulate matter and residual fluids with runoff (i.e., through good housekeeping, preventive maintenance, etc.). Following are some control measure options: (a) regularly inspect equipment for spills or leaks and malfunctioning, worn, or corroded parts or equipment; (b) establish a preventive maintenance program for processing equipment; (c) use dry-absorbents or other cleanup practices to collect and dispose of or recycle spilled or leaking fluids or use mercury spill kits for spills from storage of mercury switches; (d) on unattended hydraulic reservoirs over 150 gallons in capacity, install protection devices such as low-level alarms or equivalent devices, or secondary containment that can hold the entire volume of the reservoir; (e) containment or diversion structures such as dikes, berms, culverts, trenches, elevated concrete pads, and grading to minimize contact of stormwater runoff with outdoor processing equipment or stored materials; (f) oil and water separators or sumps; (g) permanent or semi-permanent covers in processing areas where there are residual fluids and grease; (h) retention or detention ponds or basins; sediment traps, and vegetated swales or strips (for pollutant settling and filtration); (i) catch basin filters or sand filters.

E.N.1.1.6 *Scrap Lead-Acid Battery Program.* Properly handle, store, and dispose of scrap lead-acid batteries. Following are some control measure options (a) segregate scrap lead-acid batteries from other scrap materials; (b) properly handle, store, and dispose of cracked or broken batteries; (c) collect and dispose of leaking lead-acid battery fluid; (d) minimize or eliminate (if possible) exposure of scrap lead-acid batteries to precipitation or runoff; and (e) provide employee training for the management of scrap batteries.

E.N.1.1.7 *Spill Prevention and Response Procedures*. (See also Schedule A.1.h) Install alarms and/or pump shutoff systems on outdoor equipment with hydraulic reservoirs exceeding 150 gallons in the event of a line break. Alternatively, a secondary containment system capable of holding the entire contents of the reservoir plus room for precipitation can be used. Use a mercury spill kit for any release of mercury from switches, anti-lock brake systems, and switch storage areas.

E.N.1.1.8 *Supplier Notification Program.* As appropriate, notify major suppliers which scrap materials will not be accepted at the facility or will be accepted only under certain conditions.

E.N.1.2 *Waste Recycling Facilities* (Liquid Recyclable Materials).

E.N.1.2.1 *Waste Material Storage (Indoor).* Minimize or eliminate contact between residual liquids from waste materials stored indoors and from surface runoff. The plan may refer to applicable portions of other existing plans, such as Spill Prevention, Control,

and Countermeasure (SPCC) plans required under 40 CFR Part 112. Following are some control measure options (a) procedures for material handling (including labeling and marking); (b) clean up spills and leaks with dry absorbent materials, a wet vacuum system; (c) appropriate containment structures (trenching, curbing, gutters, etc.); and (d) a drainage system, including appurtenances (e.g., pumps or ejectors, manually operated valves), to handle discharges from diked or bermed areas. Drainage should be discharged to an appropriate treatment facility or sanitary sewer system, or otherwise disposed of properly. These discharges may require coverage under a separate NPDES wastewater permit or industrial user permit under the pretreatment program.

E.N.1.2.2 *Waste Material Storage (Outdoor).* Minimize contact between stored residual liquids and precipitation or runoff. The plan may refer to applicable portions of other existing plans, such as SPCC plans required under 40 CFR Part 112. Discharges of precipitation from containment areas containing used oil must also be in accordance with applicable sections of 40 CFR Part 112. Following are some control measure options (a) appropriate containment structures (e.g., dikes, berms, curbing, pits) to store the volume of the largest tank, with sufficient extra capacity for precipitation; (b) drainage control and other diversionary structures; (c) corrosion protection and/or leak detection systems for storage tanks; and (d) dry-absorbent materials or a wet vacuum system to collect spills.

E.N.1.2.3 *Trucks and Rail Car Waste Transfer Areas.* Minimize pollutants in discharges from truck and rail car loading and unloading areas. Include measures to clean up minor spills and leaks resulting from the transfer of liquid wastes. Following are two control measure options: (a) containment and diversionary structures to minimize contact with precipitation or runoff, and (b) dry clean-up methods, wet vacuuming, roof coverings, or runoff controls.

E.N.1.3 *Recycling Facilities (Source-Separated Materials).* The following identifies considerations for facilities that receive only source-separated recyclables, primarily from non-industrial and residential sources.

E.N.1.3.1 *Inbound Recyclable Material Control.* Minimize the chance of accepting nonrecyclables (e.g., hazardous materials) that could be a significant source of pollutants by conducting inspections of inbound materials. Following are some control measure options: (a) providing information and education measures to inform suppliers of recyclables about acceptable and non-acceptable materials, (b) training drivers responsible for pickup of recycled material, (c) clearly marking public drop-off containers regarding which materials can be accepted, (d) rejecting nonrecyclable wastes or household hazardous wastes at the source, and (e) establishing procedures for handling and disposal of nonrecyclable material.

E.N.1.3.2 *Outdoor Storage.* Minimize exposure of recyclables to precipitation and runoff. Use good housekeeping measures to prevent accumulation of particulate matter and fluids, particularly in high traffic areas. Following are some control measure options (a) provide totally enclosed drop-off containers for the public; (b) install a sump and pump with each container pit and treat or discharge collected fluids to a sanitary sewer system; (c) provide dikes and curbs for secondary containment (e.g., around bales of recyclable waste paper); (d) divert surface water runoff away from outside material storage areas; (e) provide covers over containment bins, dumpsters, and roll-off boxes; and (f) store the equivalent of one day’s volume of recyclable material indoors.

E.N.1.3.3 *Indoor Storage and Material Processing.* Minimize the release of pollutants from indoor storage and processing areas. Following are some control measure options (a) schedule routine good housekeeping measures for all storage and processing areas, (b) prohibit tipping floor washwater from draining to the storm sewer system, and (c) provide employee training on pollution prevention practices.

E.N.1.3.4 *Vehicle and Equipment Maintenance.* Following are some control measure options for areas where vehicle and equipment maintenance occur outdoors (a) prohibit vehicle and equipment washwater from discharging to the storm sewer system, (b) minimize or eliminate outdoor maintenance areas whenever possible, (c) establish spill prevention and clean-up procedures in fueling areas, (d) avoid topping off fuel tanks, (e) divert runoff from fueling areas, (f) store lubricants and hydraulic fluids indoors, and (g) provide employee training on proper handling and storage of hydraulic fluids and lubricants.

E.N.2 Additional SWPCP Requirements

E.N.2.1 *Drainage Area Site Map.* Document in your SWPCP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: scrap and waste material storage, outdoor scrap and waste processing equipment; and containment areas for turnings exposed to cutting fluids.

E.N.2.2 *Maintenance Schedules/Procedures for Collection, Handling, and Disposal or Recycling of Residual Fluids at Scrap and Waste Recycling Facilities.* If you are subject to E.N.1.1.3, your SWPCP must identify any applicable maintenance schedule and the procedures to collect, handle, and dispose of or recycle residual fluids.

E.N.3 Sector-Specific Benchmarks

Table E.N-1 identifies benchmarks that apply to the specific subsectors of Sector N. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.N-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling (SIC 5093)	Chemical Oxygen Demand (COD)	120 mg/L
	Total Recoverable Aluminum	0.75 mg/L
	Total Recoverable Iron	1.0 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector O – Steam Electric Generating Facilities.

E.O.1 Additional Technology-Based Effluent Limits.

The following good housekeeping measures are required in addition to Schedule A.1 of permit:

E.O.1.1 *Fugitive Dust Emissions.* Minimize fugitive dust emissions from coal handling areas. To minimize the tracking of coal dust offsite, consider procedures such as installing specially designed tires or washing vehicles in a designated area before they leave the site and controlling the wash water.

E.O.1.2 *Delivery Vehicles.* Minimize contamination of stormwater runoff from delivery vehicles arriving at the plant site. Consider procedures to inspect delivery vehicles arriving at the plant site and ensure overall integrity of the body or container and procedures to deal with leakage or spillage from vehicles or containers.

E.O.1.3 *Fuel Oil Unloading Areas.* Minimize contamination of precipitation or surface runoff from fuel oil unloading areas. Consider using containment curbs in unloading areas, having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and using spill and overflow protection devices (e.g., drip pans, drip diapers, or other containment devices placed beneath fuel oil connectors to contain potential spillage during deliveries or from leaks at the connectors).

E.O.1.4 *Chemical Loading and Unloading.* Minimize contamination of precipitation or surface runoff from chemical loading and unloading areas. Consider using containment curbs at chemical loading and unloading areas to contain spills, having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and loading and unloading in covered areas and storing chemicals indoors.

E.O.1.5 *Miscellaneous Loading and Unloading Areas.* Minimize contamination of precipitation or surface runoff from loading and unloading areas. Consider covering the loading area; grading, berming, or curbing around the loading area to divert run-on; locating the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems; or equivalent procedures.

E.O.1.6 *Liquid Storage Tanks*. Minimize contamination of surface runoff from above-ground liquid storage tanks. Consider protective guards around tanks, containment curbs, spill and overflow protection, dry cleanup methods, or equivalent measures.

E.O.1.7 *Large Bulk Fuel Storage Tanks.* Minimize contamination of surface runoff from large bulk fuel storage tanks. Consider containment berms (or their equivalent). You must also comply with applicable State and Federal laws, including Spill Prevention, Control and Countermeasure (SPCC) Plan requirements.

E.O.1.8 *Spill Reduction Measures.* Minimize the potential for an oil or chemical spill, or reference the appropriate part of your SPCC plan. Visually inspect as part of your routine facility inspection the structural integrity of all above-ground tanks, pipelines, pumps, and related equipment that may be exposed to stormwater, and make any necessary repairs immediately.

E.O.1.9 *Oil-Bearing Equipment in Switchyards.* Minimize contamination of surface runoff from oil-bearing equipment in switchyard areas. Consider using level grades and gravel surfaces to retard flows and limit the spread of spills, or collecting runoff in perimeter ditches.

E.O.1.10 *Residue-Hauling Vehicles.* Inspect all residue-hauling vehicles for proper covering over the load, adequate gate sealing, and overall integrity of the container body. Repair vehicles without load covering or adequate gate sealing, or with leaking containers or beds.

E.O.1.11 *Ash Loading Areas.* Reduce or control the tracking of ash and residue from ash loading areas. Clear the ash building floor and immediately adjacent roadways of spillage, debris, and excess water before departure of each loaded vehicle.

E.O.1.12 *Areas Adjacent to Disposal Ponds or Landfills.* Minimize contamination of surface runoff from areas adjacent to disposal ponds or landfills. Reduce ash residue that may be tracked on to access roads traveled by residue handling vehicles, and reduce ash residue on exit roads leading into and out of residue handling areas.

E.O.1.13 *Landfills, Scrap yards, Surface Impoundments, Open Dumps, General Refuse Sites.* Minimize the potential for contamination of runoff from these areas.

E.O.2 Additional SWPCP Requirements

E.O.2.1 *Drainage Area Site Map.* Document in your SWPCP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: storage tanks, scrap yards, and general refuse areas; short- and long-term storage of general materials (including but not limited to supplies, construction materials, paint equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizer, and pesticides); landfills and construction sites; and stock pile areas (e.g., coal or limestone piles).

E.O.3 Additional Inspection Requirements

E.O.3.1 *Inspection.* Inspect the following areas monthly: coal handling areas, loading or unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas.

E.O.4 Sector-Specific Benchmarks

Table E.O-1 identifies benchmarks that apply to the specific subsectors of Sector O. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, which describe your site activities.

Table E.O-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Steam Electric Generating Facilities (Industrial Activity Code "SE")	Total Iron	1.0 mg/L

E.O.5 Effluent Limitations Based on Effluent Limitations Guidelines

Table E.O-2 identifies effluent limits that apply to the industrial activities described below. Compliance with these effluent limits is to be determined based on discharges from these industrial activities independent of commingling with any other wastestreams that may be covered under this permit.

Table E.O-2[1]

Industrial Activity	Parameter	Effluent Limit
Discharges from coal storage piles at Steam Electric Generating Facilities	TSS	50 mg/l[2]
	pH	6.0 min - 9.0 max

[1] Monitor semi-annually.
[2] If your facility is designed, constructed, and operated to treat the volume of coal pile runoff that is associated with a 10-year, 24-hour rainfall event, any untreated overflow of coal pile runoff from the treatment unit is not subject to the 50 mg/L limitation for total suspended solids.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector P – Land Transportation and Warehousing.

E.P.1 Additional Technology-Based Effluent Limits

E.P.1.1 *Good Housekeeping Measures.* In addition to the Good Housekeeping requirements in Schedule A.1 of the permit, you must do the following:

E.P.1.1.1 *Vehicle and Equipment Storage Areas.* Minimize the potential for stormwater exposure to leaky or leak-prone vehicles/equipment awaiting maintenance. Consider the following (or other equivalent measures): use of drip pans under vehicles/equipment, indoor storage of vehicles and equipment, installation of berms or dikes, use of absorbents, roofing or covering storage areas, and cleaning pavement surfaces to remove oil and grease.

E.P.1.1.2 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or other equivalent measures): Covering the fueling area; using spill/overflow protection and cleanup equipment; minimizing stormwater run-on/runoff to the fueling area; using dry cleanup methods; and treating and/or recycling collected stormwater runoff.

E.P.1.1.3 *Material Storage Areas.* Maintain all material storage vessels (e.g., for used oil/oil filters, spent solvents, paint wastes, hydraulic fluids) to prevent contamination of stormwater and plainly label them (e.g., "Used Oil," "Spent Solvents," etc.). Consider the following (or other equivalent measures): storing the materials indoors; installing berms/dikes around the areas; minimizing runoff of stormwater to the areas; using dry cleanup methods; and treating and/or recycling collected stormwater runoff.

E.P.1.1.4 *Vehicle and Equipment Cleaning Areas.* Minimize contamination of stormwater runoff from all areas used for vehicle/equipment cleaning. Consider the following (or other equivalent measures): performing all cleaning operations indoors; covering the cleaning operation, ensuring that all washwater drains to a proper collection system (i.e., not the stormwater drainage system); treating and/or recycling collected washwater, or other equivalent measures.

E.P.1.1.5 *Vehicle and Equipment Maintenance Areas.* Minimize contamination of stormwater runoff from all areas used for vehicle/equipment maintenance. Consider the following (or other equivalent measures): performing maintenance activities indoors; using drip pans; keeping an organized inventory of materials used in the shop; draining all parts of fluid prior to disposal; prohibiting wet clean up practices if these practices would result in the discharge of pollutants to stormwater drainage systems; using dry cleanup methods; treating and/or recycling collected stormwater runoff, minimizing run on/runoff of stormwater to maintenance areas.

E.P.1.1.6 *Locomotive Sanding (Loading Sand for Traction) Areas.* Consider the following (or other equivalent measures): covering sanding areas; minimizing stormwater run on/runoff; or appropriate sediment removal practices to minimize the offsite transport of sanding material by stormwater.

E.P.1.2 *Employee Training.* Address the following activities, as applicable: used oil and spent solvent management; fueling procedures; general good housekeeping practices; proper painting procedures; and used battery management.

E.P.2 Additional SWPCP Requirements

E.P.2.1 *Drainage Area Site Map.* Identify in the SWPCP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: Fueling stations; vehicle/equipment maintenance or cleaning areas; storage areas for vehicle/equipment with actual or potential fluid leaks; loading/unloading areas; areas where treatment, storage or disposal of wastes occur; liquid storage tanks; processing areas; and storage areas.

E.P.2.2 *Potential Pollutant Sources.* Assess the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: Onsite waste storage or disposal; dirt/gravel parking areas for vehicles awaiting maintenance; illicit plumbing connections between shop floor drains and the stormwater conveyance system(s); and fueling areas. Describe these activities in the SWPCP.

E.P.2.3 *Description of Good Housekeeping Measures.* You must document in your SWPCP the good housekeeping measures you implement consistent with E.P.1.

E.P.2.4 *Vehicle and Equipment Wash Water Requirements.* If wash water is handled in a manner that does not involve separate NPDES permitting (e.g., hauled offsite), describe the disposal method and include all pertinent information (e.g., frequency, volume, destination, etc.) in your SWPCP. Discharges of vehicle and equipment wash water, including tank cleaning operations, are not authorized by this permit for this sector.

E.P.3 Additional Inspection Requirements Inspect all the following areas/activities: storage areas for vehicles/equipment awaiting maintenance, fueling areas, indoor and outdoor vehicle/equipment maintenance areas, material storage areas, vehicle/equipment cleaning areas and loading/unloading areas.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector Q – Water Transportation

E.Q.1 Additional Technology-Based Effluent Limits

E.Q.1.1 *Good Housekeeping Measures.* You must implement the following good housekeeping measures in addition to requirements in Schedule A.1 of the permit:

E.Q.1.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharge water must be permitted by a separate NPDES permit. Collect or contain the discharges from the pressure washing area so that they are not commingled with stormwater discharges authorized by this permit.

E.Q.1.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to discharge into receiving waters or the storm sewer systems. Consider containing all blasting and painting activities or use other measures to minimize the discharge of contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). When necessary, regularly clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

E.Q.1.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or surface runoff from the storage areas. Specify which materials are stored indoors, and consider containment or enclosure for those stored outdoors. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.

E.Q.1.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or surface runoff from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluid prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the maintenance area.

E.Q.1.1.5 *Material Handling Area.* Minimize the contamination of precipitation or surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas, using spill and overflow protection, mixing paints and solvents in a designated area (preferably indoors or under a shed), and minimizing runoff of stormwater to material handling areas.

E.Q.1.1.6 *Drydock Activities.* Routinely maintain and clean the drydock to minimize pollutants in stormwater runoff. Address the cleaning of accessible areas of the drydock prior to flooding, and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, and fuel spills occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding and making absorbent materials and oil containment booms readily available to clean up or contain any spills.

E.Q.1.2 *Employee Training.* At a minimum, address the following activities (as applicable): used oil management, spent solvent management, disposal of spent abrasives, disposal of vessel

wastewaters, spill prevention and control, fueling procedures, general good housekeeping practices, painting and blasting procedures, and used battery management.

E.Q.1.3 *Preventive Maintenance.* As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

E.Q.2 Additional SWPCP Requirements

E.Q.2.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or surface runoff: fueling; engine maintenance and repair; vessel maintenance and repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; locations used for the treatment, storage, or disposal of wastes; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).

E.Q.2.2 *Summary of Potential Pollutant Sources.* Document in the SWPCP the following additional sources and activities that have potential pollutants associated with them: outdoor manufacturing or processing activities (e.g., welding, metal fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting.)

E.Q.3 Additional Inspection Requirements

Inspect pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

E.Q.4 Sector-Specific Benchmarks

Table E.Q-1 identifies benchmarks that apply to the specific subsectors of Sector Q. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.Q-1.

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
Water Transportation Facilities (SIC 4412-4499)	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector R – Ship and Boat Building and Repair Yards

E.R.1 Additional Technology-Based Effluent Limits

E.R.1.1 *Good Housekeeping Measures.*

E.R.1.1.1 *Pressure Washing Area.* If pressure washing is used to remove marine growth from vessels, the discharged water must be permitted as a process wastewater by a separate NPDES permit.

E.R.1.1.2 *Blasting and Painting Area.* Minimize the potential for spent abrasives, paint chips, and overspray to discharging into the receiving water or the storm sewer systems. Consider containing all blasting and painting activities, or use other measures to prevent the discharge of the contaminants (e.g., hanging plastic barriers or tarpaulins during blasting or painting operations to contain debris). When necessary, regularly clean stormwater conveyances of deposits of abrasive blasting debris and paint chips.

E.R.1.1.3 *Material Storage Areas.* Store and plainly label all containerized materials (e.g., fuels, paints, solvents, waste oil, antifreeze, batteries) in a protected, secure location away from drains. Minimize the contamination of precipitation or surface runoff from the storage areas. If abrasive blasting is performed, discuss the storage and disposal of spent abrasive materials generated at the facility. Consider implementing an inventory control plan to limit the presence of potentially hazardous materials onsite.

E.R.1.1.4 *Engine Maintenance and Repair Areas.* Minimize the contamination of precipitation or surface runoff from all areas used for engine maintenance and repair. Consider the following (or their equivalents): performing all maintenance activities indoors, maintaining an organized inventory of materials used in the shop, draining all parts of fluid prior to disposal, prohibiting the practice of hosing down the shop floor, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the maintenance area.

E.R.1.1.5 *Material Handling Area.* Minimize the contamination of precipitation or surface runoff from material handling operations and areas (e.g., fueling, paint and solvent mixing, disposal of process wastewater streams from vessels). Consider the following (or their equivalents): covering fueling areas, using spill and overflow protection, mixing paints and solvents in a designated area (preferably indoors or under a shed), and minimizing stormwater run-on to material handling areas.

E.R.1.1.6 *Drydock Activities.* Routinely maintain and clean the drydock to minimize pollutants in stormwater runoff. Clean accessible areas of the drydock prior to flooding and final cleanup following removal of the vessel and raising the dock. Include procedures for cleaning up oil, grease, or fuel spills occurring on the drydock. Consider the following (or their equivalents): sweeping rather than hosing off debris and spent blasting material from accessible areas of the drydock prior to flooding, and having absorbent materials and oil containment booms readily available to clean up and contain any spills.

E.R.1.2 *Employee Training.* As part of your employee training program, address, at a minimum, the following activities (as applicable): used oil management, spent solvent management, disposal of spent abrasives, disposal of vessel wastewaters, spill prevention and control, fueling procedures, general good housekeeping practices, painting and blasting procedures, and used battery management.

E.R.1.3 *Preventive Maintenance.* As part of your preventive maintenance program, perform timely inspection and maintenance of stormwater management devices (e.g., cleaning oil and water separators and sediment traps to ensure that spent abrasives, paint chips, and solids will be intercepted and retained prior to entering the storm drainage system), as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters.

E.R.2 Additional SWPCP Requirements

E.R.2.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or surface runoff: fueling; engine maintenance or repair; vessel maintenance or repair; pressure washing; painting; sanding; blasting; welding; metal fabrication; loading and unloading areas; treatment, storage, and waste disposal areas; liquid storage tanks; liquid storage areas (e.g., paint, solvents, resins); and material storage areas (e.g., blasting media, aluminum, steel, scrap iron).

E.R.2.2 *Potential Pollutant Sources.* Document in your SWPCP the following additional sources and activities that have potential pollutants associated with them (if applicable): outdoor manufacturing or processing activities (e.g., welding, metal fabricating) and significant dust or particulate generating processes (e.g., abrasive blasting, sanding, and painting).

E.R.2.3 *Documentation of Good Housekeeping Measures.* Document in your SWPCP any good housekeeping measures implemented to meet the effluent limits in E.R.1.1.

E.R.2.3.1 *Blasting and Painting Areas.* Document in the SWPCP any standard operating practices relating to blasting and painting (e.g., prohibiting uncontained blasting and painting over open water or prohibiting blasting and painting during windy conditions, which can render containment ineffective).

E.R.2.3.2 *Storage Areas.* Specify in your SWPCP which materials are stored indoors, and consider containment or enclosure for those stored outdoors.

E.R.3 Additional Inspection Requirements

Include the following in all monthly inspections: pressure washing area; blasting, sanding, and painting areas; material storage areas; engine maintenance and repair areas; material handling areas; drydock area; and general yard area.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector S – Air Transportation

E.S.1 Limitation on Coverage

E.S.1.1 *Limitations on Coverage.* This permit authorizes stormwater discharges from only those portions of the air transportation facility that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling and lubrication), equipment cleaning operations or deicing operations.

Note: the term "deicing" in this permit will generally be used to mean both deicing (removing frost, snow or ice) and anti-icing (preventing accumulation of frost, snow or ice) activities, unless specific mention is made otherwise.

E.S.2 Multiple Operators at Air Transportation Facilities

Air transportation facilities often have more than one operator who could discharge stormwater associated with industrial activity. Operators include the airport authority and airport tenants, including air passenger or cargo companies, fixed based operators, and other parties who routinely perform industrial activities on airport property.

The airport authority and tenants of the airport are encouraged to work in partnership in the development of the SWPCP. Tenants of the airport facility include air passenger or cargo companies, fixed based operators and other parties who have contracts with the airport authority to conduct business operations on airport property and whose operations result in stormwater discharges associated with industrial activity. An airport tenant may obtain authorization under this permit and develop a SWPCP for discharges from his/her own areas of the airport.

E.S.3 Additional Technology-Based Effluent Limits

E.S.3.1 *Good Housekeeping Measures.*

E.S.3.1.1 *Aircraft, Ground Vehicle and Equipment Maintenance Areas*. Minimize the contamination of stormwater runoff from all areas used for aircraft, ground vehicle and equipment maintenance (including the maintenance conducted on the terminal apron and in dedicated hangers). Consider the following practices (or their equivalents): performing maintenance activities indoors; maintaining an organized inventory of material used in the maintenance areas; draining all parts of fluids prior to disposal; prohibiting the practice of hosing down the apron or hanger floor; using dry cleanup methods; and collecting the stormwater runoff from the maintenance area and providing treatment or recycling.

E.S.3.1.2 *Aircraft, Ground Vehicle and Equipment Cleaning Areas*. Clearly demarcate these areas on the ground using signage or other appropriate means. Minimize the contamination of stormwater runoff from cleaning areas.

E.S.3.1.3 *Aircraft, Ground Vehicle and Equipment Storage Areas*. Store all aircraft, ground vehicles and equipment awaiting maintenance in designated areas only and minimize the contamination of stormwater runoff from these storage areas. Consider the following control measures, including any BMPs (or their equivalents): storing aircraft and ground vehicles indoors; using drip pans for the collection of fluid leaks; and perimeter drains, dikes or berms surrounding the storage areas.

E.S.3.1.4 *Material Storage Areas*. Maintain the vessels of stored materials (e.g., used oils, hydraulic fluids, spent solvents, and waste aircraft fuel) in good condition, to prevent or minimize contamination of stormwater. Also plainly label the vessels (e.g., "used oil," "Contaminated Jet A," etc.). Minimize contamination of precipitation/runoff from these areas. Consider the following control measures (or their equivalents): storing materials indoors; storing waste materials in a centralized location; and installing berms/dikes around storage areas.

E.S.3.1.5 *Airport Fuel System and Fueling Areas*. Minimize the discharge of fuel to the storm sewer/surface waters resulting from fuel servicing activities or other operations conducted in support of the airport fuel system. Consider the following control measures (or their equivalents): implementing spill and overflow practices (e.g., placing absorptive materials beneath aircraft during fueling operations); using only dry cleanup methods; and collecting stormwater runoff.

E.S.3.1.6 *Source Reduction*. Minimize, and where feasible eliminate, the use of urea and glycol-based deicing chemicals, in order to reduce the aggregate amount of deicing chemicals used and/or lessen the environmental impact. Chemical options to replace ethylene glycol, propylene glycol and urea include: potassium acetate; magnesium acetate; calcium acetate; and anhydrous sodium acetate.

E.S.3.1.6.1 *Runway Deicing Operation*: To minimize the discharge of pollutants in stormwater from runway deicing operations, implement source reduction control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): metered application of chemicals; pre-wetting dry chemical constituents prior to application; installing a runway ice detection system; implementing anti-icing operations as a preventive measure against ice buildup; heating sand; and product substitution.

E.S.3.1.6.2 *Aircraft Deicing Operations*. Minimize the discharge of pollutants in stormwater from aircraft deicing operations. Determine whether excessive application of deicing chemicals occurs and adjust as necessary, consistent with considerations of flight safety. Determine whether alternatives to glycol and whether containment measures for applied chemicals are feasible. Implement control measures for reducing deicing fluid such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): forced-air deicing systems, computer-controlled fixed-gantry systems, infrared technology, hot water, varying glycol content to air temperature, enclosed-basket deicing trucks, mechanical methods, solar radiation, hangar storage, aircraft covers, and thermal blankets for MD-80s and DC-9s. Consider using ice-detection systems and airport traffic flow strategies and departure slot allocation systems where feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations. The evaluations and determinations required by this Part should be carried out by the personnel most familiar with the particular aircraft and flight operations and related systems in question (versus an outside entity such as the airport authority.

E.S.3.1.7 *Management of Runoff*. Minimize the discharge of pollutants in stormwater from deicing chemicals in runoff. To minimize discharges of pollutants in stormwater from aircraft deicing, implement runoff management control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): installing a centralized deicing pad to recover deicing fluid following application; plug-and-pump (PnP); using vacuum/collection trucks (glycol recovery vehicles); storing contaminated stormwater/deicing fluids in tanks; recycling collected deicing fluid where feasible; releasing controlled amounts to a publicly owned treatment works; separation of contaminated snow; conveying contaminated runoff into a stormwater impoundment for biochemical decomposition (be aware of attracting wildlife that may prove hazardous to flight operations); and directing runoff into vegetative swales or other infiltration measures. To minimize discharges of pollutants in stormwater from runway deicing, implement runoff management control measures such as the following, where determined to be feasible and that accommodate considerations of safety, space, operational constraints, and flight considerations (list not exclusive): mechanical systems (snow plows, brushes); conveying contaminated runoff into swales and/or a stormwater impoundment; and pollution prevention practices such as ice detection systems, and airfield prewetting.
When applying deicing fluids during non-precipitation events (also referred to as "clear ice deicing"), implement control measures to prevent unauthorized discharge of pollutants (dry-weather discharges of pollutants would need coverage under an NPDES wastewater permit), or to minimize the discharge of pollutants from deicing fluids in later stormwater discharges, implement control measures such as the following, where determined to be feasible and that accommodate considerations safety, space, operational constraints, and flight considerations (list not exclusive): recovering deicing fluids; preventing the fluids from entering storm sewers or other stormwater discharge conveyances (e.g., covering storm sewer inlets, using booms, installing absorptive interceptors in the drains); releasing controlled amounts to a publicly owned treatment works Used deicing fluid should be recycled whenever practicable.

E.S.3.2 *Deicing Season.* You must determine the seasonal timeframe (e.g., December- February, October - March, etc.) during which deicing activities typically occur at the facility. Implementation of control measures, including any BMPs, facility inspections and monitoring must be conducted with particular emphasis throughout the defined deicing season. If you meet the deicing chemical usage thresholds of 100,000 gallons glycol and/or 100 tons of urea, the deicing season you identified is the timeframe during which you must obtain the four required benchmark monitoring event results for deicing-related parameters, i.e., BOD, COD, ammonia and pH.

E.S.4 Additional SWPCP Requirements

E.S.4.1 *Drainage Area Site Map*. Document in the SWPCP the following areas of the facility and indicate whether activities occurring there may be exposed to precipitation/surface runoff: aircraft and runway deicing operations; fueling stations; aircraft, ground vehicle and equipment maintenance/cleaning areas; storage areas for aircraft, ground vehicles and equipment awaiting maintenance.

E.S.4.2 *Potential Pollutant Sources.* In your inventory of exposed materials, describe in your SWPCP the potential for the following activities and facility areas to contribute pollutants to stormwater discharges: aircraft, runway, ground vehicle and equipment maintenance and cleaning; aircraft and runway deicing operations (including apron and centralized aircraft deicing stations, runways, taxiways and ramps). If you use deicing chemicals, you must maintain a record of the types (including the Safety Data Sheets [SDS]) used and the monthly quantities, either as measured or, in the absence of metering, as estimated to the best of your knowledge. This includes all deicing chemicals, not just glycols and urea (e.g., potassium acetate), because large quantities of these other chemicals can still have an adverse impact on receiving waters. Tenants or other fixed-based operations that conduct deicing operations must provide the above information to the airport authority for inclusion with any comprehensive airport SWPCPs.

E.S.4.3 *Vehicle and Equipment Washwater Requirements.* Attach to or reference in your SWPCP, a copy of the NPDES permit issued for vehicle/equipment washwater, if applicable. If an industrial user permit is issued under a local pretreatment program, include a copy in your SWPCP. If washwater is handled in another manner (e.g., hauled offsite, retained onsite), describe the disposal method and attach all pertinent documentation/information (e.g., frequency, volume, destination, etc.) in your SWPCP.

E.S.4.4 *Documentation of Control Measures Used for Management of Runoff:* Document in your SWPCP the control measures used for collecting or containing contaminated melt water from collection areas used for disposal of contaminated snow.

E.S.5 Sector-Specific Benchmarks

At a minimum conduct facility inspections at least monthly during the deicing season (e.g., October through April for most mid-latitude airports). If your facility needs to deice before or after this period, expand the monthly inspections to include all months during which deicing chemicals may be used. DEQ may specifically require you to increase inspection frequencies.

E.S.6 Sector-Specific Benchmarks

Table E.S-1 identifies benchmarks that apply to the specific subsectors of Sector S. These benchmarks apply to both your primary industrial activity and any co-located industrial activities, unless a facility has an Individual NPDES Permit for de-icing activities.

Table E.S-1

Subsector (You may be subject to requirements for more than one sector/subsector)	Parameter	Benchmark Monitoring Concentration
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 parameters in outfalls that collect runoff from areas where deicing activities occur (SIC 4512-4581) and when deicing activities are occurring.	Biochemical Oxygen Demand (BOD_5)	30 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Ammonia	2.14 mg/L
	pH	5.5 - 9.0 s.u.

E.S.7 Effluent Limitations Based on Effluent Limitations Guidelines and New Source Performance Standards

E.S.7.1 *Airfield Pavement Deicing*. For both existing and new "primary airports" (as defined at 40 CFR 449.2) with 1,000 or more annual non-propeller aircraft departures that discharge stormwater from airfield pavement deicing activities, there shall be no discharge of airfield pavement deicers containing urea. To comply with this limitation, such airports must do one of the following: (1) certify annually on the annual report that you do not use pavement deicers containing urea, or (2) meet the effluent limitation in Table E.S-2.

E.S.7.2 *Aircraft Deicing*. Airports that are both "primary airports" (as defined at 40 CFR 449.2) and new sources ("new airports") with 1,000 or more annual non-propeller aircraft departures must meet the applicable requirements for aircraft deicing at 40 CFR 449.11(a). Discharges of the collected aircraft deicing fluid directly to waters of the U.S. are not eligible for coverage under this permit.

E.S.7.3 Monitoring, Reporting and Recordkeeping. For new and existing airports subject to the effluent limitations in E.S.7.1 or E.S.7.2 of this permit, you must comply with the applicable monitoring, reporting and recordkeeping requirements outlined in 40 CFR 449.20.

Table E.S-2[1]

Subsector (You may be subject to requirements for more than one sector/subsector)	**Parameter**	**Effluent Limitation**
Runoff containing urea from airfield pavement deicing at existing and new primary airports with 1,000 or more annual non-propeller aircraft departures	Ammonia as Nitrogen	14.7 mg/L. daily maximum

[1]Monitor semi-annually.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector T – Treatment Works

E.T.1 Additional Technology-Based Effluent Limits

E.T.1.1 *Control Measures.* In addition to the other control measures, consider the following: routing stormwater to the treatment works; or covering exposed materials (i.e., from the following areas: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station).

E.T.1.2 *Employee Training.* At a minimum, training must address the following areas when applicable to a facility: petroleum product management; process chemical management; spill prevention and controls; fueling procedures; general good housekeeping practices; and proper procedures for using fertilizer, herbicides, and pesticides.

E.T.2 Additional SWPCP Requirements

E.T.2.1 *Site Map*. Document in your SWPCP where any of the following may be exposed to precipitation or surface runoff: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and storage areas for process chemicals, petroleum products, solvents, fertilizers, herbicides, and pesticides.

E.T.2.2 *Potential Pollutant Sources*. Document in your SWPCP the following additional sources and activities that have potential pollutants associated with them, as applicable: grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; septage or hauled waste receiving station; and access roads and rail lines.

E.T.2.3 *Wastewater and Washwater Requirements.* If wastewater and/or vehicle and equipment wash-water is not covered by another NPDES permit but is handled in another manner (e.g., hauled offsite, retained onsite), the disposal method must be described and all pertinent information (e.g., frequency, volume, destination) must be included in your SWPCP. Discharges of vehicle and equipment washwater, including tank cleaning operations, are not authorized by this permit for this sector.

E.T.3 Additional Inspection Requirements

Include the following areas in all inspections: access roads and rail lines; grit, screenings, and other solids handling, storage, or disposal areas; sludge drying beds; dried sludge piles; compost piles; and septage or hauled waste receiving station.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector U – Food and Kindred Products

E.U.1 Additional Technology-Based Limitations

E.U.1.1 *Employee Training.* Address pest control in your employee training program.

E.U.2 Additional SWPCP Requirements

E.U.2.1 *Drainage Area Site Map.* Document in your SWPCP the locations of the following activities if they are exposed to precipitation or runoff: vents and stacks from cooking, drying, and similar operations; dry product vacuum transfer lines; animal holding pens; spoiled product; and broken product container storage areas.

E.U.2.2 *Potential Pollutant Sources.* Document in your SWPCP, in addition to food and kindred products processing-related industrial activities, application and storage of pest control chemicals (e.g., rodenticides, insecticides, fungicides) used on plant grounds.

E.U.3 Additional Inspection Requirements

Inspect on a monthly basis, at a minimum, the following areas where the potential for exposure to stormwater exists: loading and unloading areas for all significant materials; storage areas, including associated containment areas; waste management units; vents and stacks emanating from industrial activities; spoiled product and broken product container holding areas; animal holding pens; staging areas; and air pollution control equipment.

E.U.4 Sector-Specific Benchmarks

Table E.U-1 identifies benchmarks that apply to the specific subsectors of Sector U. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.U-1.

Subsector (You may be subject to requirements for more than one Sector / Subsector)	Parameter	Benchmark Monitoring Concentration
Fats and Oils Products (SIC 2074-2079)	Biochemical Oxygen Demand (BOD_5)	30 mg/L
	Chemical Oxygen Demand (COD)	120 mg/L
	Nitrate plus Nitrite Nitrogen	0.68 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector V – Textile Mills, Apparel, and Other Fabric Products

E.V.1 Additional Technology-Based Limitations

E.V.1.1 *Good Housekeeping Measures.*

E.V.1.1.1 *Material Storage Areas.* Plainly label and store all containerized materials (e.g., fuels, petroleum products, solvents, and dyes) in a protected area, away from drains. Minimize contamination of the stormwater runoff from such storage areas. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances. For storing empty chemical drums or containers, ensure that the drums and containers are clean (consider triple-rinsing) and that there is no contact of residuals with precipitation or runoff. Collect and dispose of washwater from these cleanings properly.

E.V.1.1.2 *Material Handling Areas.* Minimize contamination of stormwater runoff from material handling operations and areas. Consider the following (or their equivalents): use of spill and overflow protection; covering fueling areas; and covering or enclosing areas where the transfer of material may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines, and pipes that may carry chemicals, dyes, or wastewater.

E.V.1.1.3 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing run-on of stormwater to the fueling areas, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the fueling area.

E.V.1.1.4 *Above-Ground Storage Tank Area.* Minimize contamination of the stormwater runoff from above-ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regular cleanup of these areas; including measures for tanks, piping and valves explicitly in your SPCC program; minimizing runoff of stormwater from adjacent areas; restricting access to the area; inserting filters in adjacent catch basins; providing absorbent booms in unbermed fueling areas; using dry cleanup methods; and permanently sealing drains within critical areas that may discharge to a storm drain.

E.V.1.2 *Employee Training.* As part of your employee training program, address, at a minimum, the following activities (as applicable): use of reused and recycled waters, solvents management, proper disposal of dyes, proper disposal of petroleum products and spent lubricants, spill prevention and control, fueling procedures, and general good housekeeping practices.

E.V.2 Additional SWPCP Requirements

E.V.2.1 *Potential Pollutant Sources. Document in your SWPCP the following additional sources* and activities that have potential pollutants associated with them: industry-specific significant materials and industrial activities (e.g., backwinding, beaming, bleaching, backing bonding, carbonizing, carding, cut and sew operations, desizing, drawing, dyeing locking, fulling, knitting, mercerizing, opening, packing, plying, scouring, slashing, spinning, synthetic-felt processing, textile waste processing, tufting, turning, weaving, web forming, winging, yarn spinning, and yarn texturing).

E.V.2.2 *Description of Good Housekeeping Measures for Material Storage Areas.* Document in the SWPCP your containment area or enclosure for materials stored outdoors.

E.V.3 Additional Inspection Requirements

Inspect, at least monthly, the following activities and areas (at a minimum): transfer and transmission lines, spill prevention, good housekeeping practices, management of process waste products, and all structural and nonstructural management practices.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector W – Furniture and Fixtures

E.W.1 Additional Technology-Based Limitations

E.W.1.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or surface runoff: material storage (including tanks or other vessels used for liquid or waste storage) areas; outdoor material processing areas; areas where wastes are treated, stored, or disposed of; access roads; and rail spurs.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector X – Printing and Publishing

E.X.1 Additional Technology-Based Effluent Limits

E.X.1.1 *Good Housekeeping Measures*.

E.X.1.1.1 *Material Storage Areas.* Plainly label and store all containerized materials (e.g., skids, pallets, solvents, bulk inks, hazardous waste, empty drums, portable and mobile containers of plant debris, wood crates, steel racks, and fuel oil) in a protected area, away from drains. Minimize contamination of the stormwater runoff from such storage areas. Also consider an inventory control plan to prevent excessive purchasing of potentially hazardous substances.

E.X.1.1.2 *Material Handling Area.* Minimize contamination of stormwater runoff from material handling operations and areas (e.g., blanket wash, mixing solvents, loading and unloading materials). Consider the following (or their equivalents): using spill and overflow protection, covering fueling areas, and covering or enclosing areas where the transfer of materials may occur. When applicable, address the replacement or repair of leaking connections, valves, transfer lines, and pipes that may carry chemicals or wastewater.

E.X.1.1.3 *Fueling Areas.* Minimize contamination of stormwater runoff from fueling areas. Consider the following (or their equivalents): covering the fueling area, using spill and overflow protection, minimizing runoff of stormwater to the fueling areas, using dry cleanup methods, and treating and/or recycling stormwater runoff collected from the fueling area.

E.X.1.1.4 *Above Ground Storage Tank Area.* Minimize contamination of the stormwater runoff from above-ground storage tank areas, including the associated piping and valves. Consider the following (or their equivalents): regularly cleaning these areas, explicitly addressing tanks, piping and valves in the SPCC program, minimizing stormwater runoff from adjacent areas, restricting access to the area, inserting filters in adjacent catch basins, providing absorbent booms in unbermed fueling areas, using dry cleanup methods, and permanently sealing drains within critical areas that may discharge to a storm drain.

E.X.1.2 *Employee Training.* As part of your employee training program, address, at a minimum, the following activities (as applicable): spent solvent management, spill prevention and control, used oil management, fueling procedures, and general good housekeeping practices.

E.X.2 Additional SWPCP Requirements

E.X.2.1 *Description of Good Housekeeping Measures for Material Storage Areas.* In connection with E.X.1.1.1, describe in the SWPCP the containment area or enclosure for materials stored outdoors.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector Y – Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries

E.Y.1 Additional Technology-Based Effluent Limits

E.Y.1.1 *Controls for Rubber Manufacturers.* Minimize the discharge of zinc in your stormwater discharges. Following are some general control measure options to consider: using chemicals purchased in pre-weighed, sealed polyethylene bags; storing in-use materials in sealable containers, ensuring an airspace between the container and the cover to minimize "puffing" losses when the container is opened, and using automatic dispensing and weighing equipment.

E.Y.1.1.1 *Zinc Bags.* Ensure proper handling and storage of zinc bags at your facility. Following are some control measure options: employee training on the handling and storage of zinc bags, indoor storage of zinc bags, cleanup of zinc spills without washing the zinc into the storm drain, and the use of 2,500-pound sacks of zinc rather than 50- to 100-pound sacks.

E.Y.1.1.2 *Dumpsters.* Minimize discharges of zinc from dumpsters through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering the dumpster; moving the dumpster indoors; and providing a lining for the dumpster.

E.Y.1.1.3 *Dust Collectors and Baghouses.* Minimize contributions of zinc to stormwater from dust collectors and baghouses. Replace or repair, as appropriate, improperly operating dust collectors and baghouses.

E.Y.1.1.4 *Grinding Operations.* Minimize contamination of stormwater as a result of dust generation from rubber grinding operations. Where determined to be feasible, install a dust collection system.

E.Y.1.1.5 *Zinc Stearate Coating Operations.* Minimize the potential for stormwater contamination from drips and spills of zinc stearate slurry that may be released to the storm drain. Where determined to be feasible, use alternative compounds to zinc stearate.

E.Y.1.2 *Controls for Plastic Products Manufacturers.* Minimize the discharge of plastic resin pellets in your stormwater discharges through implementation of control measures such as the following, where determined to be feasible (list not exclusive): minimizing spills; cleaning up of spills promptly and thoroughly; sweeping thoroughly; pellet capturing; employee education; and disposal precautions.

E.Y.2 Additional SWPCP Requirements

E.Y.2.1 *Potential Pollutant Sources for Rubber Manufacturers.* Document in your SWPCP the use of zinc at your facility and the possible pathways through which zinc may be discharged in stormwater runoff.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector Z – Leather Tanning and Finishing

E.Z.1 Additional Technology-Based Effluent Limits

E.Z.1.1 *Good Housekeeping Measures.*

E.Z.1.1.1 *Storage Areas for Raw, Semiprocessed, or Finished Tannery By-products.* Minimize contamination of stormwater runoff from pallets and bales of raw, semiprocessed, or finished tannery by-products (e.g., splits, trimmings, shavings). Store or protect indoors with polyethylene wrapping, tarpaulins, roofed storage, etc. where practicable. Place materials on an impermeable surface and enclose or put berms (or equivalent measures) around the area to prevent stormwater run-on and runoff where practicable.

E.Z.1.1.2 *Material Storage Areas.* Label storage containers of all materials (e.g., specific chemicals, hazardous materials, spent solvents, waste materials) minimize contact of such materials with stormwater.

E.Z.1.1.3 *Buffing and Shaving Areas.* Minimize contamination of stormwater runoff with leather dust from buffing and shaving areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): implementing dust collection enclosures; implementing preventive inspection and maintenance programs; or other appropriate preventive measures.

E.Z.1.1.4 *Receiving, Unloading, and Storage Areas.* Minimize contamination of stormwater runoff from receiving, unloading, and storage areas. If these areas are exposed, implement control measures such as the following, where determined to be feasible (list not exclusive): covering all hides and chemical supplies; diverting drainage to the process sewer; or grade berming or curbing the area to prevent stormwater runoff.

E.Z.1.1.5 *Outdoor Storage of Contaminated Equipment*. Minimize contact of stormwater with contaminated equipment through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering equipment, diverting drainage to the process sewer, and cleaning thoroughly prior to storage.

E.Z.1.1.6 *Waste Management.* Minimize contamination of stormwater runoff from waste storage areas through implementation of control measures such as the following, where determined to be feasible (list not exclusive): covering dumpsters; moving waste management activities indoors; covering waste piles with temporary covering material such as tarpaulins or polyethylene; and minimizing stormwater runoff by enclosing the area or building berms around the area.

E.Z.2 Additional SWPCP Requirements

E.Z.2.1 *Drainage Area Site Map.* Identify in your SWPCP where any of the following may be exposed to precipitation or surface runoff: processing and storage areas of the beamhouse, tanyard, and re-tan wet finishing and dry finishing operations.

E.Z.2.2 *Potential Pollutant Sources.* Document in your SWPCP the following sources and activities that have potential pollutants associated with them (as appropriate): temporary or permanent storage of fresh and brine-cured hides; extraneous hide substances and hair; leather dust, scraps, trimmings, and shavings.

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector AA – Fabricated Metal Products

E.AA.1 Additional Technology-Based Effluent Limits

E.AA.1.1 *Good Housekeeping Measures.*

E.AA.1.1.1 *Raw Steel Handling Storage.* Minimize the generation of and/or recover and properly manage scrap metals, fines, and iron dust. Include measures for containing materials within storage handling areas.

E.AA.1.1.2 *Paints and Painting Equipment.* Minimize exposure of paint and painting equipment to stormwater.

E.AA.1.2 *Spill Prevention and Response Procedures.* Ensure that the necessary equipment to implement a cleanup is available to personnel. The following areas should be addressed

E.AA.1.2.1 *Metal Fabricating Areas.* Maintain clean, dry, orderly conditions in these areas. Consider using dry clean-up techniques.

E.AA.1.2.2 *Storage Areas for Raw Metal.* Keep these areas free of conditions that could cause, or impede appropriate and timely response to, spills or leakage of materials through implementation of control measures such as the following, where determined to be feasible (list not exclusive): maintaining storage areas so that there is easy access in the event of a spill, and labeling stored materials to aid in identifying spill contents.

E.AA.2.2.3 *Metal Working Fluid Storage Areas.* Minimize the potential for stormwater contamination from storage areas for metal working fluids.

E.AA.1.2.4 *Cleaners and Rinse Water.* Control and clean up spills of solvents and other liquid cleaners, control sand buildup and disbursement from sand-blasting operations, and prevent exposure of recyclable wastes. Substitute environmentally benign cleaners when possible.

E.AA.1.2.5 *Lubricating Oil and Hydraulic Fluid Operations.* Minimize the potential for stormwater contamination from lubricating oil and hydraulic fluid operations. Use monitoring equipment or other devices to detect and control leaks and overflows where feasible. Install perimeter controls such as dikes, curbs, grass filter strips, or equivalent measures where feasible.

E.AA.1.2.6 *Chemical Storage Areas*. Minimize stormwater contamination and accidental spillage in chemical storage areas. Include a program to inspect containers and identify proper disposal methods.

E.AA.1.3 *Spills and Leaks.* In your spill prevention and response procedures, pay attention to the following materials (at a minimum): chromium, toluene, pickle liquor, sulfuric acid, zinc and other water priority chemicals, and hazardous chemicals and wastes.

E.AA.2 Additional SWPCP Requirements

E.AA.2.1 *Drainage Area Site Map.* Document in your SWPCP where any of the following may be exposed to precipitation or surface runoff: raw metal storage areas; finished metal storage areas; scrap disposal collection sites; equipment storage areas; retention and detention basins; temporary and permanent diversion dikes or berms; right-of-way or perimeter diversion devices; sediment traps and barriers; processing areas, including outside painting areas; wood preparation; recycling; and raw material storage.

E.AA.2.2 *Potential Pollutant Sources.* Document in your SWPCP the following additional sources and activities that have potential pollutants associated with them: loading and unloading operations for paints, chemicals, and raw materials; outdoor storage activities for raw materials, paints,

empty containers, corn cobs, chemicals, and scrap metals; outdoor manufacturing or processing activities such as grinding, cutting, degreasing, buffing, and brazing; onsite waste disposal practices for spent solvents, sludge, pickling baths, shavings, ingot pieces, and refuse and waste piles.

E.AA.3 Additional Inspection Requirements

E.AA.3.1 *Inspections.* At a minimum, include the following areas in all inspections: raw metal storage areas, finished product storage areas, material and chemical storage areas, recycling areas, loading and unloading areas, equipment storage areas, paint areas, and vehicle fueling and maintenance areas. Also inspect areas associated with the storage of raw metals, spent solvents and chemicals storage areas, outdoor paint areas, and drainage from roof. Potential pollutants include chromium, zinc, lubricating oil, solvents, aluminum, oil and grease, methyl ethyl ketone, steel, and related materials.

E.AA.4 Sector-Specific Benchmarks

Table E.AA-1 identifies benchmarks that apply to the specific subsectors of Sector AA. These benchmarks apply to both your primary industrial activity and any co-located industrial activities.

Table E.AA-1

Subsector (You may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Concentration**
Fabricated Metal Products, except Coating (SIC 3411-3499; 3911-3915)	Total Aluminum	0.75 mg/L
	Total Iron	1.0 mg/L
	Nitrate plus Nitrite Nitrogen	0.68 mg/L
Fabricated Metal coating and Engraving (SIC 3479)	Nitrate plus Nitrite Nitrogen	0.68 mg/L

Schedule E – Sector-Specific Requirements for Industrial Activity
Sector AB – Transportation Equipment, Industrial or Commercial Machinery

E.AB.1 Additional SWPCP Requirements

E.AB.1.1 *Drainage Area Site Map.* Identify in your SWPCP where any of the following may be exposed to precipitation or surface runoff: vents and stacks from metal processing and similar operations.

SCHEDULE F
NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

A1. Duty to Comply with Permit

The permittee must comply with all conditions of this permit. Failure to comply with any permit condition is a violation of Oregon Revised Statutes (ORS) 468B.025 and the federal Clean Water Act and is grounds for an enforcement action. Failure to comply is also grounds for DEQ to terminate, modify and reissue, revoke, or deny renewal of a permit.

A2. Penalties for Water Pollution and Permit Condition Violations

The permit is enforceable by DEQ or EPA, and in some circumstances also by third-parties under the citizen suit provisions of 33 USC § 1365. DEQ enforcement is generally based on provisions of state statutes and Environmental Quality Commission (EQC) rules, and EPA enforcement is generally based on provisions of federal statutes and EPA regulations.

ORS 468.140 allows DEQ to impose civil penalties up to $25,000 per day for violation of a term, condition, or requirement of a permit.

Under ORS 468.943, unlawful water pollution in the second degree, is a Class A misdemeanor and is punishable by a fine of up to $25,000, imprisonment for not more than one year, or both. Each day on which a violation occurs or continues is a separately punishable offense.

Under ORS 468.946, unlawful water pollution in the first degree is a Class B felony and is punishable by a fine of up to $250,000, imprisonment for not more than 10 years, or both.

The Clean Water Act provides that any person who violates permit condition, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed $25,000 per day for each violation.

The Clean Water Act provides that any person who *negligently* violates any condition, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of $2,500 to $25,000 per day of violation, or imprisonment of not more than 1 year, or both.

In the case of a second or subsequent conviction for a *negligent* violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation, or by imprisonment of not more than 2 years, or both.

Any person who *knowingly* violates such sections, or such conditions or limitations is subject to criminal penalties of $5,000 to $50,000 per day of violation, or imprisonment for not more than 3 years, or both.

In the case of a second or subsequent conviction for a *knowing* violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

Any person who *knowingly* violates section any permit condition, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both.

In the case of a second or subsequent conviction for a *knowing* endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both.

An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

Any person may be assessed an administrative penalty by the Administrator for violating any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act.

Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000.

Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

A3. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit. In addition, upon request of DEQ, the permittee must correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

A4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application must be submitted at least 180 days before the expiration date of this permit.

DEQ may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

A5. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause including, but not limited to, the following:

a. Violation of any term, condition, or requirement of this permit, a rule, or a statute.
b. Obtaining this permit by misrepresentation or failure to disclose fully all material facts.
c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

d. The permittee is identified as a Designated Management Agency or allocated a wasteload under a total maximum daily load (TMDL).

e. New information or regulations.
f. Modification of compliance schedules.
g. Requirements of permit reopener conditions
h. Correction of technical mistakes made in determining permit conditions.
i. Determination that the permitted activity endangers human health or the environment.
j. Other causes as specified in 40 CFR §§ 122.62, 122.64, and 124.5.
k. For communities with combined sewer overflows (CSOs):
   (1) To comply with any state or federal law regulation for CSOs that is adopted or promulgated subsequent to the effective date of this permit.
   (2) If new information that was not available at the time of permit issuance indicates that CSO controls imposed under this permit have failed to ensure attainment of water quality standards, including protection of designated uses.
   (3) Resulting from implementation of the permittee's long-term control plan and/or permit conditions related to CSOs.

The filing of a request by the permittee for a permit modification, revocation or reissuance, termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

A6. Toxic Pollutants
The permittee must comply with any applicable effluent standards or prohibitions established under Oregon Administrative Rule (OAR) 340-041-0033 and section 307(a) of the federal Clean Water Act for toxic pollutants, and with standards for sewage sludge use or disposal established under section 405(d) of the federal Clean Water Act, within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

A7. Property Rights and Other Legal Requirements
The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, or authorize any injury to persons or property or invasion of any other private rights, or any infringement of federal, tribal, state, or local laws or regulations.

A8. Permit References
Except for effluent standards or prohibitions established under section 307(a) of the federal Clean Water Act and OAR 340-041-0033 for toxic pollutants, and standards for sewage sludge use or disposal established under section 405(d) of the federal Clean Water Act, all rules and statutes referred to in this permit are those in effect on the date this permit is issued.

A9. Permit Fees
The permittee must pay the fees required by OAR.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

B1. Proper Operation and Maintenance
The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve

compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires

the operation of back-up or auxiliary facilities or similar systems that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

B2. Need to Halt or Reduce Activity Not a Defense

For industrial or commercial facilities, upon reduction, loss, or failure of the treatment facility, the permittee must, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

B3. Bypass of Treatment Facilities

a. Definitions
   (1) "Bypass" means intentional diversion of waste streams from any portion of the treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, provided the diversion is to allow essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b and c of this section.
   (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.
   (1) Bypass is prohibited and DEQ may take enforcement action against a permittee for bypass unless:
      i. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
      ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventative maintenance; and
      iii. The permittee submitted notices and requests as required under General Condition B3.c.
   (2) DEQ may approve an anticipated bypass, after considering its adverse effects and any alternatives to bypassing, if DEQ determines that it will meet the three conditions listed above in General Condition B3.b.(1).

c. Notice and request for bypass.
   (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, a written notice must be submitted to DEQ at least ten days before the date of the bypass.

(2) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required in General Condition D5.

B4. Upset

a. Definition. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operation error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of General Condition B4.c are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
   (1) An upset occurred and that the permittee can identify the causes(s) of the upset;
   (2) The permitted facility was at the time being properly operated;
   (3) The permittee submitted notice of the upset as required in General Condition D5, hereof (24-hour notice); and
   (4) The permittee complied with any remedial measures required under General Condition A3 hereof.

d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

B5. Treatment of Single Operational Upset

For purposes of this permit, a single operational upset that leads to simultaneous violations of more than one pollutant parameter will be treated as a single violation. A single operational upset is an exceptional incident that causes simultaneous, unintentional, unknowing (not the result of a knowing act or omission), temporary noncompliance with more than one federal Clean Water Act effluent discharge pollutant parameter. A single operational upset does not include federal Clean Water Act violations involving discharge without a NPDES permit or noncompliance to the extent caused by improperly designed or inadequate treatment facilities. Each day of a single operational upset is a violation.

B6. Overflows from Wastewater Conveyance Systems and Associated Pump Stations

a. Definition. "Overflow" means any spill, release or diversion of sewage including:
   (1) An overflow that results in a discharge to waters of the United States; and
   (2) An overflow of wastewater, including a wastewater backup into a building (other than a backup caused solely by a blockage or other malfunction in a privately owned sewer or building lateral), even if that overflow does not reach waters of the United States.

b. Reporting required. All overflows must be reported orally to DEQ within 24 hours from the time the permittee becomes aware of the overflow. Reporting procedures are described in more detail in General Condition D5.

B7. Public Notification of Effluent Violation or Overflow

If effluent limitations specified in this permit are exceeded or an overflow occurs that threatens public health, the permittee must take such steps as are necessary to alert the public, health agencies and other affected entities (for example, public water systems) about the extent and nature of the discharge in accordance with the notification procedures developed under General Condition B8.

Such steps may include, but are not limited to, posting of the river at access points and other places, news releases, and paid announcements on radio and television.

B8. Emergency Response and Public Notification Plan

The permittee must develop and implement an emergency response and public notification plan that identifies measures to protect public health from overflows, bypasses, or upsets that may endanger public health. At a minimum the plan must include mechanisms to:

a. Ensure that the permittee is aware (to the greatest extent possible) of such events;
b. Ensure notification of appropriate personnel and ensure that they are immediately dispatched for investigation and response;
c. Ensure immediate notification to the public, health agencies, and other affected public entities (including public water systems). The overflow response plan must identify the public health and other officials who will receive immediate notification;
d. Ensure that appropriate personnel are aware of and follow the plan and are appropriately trained;
e. Provide emergency operations; and
f. Ensure that DEQ is notified of the public notification steps taken.

B9. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters must be disposed of in such a manner as to prevent any pollutant from such materials from entering waters of the state, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

C1. Representative Sampling

Sampling and measurements taken as required herein must be representative of the volume and nature of the monitored discharge. All samples must be taken at the monitoring points specified in this permit, and must be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points must not be changed without notification to and the approval of DEQ. Samples must be collected in accordance with requirements in 40 CFR part 122.21 and 40 CFR part 403 Appendix E.

C2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices must be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices must be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected must be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes.

C3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR part 503 unless other test procedures have been specified in this permit.

For monitoring of recycled water with no discharge to waters of the state, monitoring must be conducted according to test procedures approved under 40 CFR part 136 or as specified in the most recent edition of Standard Methods for the Examination of Water and Wastewater unless other test procedures have been specified in this permit or approved in writing by DEQ.

C4. Penalties for Tampering

The federal Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit may, upon conviction, be punished by a fine of not more than $10,000 per violation, imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, punishment is a fine not more than $20,000 per day of violation, or by imprisonment of not more than four years, or both.

C5. Reporting of Monitoring Results

Monitoring results must be summarized each month on a Discharge Monitoring Report form approved by DEQ. The reports must be submitted monthly and are to be mailed, delivered or otherwise transmitted by the 15th day of the following month unless specifically approved otherwise in Schedule B of this permit.

C6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR part 136 or, in the case of sludge (biosolids) use and disposal, approved under 40 CFR part 503, or as specified in this permit, the results of this monitoring must be included in the calculation and reporting of the data submitted in the Discharge Monitoring Report. Such increased frequency must also be indicated. For a pollutant parameter that may be sampled more than once per day (for example, total residual chlorine), only the average daily value must be recorded unless otherwise specified in this permit.

C7. Averaging of Measurements

Calculations for all limitations that require averaging of measurements must utilize an arithmetic mean, except for bacteria which must be averaged as specified in this permit.

C8. Retention of Records

Records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities must be retained for a period of at least 5 years (or longer as required by 40 CFR part 503). Records of all monitoring information including all calibration and maintenance records, all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit and records of all data used to complete the application for this permit must be retained for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of DEQ at any time.

C9. Records Contents

Records of monitoring information must include:

a. The date, exact place, time, and methods of sampling or measurements;
b. The individual(s) who performed the sampling or measurements;
c. The date(s) analyses were performed;
d. The individual(s) who performed the analyses;
e. The analytical techniques or methods used; and
f. The results of such analyses.

C10. Inspection and Entry

The permittee must allow DEQ or EPA upon the presentation of credentials to:

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

C11. Confidentiality of Information

Any information relating to this permit that is submitted to or obtained by DEQ is available to the public unless classified as confidential by the Director of DEQ under ORS 468.095. The permittee may request that information be classified as confidential if it is a trade secret as defined by that statute. The name and address of the permittee, permit applications, permits, effluent data, and information required by NPDES application forms under 40 CFR § 122.21 are not classified as confidential [40 CFR § 122.7(b)].

SECTION D. REPORTING REQUIREMENTS

D1. Planned Changes

The permittee must comply with OAR 340-052, "Review of Plans and Specifications" and 40 CFR § 122.41(l)(1). Except where exempted under OAR 340-052, no construction, installation, or modification involving disposal systems, treatment works, sewerage systems, or common sewers may be commenced until the plans and specifications are submitted to and approved by DEQ. The permittee must give notice to DEQ as soon as possible of any planned physical alternations or additions to the permitted facility.

D2. Anticipated Noncompliance

The permittee must give advance notice to DEQ of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

D3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and EQC rules. No permit may be transferred to a third party without prior written approval from DEQ. DEQ may require modification, revocation, and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary

under 40 CFR § 122.61. The permittee must notify DEQ when a transfer of property interest takes place.

D4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date. Any reports of noncompliance must include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

D5. Twenty-Four Hour Reporting

The permittee must report any noncompliance that may endanger health or the environment. Any information must be provided orally (by telephone) to the DEQ regional office or Oregon Emergency Response System (1-800-452-0311) as specified below within 24 hours from the time the permittee becomes aware of the circumstances.

a. Overflows.
   (1) Oral Reporting within 24 hours.
      i. For overflows other than basement backups, the following information must be reported to the Oregon Emergency Response System (OERS) at 1-800-452-0311. For basement backups, this information should be reported directly to the DEQ regional office.
         (a) The location of the overflow;
         (b) The receiving water (if there is one);
         (c) An estimate of the volume of the overflow;
         (d) A description of the sewer system component from which the release occurred (for example, manhole, constructed overflow pipe, crack in pipe); and
         (e) The estimated date and time when the overflow began and stopped or will be stopped.
      ii. The following information must be reported to the DEQ regional office within 24 hours, or during normal business hours, whichever is earlier:
         (a) The OERS incident number (if applicable); and
         (b) A brief description of the event.
   (2) Written reporting postmarked within 5 days.
      i. The following information must be provided in writing to the DEQ regional office within 5 days of the time the permittee becomes aware of the overflow:
         (a) The OERS incident number (if applicable);
         (b) The cause or suspected cause of the overflow;
         (c) Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps;
         (d) Steps taken or planned to mitigate the impact(s) of the overflow and a schedule of major milestones for those steps; and
         (e) For storm-related overflows, the rainfall intensity (inches/hour) and duration of the storm associated with the overflow.

      DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
b. Other instances of noncompliance.
   (1) The following instances of noncompliance must be reported:

i. Any unanticipated bypass that exceeds any effluent limitation in this permit;
ii. Any upset that exceeds any effluent limitation in this permit;
iii. Violation of maximum daily discharge limitation for any of the pollutants listed by DEQ in this permit; and
iv. Any noncompliance that may endanger human health or the environment.

(2) During normal business hours, the DEQ regional office must be called. Outside of normal business hours, DEQ must be contacted at 1-800-452-0311 (Oregon Emergency Response System).

(3) A written submission must be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission must contain:
i. A description of the noncompliance and its cause;

ii. The period of noncompliance, including exact dates and times;
iii. The estimated time noncompliance is expected to continue if it has not been corrected;
iv. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance; and
v. Public notification steps taken, pursuant to General Condition B**7.**

(4) DEQ may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

D6. Other Noncompliance
The permittee must report all instances of noncompliance not reported under General Condition D4 or D5 at the time monitoring reports are submitted. The reports must contain:
a. A description of the noncompliance and its cause;
b. The period of noncompliance, including exact dates and times;
c. The estimated time noncompliance is expected to continue if it has not been corrected; and
d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

D7. Duty to Provide Information
The permittee must furnish to DEQ within a reasonable time any information that DEQ may request to determine compliance with the permit or to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit. The permittee must also furnish to DEQ, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it has failed to submit any relevant facts or has submitted incorrect information in a permit application or any report to DEQ, it must promptly submit such facts or information.

D8. Signatory Requirements
All applications, reports or information submitted to DEQ must be signed and certified in accordance with 40 CFR § 122.22.

D9. Falsification of Information
Under ORS 468.953, any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is subject to a Class C felony punishable by a fine not to exceed $125,000 per violation and up to 5 years in prison per ORS chapter 161. Additionally, according to 40 CFR § 122.41(k)(2), any person who knowingly

makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or non-compliance will, upon conviction, be punished by a federal civil penalty not to exceed $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

D10. Changes to Indirect Dischargers

The permittee must provide adequate notice to DEQ of the following:

a. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of the federal Clean Water Act if it were directly discharging those pollutants and;

b. Any substantial change in the volume or character of pollutants being introduced into the POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

c. For the purposes of this paragraph, adequate notice must include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

SECTION E. DEFINITIONS

E1. *BOD* or BOD_5 means five-day biochemical oxygen demand.
E2. *CBOD* or $CBOD_5$ means five-day carbonaceous biochemical oxygen demand.
E3. *TSS* means total suspended solids.
E4. *Bacteria* means but is not limited to fecal coliform bacteria, total coliform bacteria, *Escherichia coli* (*E. coli*) bacteria, and *Enterococcus* bacteria.
E5. *FC* means fecal coliform bacteria.
E6. *Total residual chlorine* means combined chlorine forms plus free residual chlorine
E7. *Technology based permit effluent limitations* means technology-based treatment requirements as defined in 40 CFR § 125.3, and concentration and mass load effluent limitations that are based on minimum design criteria specified in OAR 340-041.
E8. *mg/l* means milligrams per liter.
E9. *µg/l* means microgram per liter.
E10. *kg* means kilograms.
E11. m^3/d means cubic meters per day.
E12. *MGD* means million gallons per day.
E13. *Average monthly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.
E14. *Average weekly effluent limitation* as defined at 40 CFR § 122.2 means the highest allowable average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.
E15. *Daily discharge* as defined at 40 CFR § 122.2 means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge must be calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge must be calculated as the average measurement of the pollutant over the day.
E16. *24-hour composite sample* means a sample formed by collecting and mixing discrete samples taken periodically and based on time or flow.

E17. *Grab sample* means an individual discrete sample collected over a period of time not to exceed 15 minutes.
E18. *Quarter* means January through March, April through June, July through September, or October through December.
E19. *Month* means calendar month.
E20. *Week* means a calendar week of Sunday through Saturday.
E21. *POTW* means a publicly-owned treatment works.

Appendix B

List of Co-permittees
Co-permittee Application Form and
Annual Verification Form

HIO List of Co-permittees

Company Name	Mailing Address	City	State	Zip
ADI Shuttle Group	6544 Highland Road	Waterford	MI	48327
Aero Air, LLC	2050 NE 25th Avenue	Hillsboro	OR	97214
Aerovertigo, Inc.	3121 NE Cornell Road	Hillsboro	OR	97123
Airline Transport Professionals Holdings	1555 The Greens Way	Jacksonville	FL	32250
Bruun Construction Company	3611 SE 20th Avenue	Portland	OR	97202
Fliteline Condominium Hangar Owners	PO Box 91430	North Plains	OR	97133
Global Aviation, Inc.	2250 NE 25th Avenue	Hillsboro	OR	97214
GMJ Air Shuttle	5022 Bailey Loop	McClellan	CA	95652
Hillsboro Aviation, Inc.	3565 NE Cornell Road	Hillsboro	OR	97124
Jettview Corporation (Direct Avia)	P.O. Box 406	Brightwood	OR	97011
Merlo Corporation	2250 NE 25th Avenue	Hillsboro	OR	97214
Nike, Inc.	4223 NE Penny Way	Hillsboro	OR	97124
Northwest Aircraft Maintenance, Inc.	3301-B NE Cornell Road	Hillsboro	OR	97124
Ochoco Administrative Services	4297 NE Penny Way	Hillsboro	OR	97124
Patrick A.Weis	2995 NE Cornell Rd	Hillsboro	OR	97214
Premier Jets, Inc.	PO Box 91430	Portland	OR	97291-0430
Runway Properties, LLC	560 SE 4th Avenue, Suite 100	Hillsboro	OR	97123
Teufel Nursery, Inc.	3115 NE Cornell Road	Hillsboro	OR	97124
Tower Park Condo Hangar	9550 SW Hialeah Drive	Portland	OR	97008

CO-PERMITTEE REGISTRATION APPLICATION
1200-Z STORMWATER PERMIT
HILLSBORO AIRPORT

Purpose: The following application serves as a signed commitment to comply with the HIO 1200-Z general stormwater permit as a Co-Permittee. Please complete and submit to Danelle Peterson, Environmental Department at Port of Portland, PO Box 3529, Portland, Oregon 97208 or by email at danelle.peterson@portofportland.com or by fax 503-548-5571. Please contact 503-415-6722 if you have any questions.

I. FACILITY INFORMATION

A. Name of Company or Association: _____

Owner or Operator: _____

Site Address: _____

Mailing Address: _____

B. Facility Contact Person: _____ Phone No.: _____

Email: _____

C. Standard Industrial Classification (SIC) Code, if known:

_____

D. Other Current CWS/DEQ/EPA Permits for the Facility:

_____

E. Sub Tenants or Contractors Operating at this Facility:

_____

II. STORM WATER DISCHARGE INFORMATION

A. Briefly describe the various industrial activities that take place at the site (e.g. aircraft maintenance, deicing fueling, etc.):

_____

_____

_____

_____

B. Describe any storm water treatment and/or control facilities in use (e.g. swales, oil/water separator, etc.):

_____

_____

C. The NPDES industrial storm water regulations (40 CFR 122.26) require certification that all storm water outfalls associated with industrial activities have been evaluated for the presence of non-storm water discharges not otherwise covered by an NPDES Permit. **Your signature on this application provides that certification.** Describe how the site was inspected for non-storm water discharges: _____
_____
_____

D. Have any leaks or spills occurred at the facility within the last three (3) years? Yes: _____ No: _____
If "Yes," describe (or submit spill reports):
_____
_____

_____

III. SIGNATURE

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, 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.

_____ _____

AUTHORIZED REPRESENTATIVE **Title**
(Please Print)

_____ _____

Signature **Date**

1200-Z STORMWATER PERMIT ANNUAL COMPLIANCE VERIFICATION FOR THE HILLSBORO AIRPORT

Purpose: The following compliance verification form certifies that the Co-permittee has conducted required inspections, performed preventative maintenance of storm water control structures, prevented illicit discharges, and implemented any required best management practices under the 1200-Z National Pollutant Discharge Elimination System (NPDES) Storm Water Permit during the current reporting period (July 1 – June 30). Please complete and mail or email to Danelle Peterson, Aviation Environmental Department at Port of Portland, danelle.peterson@portofportland.com PO Box 3529, Portland, Oregon 97208 **by *JUNE 24, of the current year*.**

I. FACILITY INFORMATION

A. Name of Lessee/Operator or Association: _____

Site Address: _____

Mailing Address: _____

B. Facility Contact Person: _____

Phone No.: _____

FAX No.: _____

Email: _____

C. Other Current DEQ/EPA Permits for Facility: _____

D. List all sub-tenants operating at this facility*: _____

*Please complete an Annual Verification form for each facility where the sub-tenant is the sole operator.

II. STORM WATER DISCHARGE INFORMATION

A. Briefly list the facility and operation inspections (e.g. chemical storage areas, maintenance areas, etc.) that were conducted during the reporting period and their frequency: Attach additional sheets if more room is needed.

_____

_____

_____

_____

B. Describe any stormwater treatment and/or control facilities in use on your leasehold (e.g. swales, oil/water separators, catch basins) and the inspection and maintenance frequency of each. Attach additional sheets if more room is needed.

_____

_____

_____

_____

C. Did any hazardous or regulated substance leaks or spills occurred at the facility within the reporting period?

☐ Yes
☐ No

If "Yes," describe (or submit spill reports):
_____
_____
_____
_____

D. Were any storm water samples collected at your facility within the reporting period?
☐ Yes (If yes, please attach a site map where samples were taken and all laboratory data)
☐ No

III. STORM WATER POLLUTION CONTROL AND SPILL RESPONSE PLAN

E. Has the HIO Storm Water Pollution Control Plan been reviewed to ensure it adequately describes your facility operations? Reminder: Please forward any comments, updates and/or revisions to the Port of Portland.
☐ Yes: Date of Review:
_____

☐ No: If not, Why not?
_____

F. Has the current Storm Water Pollution Control Plan been reviewed to ensure the appropriate best management practices for your facility are being followed?
☐ Yes, Date of Review:
_____

☐ No If not, why not?
_____

G. Has a Spill Response Plan that meets the requirements of the 1200-Z NPDES permit been developed and implemented for your facility?
☐ Yes: (PLEASE ATTACH)

☐ No: If not, why not? _____

H. Have employees been trained on your facility's Spill Response Plan and the Storm Water Pollution Control Plan?
☐ Yes: Dates of training: _____

☐ No: If not, why not? _____

IV. SIGNATURE

(Signature statement required less than 40 CFR 122.22.)
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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, 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.

_____ _____

AUTHORIZED REPRESENTATIVE **Title**
(Please Print)

_____ _____

Signature **Date**

V. ADDITIONAL INFORMATION

Complete this section only if the annual compliance verification form for the time July 1- June 15 has already been submitted and additional information for the time June 15 – June 30 is relevant.
Describe the new information:

_____
_____
_____
_____

VI. SIGNATURE

(Signature statement required less than 40 CFR 122.22.)
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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, 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.

_____ _____
AUTHORIZED REPRESENTATIVE **Title**
(Please Print)

_____ _____
Signature **Date**

Appendix C

Illicit Discharge Detection and Elimination Procedure

WORK INSTRUCTION:	Work Instruction #WI-POR-WTR-011
	Date: 01/30/2017
ILLICIT DISCHARGE DETECTION	Owner: -Water Quality Manager
AND ELIMINATION PROGRAM	Page: 1 of 10
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On March 11, 1992, the Port Commission adopted Ordinance No. 361, which provides the Port with the legal authority to prohibit illicit discharge into the storm sewer system owned or operated by the Port. Section 4 of the Ordinance requires written permission from the Port before connection to a Port storm sewer. Section 5 of the Ordinance authorizes the Port to inspect the land and storm sewers for violations of the Ordinance or applicable law that governs the conveyance or disposal of stormwater. The Ordinance allows the Port to control the contribution of pollutants into storm sewers owned or operated by the Port; the quality of stormwater discharged from the sites of industrial activity on land owned by the Port; and the discharge into storm sewers owned or operated by the Port of pollutants from spills, dumping, or the disposal of materials other than stormwater.

1.0 SCOPE

This work instruction applies to all Port-owned properties at the Hillsboro Airport

2.0 DEFINITIONS

2.1 *Illicit Discharge* - any discharge to a MS4 that is not composed entirely of stormwater, except as specifically exempted by the MS4 permit or authorized pursuant to an National Pollution Discharge Elimination System (NPDES) permit.

2.2 *Putrid odor* – odor that is associated with decomposing garbage, sewage, or \other non-chemical waste, characteristically sweet, rotten, or indicative of human waste.

3.0 RESPONSIBLITY

3.1 *The Water Resources Program Manager* is responsible for overall coordination of the Port-wide MS4 Permit, the Illicit Discharge Detection and Elimination Program and the annual reporting to the Department of Environmental Quality (DEQ).

3.2 *Environmental Operations* is responsible for illicit discharge inspections, investigations and documentation of the Port-owned oufalls at Swan Island, Rivergate, and all marine terminals.

3.3 *Environmental Operations* is responsible for illicit discharge inspections, investigations and documentation of the Port-owned oufalls at Portland International Airport (PDX), Portland International Center (PIC), Hillsboro Airport (HIO) the Troutdale Airport (TTD) and the marine Terminal 2 (T2).

4.0 PROCEDURE

Inspections at all Port-owned outfalls will be conducted between June and August of each year. The inspector will observe each stormwater outfall as identified on a current Port of Portland Storm Sewer System maintainable drawing. At least 72 hours (3 days) of dry weather should precede the inspections. This procedure will also apply to any investigation of an illicit discharge to the Port's MS4 or storm sewer system.

WORK INSTRUCTION:	Work Instruction #WI-POR-WTR-011
	Date: 01/30/2017
ILLICIT DISCHARGE DETECTION	Owner: -Water Quality Manager
AND ELIMINATION PROGRAM	Page: 2 of 10
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4.1 Field Equipment

The following field equipment items are needed to conduct illicit discharge inspections:

- Illicit Discharge Inspection and investigation Forms
- Infrastructure Maps
- pH meter
- Thermometer
- Multi-probe for pH, Temp., Conductivity (if applicable)
- Sampling scoop/bucket
- Cellular phone
- Pens
- Gloves
- Digital Camera
- Required safety equipment (hard hats, ropes, safety vest, life vest, etc.)
- Laboratory sample coolers containing ice, sample containers, preservatives and chain of custody forms
- Emergency response phone list

4.2 Documentation

The Illicit Discharge Inspection and Investigation Form will be used to guide the inspector through all the necessary observations. Any potential illicit discharge must be documented using this form. Additionally, each outfall will be photo documented to supplement the information captured on the form.

The following is required to be submitted to the Water Resources Environmental Program Manager by September 1 of each year to be included in the MS4 Permit annual report:

- A summary of the investigations: indicate the number of outfalls inspected, the number of outfalls that were discharging (include outfall ID number), and a description of follow-up actions and resolutions;
- Copies of the Illicit Discharge Inspection and Investigation forms;
- Copies of laboratory reports; and
- Labeled photographs of outfalls.

4.3 Procedures if a Dry-Weather Flow is Observed (or if an illicit discharge is suspected)

If a dry-weather flow is observed at an outfall, the inspector will proceed with the investigation of the discharge immediately. The Illicit Discharge Inspection & Investigation Form is completed as part of the investigation. Even if the source is known when a discharge is discovered, the investigation form is completed as a record of the information and the corrective actions.

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ILLICIT DISCHARGE DETECTION	Owner: -Water Quality Manager
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If possible, to determine the source of a potential illicit discharge, the inspector will track the flow as far as possible along the conveyance away from the outfall or point of observation referring to the storm sewer system map of the drainage basin. At a point where the storm system intersects the conveyance containing the flow and both conveyances have a flow, both conveyances are then tracked. This will be done by driving the basin at the time of discharge, or if access is not available at that time, further investigation of the site will be conducted later when access has been secured. Follow up investigations will occur when a discharge is present.

The inspector must determine if the flow is from a permitted non-stormwater discharge as specified in the MS4 Permit. This characterization is based on the following regulatory list of allowable or permissible discharges identified below (40 CFR 122.26 (d) (2) (IV) (B) (l)):

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water
- Infiltration to separate storm sewers
- Individual residential car washing
- Flows from riparian habitats & wetlands
- Dechlorinated swimming pool
- Air conditioning condensation
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Uncontaminated pumped groundwater
- Discharges from potable water sources
- Foundation drains
- Street wash water discharges

Based on this list, the inspector will determine if the discharge is permissible. If the source is not permissible, the investigator will ensure that the Port responds within the provisions of Ordinance 361 to terminate the flow. All action taken will be documented on an Illicit Discharge Inspection/Investigation Form. A Notice of Non-Compliance or Notice of Violation will be issued depending on the circumstances. *If the flow appears to be a spill of significant material, the inspector will activate the emergency spill response by calling the contacts on the emergency phone list.

Investigations into dry-weather flows or other reported illicit discharges will follow the IDDE Action Levels flow chart (attached). In addition, the following techniques may also be implemented to track sources of discharges: tenant and employee interviews, dye testing, conveyance videotaping and smoke testing. If the outfall is submerged and access is available, the inspector shall track back up the conveyance system away from the outfall to a point where an observation can be made. The point of observation may be a manhole, inlet grate, catch basin, curb grate, etc.

WORK INSTRUCTION:	Work Instruction #WI-POR-WTR-011
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ILLICIT DISCHARGE DETECTION	Owner: -Water Quality Manager
AND ELIMINATION PROGRAM	Page: 4 of 10
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Once the source of an illicit discharge is determined, the Port's response timing is dictated by specific MS4 Permit requirements as follows. The inspector must conduct an initial evaluation of the feasibility to eliminate the discharge, within 5 working days. If it is determined that the elimination of the illicit discharge will take more than 15 working days due to technical, logistical or other reasonable issues, an action plan to eliminate the illicit discharge in an expeditious manner must be developed. The action plan must be completed in 20 working days of determining the source of an illicit discharge. The action plan, response procedures, response plan or similar document developed for each illicit discharge must include an as soon as is practicable timeframe for elimination of the discharge.

The MS4 Permit also requires timely notification be made under the following circumstances. If a suspected illicit discharge is detected that originates from another jurisdiction's MS4 they must be notified within one day. Likewise, if an illicit discharge originating in the Port's storm sewer system flows into another jurisdiction's system, that municipality must be notified of the situation within one day. Contact the City of Portland's Bureau of Environmental Services Industrial Stormwater Program Supervisor to report discharges on properties not owned by the Port or for tenants holding stormwater permits issued by the City. Forward all documentation regarding City notifications to the Water Resources Program Manager.

4.4 Sampling and Analysis

Certain water quality parameters can serve as indicators of the likely presence or absence of illicit discharges. Some can be measured in the field. However, if the inspector deems it necessary to collect water samples for laboratory analysis (based on the attached IDDE Action Level Flow Chart or the inspector's knowledge of the industrial activities in the drainage area) to aid in determining the source of the potential illicit discharge, samples shall be collected. Sample collection, transport, and analysis will be conducted following the requirements of 40 CFR 136 (*Guidelines Establishing Test Procedures for the Analysis of Pollutants*).

Field analysis will be conducted using accurate and efficient hand-held meters or test kits following established QA/QC procedures. The results from the field screen must be documented on the Illicit Discharge Inspection and Investigation Form.
If samples are taken for analysis by an Oregon-certified laboratory, they shall be labeled with the time, date, sample location and outfall identification number and prepared for shipment to ensure sample integrity is maintained. A chain of custody form shall be completed for every sample shipped. The laboratory must conduct all analysis according to requirements outlined in 40 CFR 136. If requested, the laboratory will provide the inspector with sample containers, preservatives, and coolers prior to the field observations. The collected samples will be chemically preserved according to EPA approved methods. The samples shall be immediately placed in a laboratory cooler with

ice. The suggested analytical methods to investigate discharges identified for sampling through the pollutant action level flow chart are provided in Table 1.

Table 1. Suggested IDDE Analytical Parameters and Methods

Parameter	Method	Detection Limit	Hold Time	Sample Container	Possible Sources
pH	EPA 150.1	--	15 min.	Field test	Detergents, washing, soda ash, acid, ***Normal range: 5.5 - 9.0***
Temperature	EPA 170.1	--	--	Field test	***High limit: 24° C/75°F***
Conductivity	EPA 120.1	--	--	Field test	***Normal range: 50 to 1500 µmhos/cm***
E. Coli	SM 9223	1 MPN/ 100 ml	6 hours	Bacteria bottle 100 ml cooled to 4° C	Animal waste, failing septic systems, sanitary discharge
Total Chlorine	SM 4500-CLB	0.10 mg/L	24 hours	Glass 40 ml bottle unpreserved	Hydrant flushing, water line leak, washing
Ammonia Nitrogen	EPA 350.1	0.01-2.0 mg/L	28 days	1 L plastic or glass, with H_2SO_4 and cooled to 4° C	Industrial waste, sanitary discharge
Oil and Grease	EPA 1664	5.0 mg/L	28 days	1 L amber w/ HCl	Fueling, equipment leaks, spills
NWTPH/- HCID	EPA 3510	0.25 mg/L	7 days	1 L glass jar with Teflon coated lid, with HCL and cooled to 4° C	Wash water, fueling, spills, leaks, dumping.
Total Suspended Solids (TSS)	EPA 160.2	10 mg/L	7 days	500 ml poly unpreserved	Construction, erosion, poor housekeeping

4.5 Reporting Requirements

Environmental Operations staff must submit the following to the Water Resources Program Manager by September 1 of each year:

- An illicit discharge inspection summary noting the specific outfall IDs for each outfall inspected, number of outfalls inspected, number of outfalls observed with discharges, number of follow-up investigations, the outcome of the investigations;
- Copies of the Illicit Discharge Inspection and Investigation Forms, any Notices of Non-Compliance, Notices of Violation issued; and
- Labeled outfall photographs.

4.6 Records Retention:

Environmental Operations staff shall maintain all documentation related to the Illicit Discharge Detection and Elimination Program for a minimum of 6 years after the date of the MS4 permit expiration. Summary records will be retained as part of the Municipal

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Stormwater Permit documentation. Confirm retention timelines with the Port's Records Retention Calendar, accessible on Navigator.

5.0 VERIFICATION AND CORRECTIVE ACTION

5.1 This work instruction is to be reviewed on a periodic basis by the Water Resources Program Manager or designee to verify the purpose and scope is applicable to Port needs and the steps within adequately support the purpose and scope. If deficiencies are discovered, corrective action will be taken.

5.2 Port conformance with this work instruction will reviewed on a periodic basis by Water Resources Program Manager or designee. If nonconformance is discovered, corrective action will be taken.

6.0 REFERENCES

6.1 40 CFR 122.26 (d)(2)(iv)(B)

6.2 Port of Portland Ordinance 361

6.3 HIO 1200-Z file No. 107009

6.4 Clean Water Services Ordinance 27

7.0 ATTACHMENTS

7.1 Illicit Discharge Inspection and Investigation Form

7.2 IDDE Action Level Flow Chart

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9.0 REVISION HISTORY

WI-POR-WTR-011 Illicit Discharge and Elimination System Program	
Date	**Description of Changes**
07/21/06	Original version
11/21/11	Updated per the requirements of the 2011 MS4 permit, IDDE Action Level Flow Chart added.
01/30/2017	Changed *Aviation and MID Environmental to Environmental Operations*

PORT OF PORTLAND

ILLICIT DISCHARGE INSPECTION & INVESTIGATION FORM

This form is to be completed following the protocol in the Port of Portland's Municipal Stormwater Permit Illicit Discharge Detection and Elimination Work Instruction

Date: _____ Time: _____ Inspection Team: _____

Operating Area: ☐ PDX ☐ Marine Terminal: _____ ☐ Properties: _____

Time since last rain (≥ 0.1"): ☐ within the last 72 hrs. ☐ over 72 hrs.
(Note: Inspections should only be conducted if only 72 hours has elapsed since last measurable rain)

Outfall ID: _____ Photo #: _____
Location: _____
Outfall Type: _____ Channel/Pipe Diameter: _____

Flow Observed: ☐ Yes ☐ No Describe Flow: _____

If yes, complete remainder of form. If no, form is complete. Submit copies to Water Resources Program Manager.

Describe discharge in as much detail as possible (color, odor, sheen, solids, foam, etc.):
_____
_____
_____
_____

Evidence of permitted flow (40 CFR 122.26 (d)(2)(iv)(B)(1)): Is the source of the flow an obvious discharge from the list of exempt discharges from Schedule A (4) of the MS4 Permit? ☐ Yes ☐ No
See reverse side for list of exempt discharges.

Describe discharge source:
_____
_____

Is there any exposure to potential contamination? ☐ Yes ☐ No Describe:
_____

If the source is not on the list of allowable discharges, or discharge shows signs of contamination, conduct an illicit discharge investigation and complete the back of this form.

Submit the following documents to the Water Resources Program Manager by September 1:
☐ Illicit Discharge Inspection & Investigation Forms, Notice of Non-Compliance, and Notice of Violation Forms
☐ Copies of any laboratory results
☐ Copies of labeled photographs
☐ Summary Report

PORT OF PORTLAND

ILLICIT DISCHARGE INSPECTION & INVESTIGATION FORM

This side is to be completed immediately as documentation of a potential illicit discharge.

Date: _____ Time: _____ Inspection Team: _____

Operating Area/Location: _____

Outfall ID: _____ Photo#_____

Outfall Type: _____ Channel/Pipe Diameter: _____

Activities occurring upstream of outfall:
_____
_____
_____

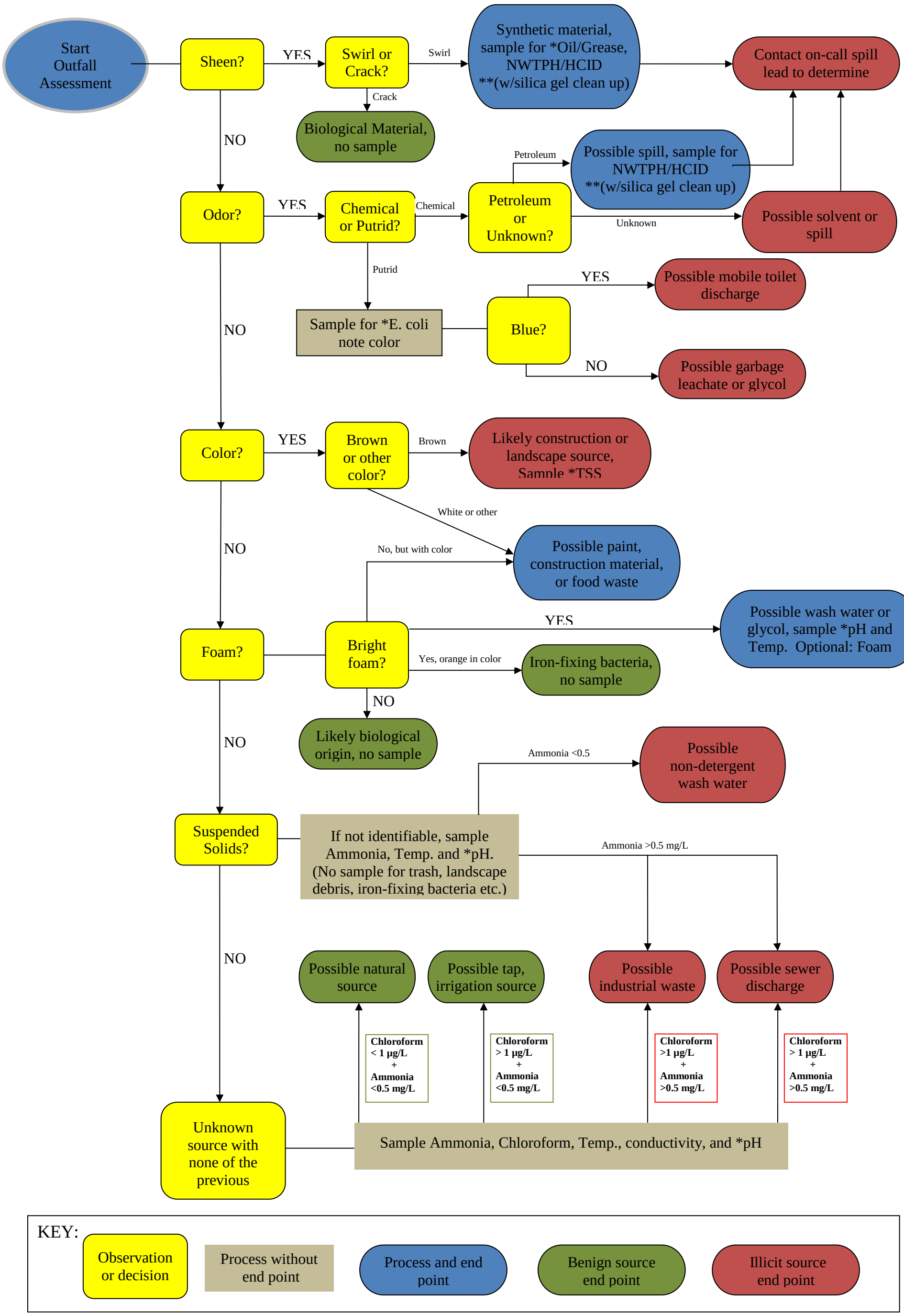
List parameters analyzed (use action level flow chart to determine): _____
_____

Analytical lab providing analysis:
_____

Temperature: _____ pH: _____ Conductivity: _____
Follow-up/corrective actions: _____
_____
_____
Persons Notified: _____

Authorized Non-Stormwater Discharges
These discharges are allowable or permissible discharges (40 CFR 122.26 (d)(2)(iv)(B)(1)) provided appropriate BMPs are used to minimize the impacts of pollutants: *water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration, uncontaminated pumped ground water, discharges from potable water sources, startup flushing of groundwater wells, aquifer storage and recovery (ASR) wells, potable groundwater monitoring wells, draining and flushing of municipal potable water storage reservoirs, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, street wash waters, discharges of treated water from investigation, removal and remedial actions selected or approved by the Department pursuant to Oregon Revised Statute (ORS) Chapter 465, the state's environmental cleanup law; and discharges or flows from emergency firefighting activities.* ***For areas holding an 1200-Z or 1200-COLS permit the following additional discharges are authorized****;* Pavement wash waters where no detergents or hot water are used, no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed), and surfaces are swept before washing; vehicle washing that does not use detergents or hot water unless the 1700-A NPDES permit is required for the discharge; routine external building wash down that does not use detergents or hot water; incidental windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g., "piped" cooling tower blowdown or drains).

WI-POR-WTR-011 Attachment B: Illicit Discharge Investigation Action Levels



***Sampling only conducted at outfalls regulated under an Industrial Stormwater General Permit as identified in the facility's Stormwater Pollution Control Plan (SWPCP). These sample results must be included in the facility's annual DMR report to DEQ.**

****If HCID results detect heavier fractions, re-analyze the sample with a silica gel clean-up to remove organic interfere**

Appendix D

Stormwater Monthly Inspection Forms and Procedure

Work Instruction: **Stormwater Monthly Inspections**	Work Instruction WI-AVI-WTR-001
	Date: 01/26/2017
	Rev. # 1
	Page: # 1 of 3
	Owner: Water Quality Manager

PURPOSE

1.1. The purpose of this procedure is to ensure compliance with the monthly inspection requirements associated with 1200-COLS National Pollution Discharge Elimination System (NPDES) permit and 1200-Z NPDES permits.

2.0 SCOPE

2.1. This procedure applies to the performance of monthly monitoring of stormwater discharges and monthly inspections of industrial areas at PDX (Portland International Airport), HIO (Hillsboro Airport), and TTD (Troutdale Airport).

2.2. These activities are specific to the Port of Portland's Industrial operations (this generally excludes tenant activities).

3.0 DEFINITIONS

3.1. *Site Controls - Best Management Practices (BMPs) for controlling and preventing stormwater pollution. These can be structural or procedural.*

3.2. *Environmental Management System (EMS)*

3.3. *Industrial Inspections – Inspecting areas where stormwater meets industrial activities such as: material handling areas, storage or maintenance of material handling equipment, storage areas for raw materials (tank farms) and intermediate and finished products and manufacturing buildings.*

3.4. *Outfall Monitoring – monitoring the stormwater discharges at designated stormwater outfalls as identified the SWPCP (stormwater pollution control plan).*

3.5. *House Keeping – areas that may contribute pollutants to stormwater must be kept clean. Sweeping, litter pick-up, prompt cleanup of spills and leaks, and proper maintenance of vehicles must be employed to eliminate or minimize exposure of stormwater to pollutants.*

4.0 RESPONSIBILITY

4.1. *Environmental Operations Specialist, Technician and/or delegate:*

- Conducts monthly monitoring and inspections per related permits, plans and protocols for each airport.
- Manages and maintains records related to monthly monitoring and reporting.
- Monitors corrective action when deficiencies in performance or controls are identified

4.2. *Aviation maintenance staff (as delegated):*

- *Respond to repair requests and address issues in a timely manner.*

4.3. *Designated Environmental Operations staff (generally the Administrative Coordinator):*

- Maintain records per the Port's records retention schedule.

5.0 GUIDANCE

5.1. Required Equipment

- Sampling equipment; for details reference the related monitoring protocol.
- Forms: Field Monitoring; Industrial Inspection; Outfall Monitoring.
- Links to the above referenced documents are provided in section 7 of this document.

5.2. Schedule

- Industrial inspections must be completed monthly.
- Stormwater discharges that occur Monday thorugh Friday during regular business hours (as defined in the associated Stormwater Pollution Control Plan) must be monitored monthly.

5.3. Conducting Inspections

- Reference the monthly industrial form for each airport (in scope).
- Document conditions at each monitoring point listed on forms.
- Collect samples (if necessary) – see permits for guidance.
- Reference: Stormwater Sampling Protocol for each airport.
- Document conditions of site controls and industrial areas listed on the inspection forms.
- Follow up and corrective action for for housekeeping issues, spills, or damaged site controls.
    - For PDX: Submit work orders in PDX maintenance request via e-mail, which will generate a work order. Assign completion timeline (as necessary). Monitor completion.

    - For HIO and TTD general aviation (GA): coordinate maintance requests with GA Maintenance Lead; establish timeline (as necessary) and monitor completion.

5.4. Recordkeeping and Reporting

- Industrial Inspections

    - Completed monthly inspection forms are maintained in the Stormwater Monthly Industrial & Outfall Inspections binder located at designated Environmental Specialist's work area. The binder includes records generated July 1 through June 30 of the current year.

    - After the tracking year is complete, records are transferred environmental files, along with annual report documentation and maintained per Port's Record Retention Schedule.

- Monthly Monitoring

    - Completed forms are scanned and e-filed in the stormwater database maintained by the designated Environmetnal Specialist

- Files are maintained in the Stormwater Monthly Industrial & Outfall Inspections binder located at Environmental Specialist's work area July 1 through June 30.

- After the tracking year, records are transferred environmental files along with annual report documentation and maintained per the Port's Record Retention Schedule.

1.0 VERIFICATION AND CORRECTIVE ACTION

1.1. This procedure is to be reviewed on a periodic basis by the Environmental Operations EMS Manager. If deficiencies are discovered in this procedure, corrective action will be taken.

1.2. Port conformance with this procedure is to be reviewed on a periodic basis by the Environmental Operations EMS Manager. If nonconformance is discovered, corrective action will be taken.

2.0 REFERENCES, RELATED POLICIES AND GUIDELINES

2.1. Environmental Water Resource Policy <7.4.16>

2.2. 1200-Z permits <HIO, TTD>

2.3. 1200-COLS <PDX>

2.4. Annual Stormwater Monitoring and Industrial Discharge Reporting (work instruction)

2.5. SWPC Plans <PDX, HIO, TTD>; updates – through action plans – are maintained by Aviation Environmental

2.6. Monitoring Protocol <1200-Z> <1200-COLS>

2.7. Inspection Forms and Monitoring Records

3.0 ATTACHMENTS

3.1. None

4.0 REVISION HISTORY

WI-AVI-WTR-001 Stormwater Monthly Inspections	
Date	**Description**
11/18/2010	This is the original version of this Work Instruction.
03/16/2016	Updates made for the 1200-COLS 2016 permit renewal. Aviation Environmental Specialist was changed to either Environmental Operations Specialist or Water Quality Manager. Under Record Keeping and Reporting, Monthly Monitoring, the following statement was removed," A copy is submitted to DEQ as part of annual reporting."

Outfall Inspections Associated with Industrial Activity									**DATE:**
SITE	***DESCRIPTION***	***WATER LEVEL***	***WATER COLOR***	***WATER CLARITY***	***FLOATING SOLIDS***	***O & G SHEEN***	**ODOR**	***FOAM***	***COMMENTS/ FOLLOWUP***
		CIRCLE ONE	CIRCLE ONE	CIRCLE ONE	CIRCLE ONE	CIRCLE ONE	CIRCLE ONE	CIRCLE ONE	
Basin 2 001 Time:	Ditch on E. side of Airport, off Perimeter Rd. between Hillsboro Aviation and NE Hangers	TRICKLE LOW NORMAL MEDIUM HIGH VERY HIGH NO FLOW	GREEN BROWN GRAY YELLOW ORANGE NO COLOR NO FLOW	CLEAR TURBID CLOUDY MUDDY NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE BIOGENIC NO FLOW	YES DESCIBE NO	YES DESCIBE NO VISIBLE	
Basin 3 002 Time:	SE corner of Hillsboro Aviation Parking lot (manhole)	TRICKLE LOW NORMAL MEDIUM HIGH VERY HIGH NO FLOW	GREEN BROWN GRAY YELLOW NO COLOR NO FLOW	CLEAR TURBID CLOUDY MUDDY NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE BIOGENIC NO FLOW	YES DESCIBE NO	YES DESCIBE NO VISIBLE	
Basin 4 003 Time:	Manhole on W. side of Airport, North of Global Aviation on NE 25th Ave.	TRICKLE LOW NORMAL MEDIUM HIGH VERY HIGH NO FLOW	GREEN BROWN GRAY YELLOW NO COLOR NO FLOW	CLEAR TURBID CLOUDY MUDDY NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE BIOGENIC NO FLOW	YES DESCIBE NO	YES DESCIBE NO VISIBLE	

WEATHER FOR PAST 3 DAYS (Circle all that apply): COLD WET RAINY DRY OTHER: _____

INSPECTED BY: _____ *DATE:* _____

Outfall Inspections NOT Associated with Industrial Activity

SITE	*DESCRIPTION*	*WATER LEVEL*	*WATER COLOR*	*WATER CLARITY*	*FLOATING SOLIDS*	*O & G SHEEN*	**ODOR**	*FOAM*	*COMMENTS*
Basin 5 Time:	Ditch on W. side of Airport, just south of intersection of NE 26th Ave. and NW Evergreen St.	TRICKLE LOW NORMAL MEDIUM HIGH VERY HIGH NO FLOW	GREEN BROWN GRAY YELLOW NO COLOR NO FLOW	CLEAR TURBID CLOUDY MUDDY NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE BIOGENIC NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE BIOGENIC NO FLOW	YES DESCIBE NO	YES DESCIBE NO VISIBLE	
Basin 5 SP5a (004) Time:	Manhole/Catch basin in the right of way adjacent to Hillsboro Aviation located on NE 30th Ave.	TRICKLE LOW NORMAL MEDIUM HIGH VERY HIGH NO FLOW	GREEN BROWN GRAY YELLOW NO COLOR NO FLOW	CLEAR TURBID CLOUDY MUDDY NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE BIOGENIC NO FLOW	LIGHT MEDIUM HEAVY NO VISIBLE BIOGENIC NO FLOW	YES DESCIBE NO	YES DESCIBE NO VISIBLE	

Oil Boom Inspections

SITE	DESCRPITION	GENERAL HOUSEKEEPING	EVIDENCE OF SPILLS	BOOM CONDITION	COMMENTS	FOLLOWUP
BASIN #2 BOOM	Ditch on E. side of Airport, off Perimeter Rd. between Hillsboro Aviation and NE Hangers	GOOD NEEDS ATTENTION	NO YES explain:	NEW GOOD REPLACE		

TANK #	*DESCRIPTION/ CONTENTS*	*LOCATION*	*EVIDENCE OF SPILLS/LEAKS*	*CONDITION OF BOOM*	*CONDITION OF PUMP*	*COMMENTS/FOLLOWUP*
37	500 Gallon/ Diesel Double Walled	South side of Port Maintenance Facility	NO YES	NEW GOOD REPLACE NONE	GOOD NEEDS MNTC NONE	NOTE TANK INTEGRITY: _____ NOTE SEC. CONTAINMENT: _____
46	280 Gallon/ Used Oil Double Walled (Rusty)	South of Auto gate inside of Port MX Facility	NO YES	NEW GOOD REPLACE NONE	GOOD NEEDS MNTC NONE	NOTE TANK INTEGRITY: _____ NOTE SEC. CONTAINMENT: _____
45	280 Gallon/ Used Oil Double Walled	North of Auto gate outside of Port MX Facility	NO YES	NEW GOOD REPLACE NONE	GOOD NEEDS MNTC NONE	NOTE TANK INTEGRITY: _____ NOTE SEC. CONTAINMENT: _____
NA	85-gallon Transformer Fluid Steel Regulator Tank	Inside the Regulator room next to the FAA Tower	NO YES	NEW GOOD REPLACE NONE	GOOD NEEDS MNTC NONE	NOTE TANK INTEGRITY: _____ NOTE SEC. CONTAINMENT: _____

Catch Basin Inspections								
SITE	***DESCRIPTION***	***CONDITION OF STRUCTURE***	***DEBRIS IN CATCH BASIN***	***DOES CATCH BASIN NEED TO BE CLEANED?***	***ODOR***	***SHEEN***	***EVIDENCE OF OR POTENTIAL FOR POLLUTANTS ENTERING THE STORM SYSTEM***	***COMMENTS/ FOLLOWUP***
Port Common Areas ("airside" of by Admin Building)	East of auto gate	GOOD NEEDS MNTC EXPLAIN:	LEAVES GRASS SILT SAND TRASH OTHER NONE	NO YES EXPLAIN:	MUSTY PETROLEUM OTHER NONE	LIGHT MEDIUM HEAVY NONE	NO YES EXPLAIN:	
	West of auto gate	GOOD NEEDS MNTC EXPLAIN:	LEAVES GRASS SILT SAND TRASH OTHER NONE	NO YES EXPLAIN:	MUSTY PETROLEUM OTHER NONE	LIGHT MEDIUM HEAVY NONE	NO YES EXPLAIN:	
Port Maintenance Facility	NE Corner of Facility (front in entry from 25th)	GOOD NEEDS MNTC EXPLAIN:	LEAVES GRASS SILT SAND TRASH OTHER NONE	NO YES EXPLAIN:	MUSTY PETROLEUM OTHER NONE	LIGHT MEDIUM HEAVY NONE	NO YES EXPLAIN:	
	SE Corner of Facility (back)	GOOD NEEDS MNTC EXPLAIN:	LEAVES GRASS SILT SAND TRASH OTHER NONE	NO YES EXPLAIN:	MUSTY PETROLEUM OTHER NONE	LIGHT MEDIUM HEAVY NONE	NO YES EXPLAIN:	
	SW Corner of Facility (side)	GOOD NEEDS MNTC EXPLAIN:	LEAVES GRASS SILT SAND TRASH OTHER NONE	NO YES EXPLAIN:	MUSTY PETROLEUM OTHER NONE	LIGHT MEDIUM HEAVY NONE	NO YES EXPLAIN:	

Industrial Areas							
AREA DESCRIPTION	**DEBRIS OR TRASH PRESENT?**	**ARE INDUSTRIAL MATERIALS STORED UNDER COVER?**	**EVIDENCE OF LEAKING DRUMS, VEHICLES, TANKS OR OTHER EQUIPMENT?**	**EVIDENCE OF SPILLS?**	**CONTENT OF DRUMS AND CONTAINERS LABELED?**	**SECONDARY CONTAINMENT**	**FOLLOW UP/COMMENTS**
Port Maintenance Facility	NO YES explain:	NO explain: YES N/A	NO YES explain:	NO YES explain:	NO YES N/A	NO YES N/A	
Other/Misc.							

WEATHER FOR PAST 3 DAYS (Circle all that apply): COLD WET RAINY DRY OTHER: _____

INSPECTED BY: _____ *DATE & TIME:* _____

Appendix E

General Aviation Spill Response Procedures
(Port of Portland)

The following appendices are not included in the Spill Response Plan as they do not apply to the HIO facility or the information is contained in Figure 2, the Stormwater Pollution Control Plan Map:

- Appendix A-1: Site Plan – Hillsboro Airport (HIO)
- Appendix A-2: Spill Response Locations – Hillsboro Airport (HIO)
- Appendix A-3: Drainage Plan – Hillsboro Airport (HIO)
- Appendix B-1: Site Plan – Troutdale Airport (TTD)
- Appendix B-2: Spill Response Locations – Troutdale Airport (TTD)
- Appendix B-3: Drainage Plan – Troutdale Airport (TTD)

PORT OF PORTLAND

GENERAL AVIATION

SPILL RESPONSE PROCEDURES

(Updated March 9, 2012)

Approved by Philip A. Ralston

Phil Ralston, General Manager -
Environmental Department
Port of Portland

Date March 26, 2012

GENERAL AVIATION SPILL RESPONSE PROCEDURES

Table of Contents

REVISION HISTORY

GENERAL AVIATION SPILL RESPONSE PROCEDURES	
09-20-2007	Version prior to 2012 update
03-09-2012	Updated Incident Command responsibilities and associated training requirements (Environmental dept. will no longer be delegated this responsibility); updated key contact info./numbers; updated related flowcharts for consistency with current work instructions. Added updated drainage maps. Incorporated labeling requirement reference language from the current Stormwater General Permit requirements.
05-08-2012	Minor correction – no signature update needed. Added HIO Site Maps to Appendix A.

GENERAL AVIATION
SPILL RESPONSE PROCEDURES

1.0 POLICY STATEMENT

The Port of Portland (Port) will follow a standard set of procedures to quickly and efficiently respond to spills of hazardous and non-hazardous materials at the Port's General Aviation (GA) airports. The Port's principal goals in establishing these procedures are to ensure that the public, Port employees, tenants, and contractors (including those responding to spills) are protected from undue exposure to these materials; to protect the environment that may otherwise be impacted by these spills; to protect property; and to minimize operational disruptions caused by spills. This plan was developed to be consistent with the Port's Environmental Management System and safety procedures.

It is the duty of the party responsible for the spill to perform appropriate cleanup and reporting. In the event that the responsible party is unwilling or unable to clean up the spill, the Port will arrange for the cleanup of the spill and the responsible party will be billed for the cleanup cost.

In the event of a spill, contact the PDX Communications Center
Telephone No. 503-460-4000

2.0 INTRODUCTION

In the course of doing business at GA airports there is a potential for spills and accidental release of hazardous material within the airport boundaries. The following Spill Response Procedures (SRPs) have been developed for GA airports to deal with these incidents. The SRPs detail the following:

- Roles, responsibilities, communication, and reporting procedures;
- Labeling requirements;
- Spill response procedures;
- Spill cleanup, removal, and disposal procedures;
- Training requirements; and
- Equipment.

2.1 Background/History

The Occupational Safety and Health Administration (OSHA) definitions of an emergency response and incidental releases under HAZWOPER (Hazardous Waste Operations and Emergency Response) are as follows:

- **"Emergency response"** or **"responding to emergencies"** means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual aid groups, local fire departments) to an occurrence that results, or is likely to result, in an uncontrolled release of hazardous materials.
- **"Responses to incidental releases"** means the response to a hazardous substance release where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel ***are not considered to be emergency responses*** within the scope of this standard. Responses to releases of hazardous substances where there is ***no potential safety or health hazard*** (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

Other background information that plays a key role in the history of spill response at GA airports includes:

- GA airports are multi-employer work sites and each individual employer is the Responsible Party (RP) in the event that his/her product is spilled/released or if his/her employee spills/releases a material.
- The most common materials spilled/released at GA airports are vehicle fluids, fuels, and sewage.
- Tenants and construction contractors account for the majority of the spills/releases that occur at GA airports.
- The Port Environmental department is responsible for ensuring agency notification by tenants, construction contractors, ground service companies, and the Port, and for the oversight and containment of spills/releases that may impact waterways and out-falls. Local fire departments or emergency responders provide initial incident command and control for spills/releases.

2.2 Geographic Jurisdiction of These Procedures

These SRPs apply to spills within the perimeter of the GA airport's facility fence, as well as Port property outside the fence adjacent to any of the Port's general aviation airports.

3.0 PERSONNEL ROLES, LINES OF AUTHORITY, AND COMMUNICATIONS

3.1 PDX Communications Center

- Serves as initial Port point of contact for receiving reports of Emergency/Hazardous Material and fuel spills, or for Non-hazardous/Incidental Spills requiring direction or assistance at GA airports; and
- Triage of all calls and contact with local emergency responders (9-1-1), Port Environmental department, GA Operations and Maintenance, and/or RP (tenant or contractor), as appropriate for response and cleanup.

3.2 Port Environmental Department

- Develop, maintain, and review the GA airport Spill Response Program;
- Maintain Environmental staff for response to Hazardous Material Spills;
- Maintain required records for Emergency/Hazardous Material Spills;
- Serve as liaison to regulatory agencies;
- Prepare reports and records as required by regulatory agencies;
- Arrange for appropriate emergency/hazardous material spill response training for Port employees;
- Provide guidance to tenants and contractors for spill response and cleanup when necessary; and
- Contact Emergency Response Contractors as needed.

3.3 General Aviation Maintenance

- Contact the PDX Communications Center when an Emergency/Hazardous Material Spill is discovered, or when direction or assistance is required on a Non-emergency/Incidental Spill;

- Maintain and train the GA maintenance staff for response to Non-emergency/Incidental Spills and/or Emergency/Hazardous Material Spills that impact operations;
- Clean up Non-emergency/Incidental Spills and/or Emergency/Hazardous Material Spills within the scope of training;
- Notify Port Environmental department and/or Emergency Response Contractors, as appropriate;
- Assist in spill equipment and supply stocking/restocking and maintenance; and
- Complete and maintain appropriate records.

3.4 General Aviation Operations

- Contact the PDX Communications Center when an Emergency/Hazardous Material Spill is discovered, or when direction or assistance is required on a Non-emergency/Incidental Spill;
- Maintain spill response training for Operations personnel;
- Assist in cleanup of Non-emergency/Incidental Spills and/or Emergency/Hazardous Material Spills as directed by the Incident Commander and in accordance with equipment, training, and materials (when available);
- Notify Port Environmental department and/or Emergency Response Contractors, as appropriate; and
- Oversee Port/tenant/RP cleanups, as appropriate.

3.5 GA Department Managers, Supervisors, Superintendents, Leads, and Employees

- Ensure all containers are clearly and properly labeled in order to support appropriate spill response (refer to the Port-wide Labeling Work Instruction for additional detail);
- Contact the PDX Communications Center when an Emergency/Hazardous Material Spill is discovered, or when direction or assistance is required on a Non-emergency/Incidental Spill;
- Maintain HazCom and Spill Response training for designated staff; and
- Clean up or oversee clean up of incidental spills in their area, as appropriate.

3.6 GA Tenants, Construction Contractors, and Service Providers

- Ensure all containers are clearly and properly labeled in order to support appropriate spill response (refer to the Port-wide Labeling Work Instruction for additional detail);
- Contact the PDX Communications Center when an Emergency/Hazardous Material Spill is discovered, or when direction or assistance is required on a Non-emergency/Incidental Spill;
- Contain, clean up, and dispose of all Emergency/Hazardous Material and Non-emergency/Incidental Spills that they cause;
- Train personnel in accordance with HazCom requirements and the GA airport Spill Response Procedures;
- Maintain appropriate cleanup materials and equipment;
- Maintain records of spill response actions; and
- Report all regulated spills to the appropriate regulatory agencies and to the Port Environmental department.

3.7 Emergency Response Contractors

- Provide environmental cleanup services when requested by General Aviation Operations and Maintenance, Port Environmental department, or the PDX Communications Center; and
- Maintain a response crew with security access badges and appropriate training.

4.0 SPILL RESPONSE PROCEDURES

The GA airport Spill Response Procedures are broken into two levels of response:

- Non-emergency/Incidental Spills, and
- Emergency/Hazardous Material Spills.

4.1 Non-emergency / Incidental Spills

Most spills at GA airports are Non-emergency/Incidental Spills. These spills do not require a HAZMAT response and meet the OSHA definition in the 29 CFR 1910.120 Hazardous Waste Operations and Emergency Response standard as follows:

"Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses."

Port contractors, tenants, maintenance or operations personnel will respond to, contain, and clean up Non-emergency/Incidental Spills. Tenants, construction contractors, and service providers are responsible for the cleanup of any spills they cause or discover in their area. Port Emergency Response Contractors will clean up Non-emergency/Incidental Spills when so directed.

Examples of Non-emergency/Incidental Spills include:

- Non-hazardous materials;
- Vehicle fluids (oil, radiator fluid, gasoline, diesel, brake fluid, etc.) spill that can be contained by employees in immediate area;
- Jet fuel spills that can be contained by employees in the immediate area; and
- Bio-hazard/sewage spills that can be contained by employees in the immediate area.

4.2 Emergency/Hazardous Material Spills

Emergency/Hazardous Material Spills are spills that require a coordinated response from the local emergency responders and/or the Port Environmental department. These spills include hazardous materials, which present a potential safety or health hazard (i.e., fire, explosion, or chemical exposure), or a spill that adversely impacts operations or may enter the waterway.

Examples of Emergency/Hazardous Material Spills include:

- Hazardous or Non-hazardous Material Spills, which significantly impact airfield operations or vehicle roadways (closing airfield pavements, require the shutting down of vehicle traffic lanes or restrict access to essential services);
- Hazardous materials that present safety or health hazards (fire, explosion, chemical exposure); and

- Uncontained fuel spills that present a fire hazard or that may impact waterways.

4.3 Implementation of Spill Procedures

The GA airport Spill Response Procedures will be implemented in the event of any release or spill. The type of spill (Non-emergency/Incidental or Emergency/Hazardous Material) as detailed in this procedure will determine the response to the release.

4.4 Judgment and Control Criteria for Spills and Emergency Response

Non-emergency/Incidental Spills will be cleaned up by the RP. In the event that the RP is unwilling or unable to clean up the spill, the Port will arrange for clean up of the spill and the RP will be responsible for the cleanup cost.

The local Emergency Responders/ Fire Department will be contacted and will take initial control of all Emergency/Hazardous Material Spills, establish an Incident Command structure, and determine if additional contract cleanup resources are required. Port Environmental department determine, in consultation with the local emergency responder/Incident Commander, if the Port's emergency response contractor be dispatched to address the incident.

4.5 Containment, Cleanup, and Removal/Disposal

Containment, cleanup, and removal/disposal of spills that occur in the Geographical Jurisdiction of These Procedures per Section 2.2, will be executed and/or administered by the RP, with possible oversight by the Port Environmental department, or operations personnel.

Tenants, construction contractors, and service providers will be charged for the damage their spills cause to property (e.g., asphalt damage from fuel spills). They will also be charged for cleanup operations conducted on their behalf by the Port.

Non-emergency/Incidental Spills	**Emergency/Hazardous Material Spills**
1. Spill occurs – identified as Non-emergency/Incidental.	1. Spill occurs – identified as Emergency/Hazardous Material.
2. Responsible Party (RP) cleans up spill.	2. Person discovering the spill contacts the PDX Communications Center, **Phone No. 503-460-4000** to triage the event **and** calls the local emergency response center Phone No. 9-1-1.
3. If the RP cannot clean up the spill, they will	3. The PDX Communications Center notifies the Port

contact the PDX Communications Center **Phone No. 503-460-4000**, which will then notify other Port departments as appropriate for cleanup oversight.	Environmental department, GA management, or other departments, as appropriate.
4. If Port cleanup/containment materials are used, the RP notifies Port General Aviation Maintenance. General Aviation Maintenance notifies Port Environmental department for their replacement	4. Local emergency responders respond to spill and determine type and status of spill and will act as the Incident Commander. Port Environmental department determine, in consultation with the local emergency responder/Incident Commander, if the Port's emergency response contractor be dispatched to address the incident.
5. RP maintains appropriate spill incident records, and notifies regulatory agencies, as appropriate.	5. Incident Commander determines if additional support or resources are needed.
	6. Spill is cleaned up with local fire department, Port Environmental department, Port Operations, or City oversight.
	7. The Incident Commander, Port and/or RP maintains appropriate records and reporting.

5.0 TRAINING

5.1 Hazard Communication/Awareness Training - Non-emergency/Incidental Spill

Appropriate Port personnel, tenants, construction contractors, and service providers will receive Hazard Communication training in accordance with 29 CFR 1910.1200. They will also receive basic awareness training on the GA airport Spill Response Procedures. Personnel with this training can respond to and clean up any Non-emergency/Incidental Spill.

5.2 Emergency/Hazardous Materials Spill Response Training

The Port Environmental Department will have training that meets the requirements of 29 CFR 1910.120 (q) for Hazardous Materials Awareness and Operations.

Incident Commanders must have appropriate Incident Command Training and 24- or 40-hour HAZWOPER training.

5.3 40-Hour HAZWOPER

PDX Emergency Response Contractors who conduct remediation or final cleanup of Emergency/Hazardous Material Spills at GA airports must have 40-hour HAZWOPER training meeting the requirements of 29 CFR 1910.120 (e).

6.0 EQUIPMENT

6.1 Port Equipment

GA Maintenance and Port Environmental department will cooperatively purchase, maintain, and restock appropriate spill cleanup and containment equipment. This equipment will include absorbent materials and a limited amount of PPE (boot covers, gloves, and disposable coveralls). The cleanup kits will be sited at secure locations for access by Port personnel and Emergency Response Contractors. PDX also maintains a Spill Response Mobile Unit. This unit is located at the PDX Maintenance facility and can be mobilized to GA airports in the event of a spill.

6.2 Non-Port Equipment

Tenants, construction contractors, and service providers are responsible for securing and maintaining the appropriate equipment for responding to and cleaning up spills they cause. For larger spills, they may depend on local cleanup contractors.

7.0 EMERGENCY RESPONSE CONTRACTORS

Emergency Response Contractors may be called by the Port Environmental department or GA Operations and Maintenance for cleanup of spills. Port of Portland Emergency Response Contractors are listed in an appendix of these procedures.

8.0 TENANTS, CONSTRUCTION CONTRACTORS, AND OTHER SERVICE PROVIDERS

Tenants, construction contractors, and service companies must have a spill response plan for their operations, if required by law or pursuant to all applicable agreements with the Port. The plan must include required OSHA items such as training, equipment, and available outside resources.

9.0 REGULATORY REPORTING REQUIREMENTS

9.1 Tenants, Construction Contractors, and Service Providers

These entities are responsible for reporting any spills they cause that meet regulatory (DEQ/EPA) reporting requirements. They must report to the appropriate regulatory agency and the Port Environmental department.

9.2 Port

The Port Environmental department will notify the appropriate regulatory agency of regulated spills caused by the Port as well as those not reported by RPs, to the extent it has actual knowledge that it has not been reported.

10.0 DEFINITIONS

- **"Bio-hazard/Sewage Spills"** are spills of raw sewage or other materials that may contain "Bloodborne Pathogens." OSHA defines "Bloodborne Pathogens" as pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

- **"Communications Center"** is located at PDX's main terminal and is the central notification number for all Emergency/Hazardous Material Spills/Releases. The

PDX Communications Center can be reached at: Emergency 503-460-4000, Non-emergency 503-460–4747.

- **"Cleanup Operation"** (in relation to Emergency/Hazardous Material Spills) means an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleaned up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

- **"Emergency/Hazardous Material Spill"** means a spill that may impact a waterway or Port Operations or presents a potential safety or health hazard such as fire, explosion, or chemical exposure.

- **"Emergency Response"** means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual aid groups, local fire departments, etc.) to an occurrence, which results or is likely to result in an Emergency/Hazardous Material Spill.

- **"Emergency Response Contractors"** are companies that have appropriately trained personnel and equipment to respond to, and clean up Emergency/Hazardous Material Spills.

- **"Environmental Receptors"** are areas potentially at risk for environmental contamination from a hazardous substance or petroleum product release. Environmental Receptors may include soil, groundwater, sediments, and surface waters, storm drains, quiescent ponds, and retention ponds.

- **"First Responder"** is the person who witnesses or discovers the spill. This person's primary responsibility is to clean up the spill, if practical. Also, the First Responder contacts the Communications Center when an Emergency/Hazardous Material (including fuel spills) is discovered, or when direction or assistance is required on a Non-emergency/Incidental Spill.

- **"Hazard Communication"** refers to the OSHA 29 CFR 1910.1200 Hazard Communication or Worker "Right-to-Know" law that includes chemical labeling, training, and work practice requirements.

- **"Hazardous Material/Substance"** includes any and all substances defined or designated as hazardous, toxic, radioactive, dangerous or regulated wastes or materials or any other similar term in or under any applicable laws and

regulations. Hazardous Substance shall also include, but not be limited to, fuels, petroleum and petroleum derived products.

- **"Hazardous Material/Hazardous Substance Release"** shall be interpreted in the broadest sense to mean the spilling, discharge, deposit, injection, dumping, emitting, releasing, leaking, placing, or seepage of any Hazardous Substance into the air or into or on any land or waters, except as specifically authorized by a current and valid permit issued under applicable Environmental Law.

- **"Hazardous Materials Response (HAZMAT) Team"** is a team with appropriate training and equipment who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members perform responses to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident. The Port of Portland uses the Portland Fire Department HAZMAT team (or the Tualatin Valley or Gresham Fire Department HAZMAT teams) when necessary.

- **"Incident Commander"** is the individual responsible for coordinating the emergency response for Emergency/Hazardous Material Spills and determining if the spill is hazardous. Qualified individuals are trained in the Incident Command System and have at least completed the 24-hour Hazardous Waste Operations and Emergency Response Training in accordance with the HAZWOPER standard, 29 CFR 1910.120 (q) (6).

- **"Non-emergency/Incidental Spills"** means any spill that does not meet the definition of an "Emergency/Hazardous Material Spill."

- **"PDX"** is the Portland International Airport.

- **"Reportable Quantity"** is defined as the quantity of hazardous material or petroleum product that must be reported to EPA or DEQ if released into the environment. The reportable quantities of hazardous substances are specified in 40 CFR Part 117.3 (listing also included in Appendix A). In the case of petroleum or oil-related products, DEQ regulations define a reportable quantity as any volume equal to or greater than 42 gallons of oil spilled on the ground surface, or if in water, any quantity. The specific reportable quantity may be determined from the material's Material Safety Data Sheet (MSDS).

- **"Responsible Party (RP)"** is defined as the individual or company whose operations or equipment caused the spill or release. If there is a dispute in

determining the RP, the owner of the leasehold will be the default RP and subsequently responsible for the cleanup of the spill.

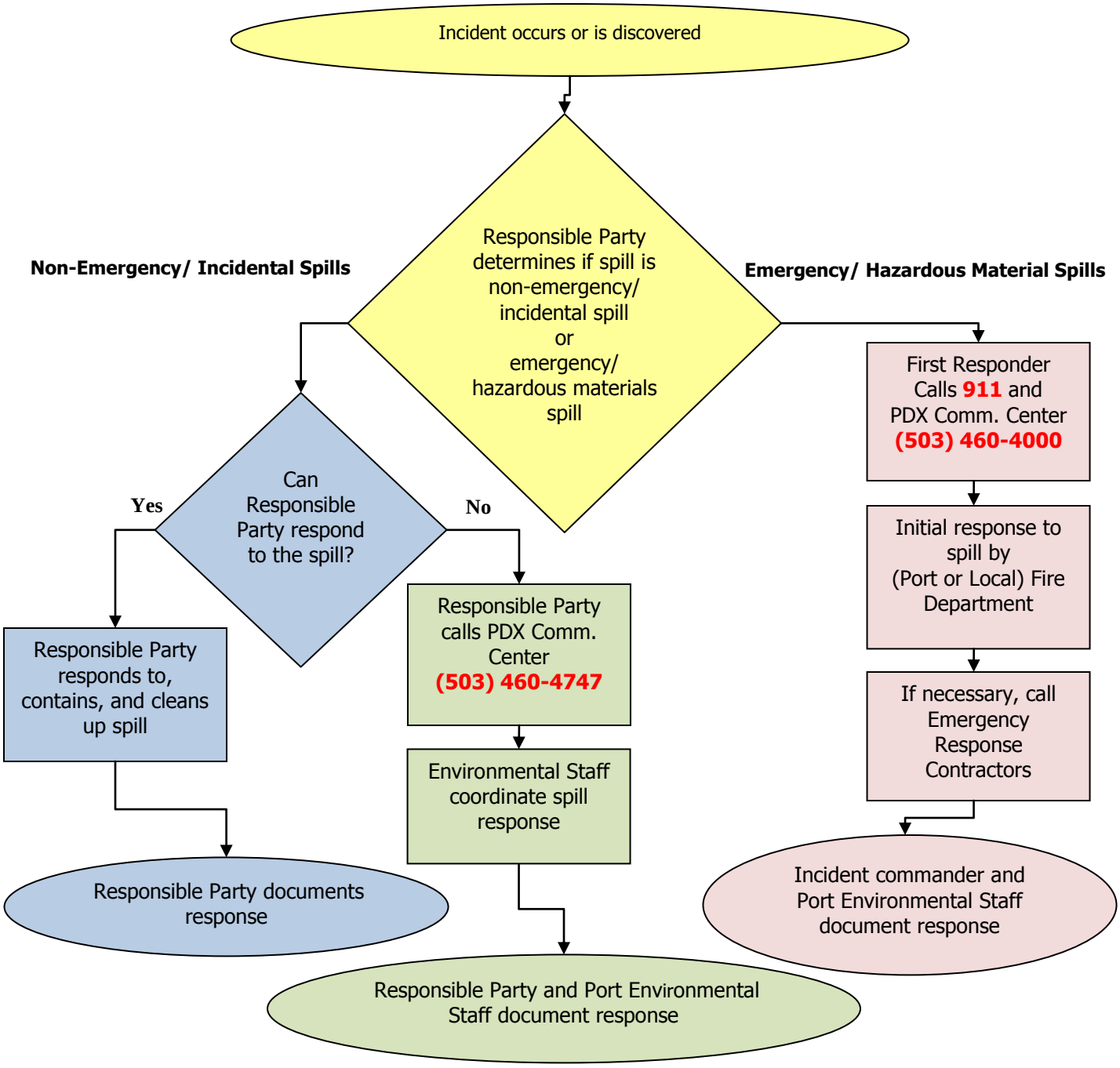
- **"Waterway Impact Spills"** are any spills that may impact the water/environmental receptors.

- **"40-hour HAZWOPER"** refers to the training requirements detailed in 29 CFR 1910.120 (e) for environmental cleanup contractors.

Figure 1

Spill Response Procedures Flowchart

Aviation Spill Response Flowchart for PDX and GA



Refer to the Work Instruction: *Aviation Spill Response* < WI-AVI-WTR-003> posted on the Navigator Environmental page for additional information or contact Aviation Environmental. **Updated: 04-25-2011**

GA Spill Response Procedures
March 2012

Appendix C
Aviation Spill Report Template

PORT OF PORTLAND

Port of Portland Aviation Spill Report

REPORT NO.

DATE: CALL TIME: ARRIVAL TIME:

INCIDENT SPECIFIC LOCATION ADDRESS:

RESPONSIBLE PARTY(IES):

COMPANY:

ADDRESS: CITY: STATE:

ZIP: PHONE:

HAZARDOUS SUBSTANCE

Material Involved: ☐ Fuel ☐ Oil ☐ Sewage ☐ Other

Estimated Quantity:

Case of Incident:

- ☐ During Delivery/Ship
- ☐ Fueling Operation
- ☐ Fire Explosion
- ☐ During Handling
- ☐ Storage
- ☐ Excavation
- ☐ During Repair
- ☐ Unauthorized Release
- ☐ Abandoned
- ☐ Other (Vehicle leak)
- ☐ Unknown

RESPONDERS

- ☐ PDX FIRE
- ☐ OPS
- ☐ Responsible Party
- ☐ PDX ENVIRONMENTAL
- ☐ ESD
- ☐ Environmental Contractor
- ☐ Maintenance
- ☐ Other

NOTIFICATIONS

- ☐ ESD
- ☐ NRC
- ☐ OERS
- ☐ Aviation Properties
- ☐ Legal
- ☐ EPA
- ☐ DEQ
- ☐ Deicing System Operator
- ☐ Risk
- ☐ Public Affairs
- ☐ OTHER (Parking)
- ☐ NONE

Date: Time:

EVENT OCCURRENCE

Release to storm system? Yes / No
Contained in Storm System? Yes / No Drainage Basin & Outfall Number?_____

EVENT RESPONSE

PERSON MAKING REPORT

NAME:

TITLE: PHONE:

COMMENTS:

GA Spill Response Procedures
March 2012

Appendix D
Resource Telephone List

Resource Telephone List

Updated: 03/05/2012

Local Emergency (Police, Fire, Ambulance) 911

Port of Portland

PDX Communications Center	Emergency/Hazardous Materials Spills	503/460-4000
PDX Communications Center	Non-Emergency/Incidental Spills	503/460-4747
Phil Ralston	General Mgr., Operations Environmental	503/415-6331
		(mobile) 971/409-8033
Daren Griffin	Gen. Mgr. Airport Operations	503/415-6195
		(mobile) 971/255-6724
Steve Nagy	General Aviation Manager	503/415-6119
		(mobile) 503/860-6731
		(pager) 503/548-1619
Nathan Grimes	General Aviation Operations Supervisor	503/693-1963
		(mobile) 503/709-6816
		(pager) 503/548-1763
Steve Harley	General Aviation Maintenance Lead	503/640-2222
		(mobile) 503/720-9942
		(pager) 503/548-1764
Port Risk Management	On-Call Pager	503/548-1600
Port Public Affairs	On-Call Pager	503/548-1774
Port Legal Counsel		
David Ashton	Assistant General Counsel, Environmental	503/415-6090
Misti Johnson	Assistant General Counsel	503/415-6148
Steve Eversmeyer	Safety and Loss Control Manager	503/415-6423
		(pager) 503/548-1618

State, Federal & Local Reporting Agencies

State and Regional Agencies

Oregon Emergency Response System (OERS)	800/452-0311
Department of Environmental Quality (DEQ) NW Region	503/229-5263
State Health Division	503/731-4000
State Radiation Division	503/541-4014
State Department of Energy	800/221-8035
State Fire Marshal Hazardous Materials Duty Officer	(pager) 503/307-1488
State Fire Marshal Office	503/378-5210
Poison Control Center	800/452-7165
Clean Water Services	503/681-3600

Federal Agencies

Environmental Protection Agency (EPA) Region X	800/424-4372
EPA Region X - Portland, Oregon Office	503/326-3250
National Response Center (NRC)	800/424-8802
National Oceanographic Atmospheric Administration (NOAA)	206/526-6095
National Weather Service	503/326-3720
U.S. Coast Guard Emergency Number	503/240-9300
U.S. Coast Guard Non Emergency Number	503/240-9301

Port Contracted Emergency Responders

Emergency Responders/Haz. Mat. Cleanup

Terra Hydr, Inc. (24-Hour)	503/625-4000
	503/720-6590
Cowlitz Clean Sweep	503/247-9466

Soil and Groundwater Remediation

Ash Creek Associates	503/924-4704

Waste Management

WasteXpress Environmental Services	503/224-3206
Veolia Environmental Services	360/260-0882

Air

Bridgewater Group, Inc.	503/675-5252

Asbestos

PBS (Oversight/Management)	503/248-1939
PAS (Abatement)	360/574-8400

Chemical Information

ChemTrec	800/424-9300
Chemical Reference Center	800/262-8200

Utilities

Northwest Natural Gas	503/226-4211
Portland General Electric	800/544-1795
Pacific Power and Light	503/682-3623
Port Utility Locator	(pager) 503/548-1518

Updated - 03/05/2012

Appendix F

Deicing and Anti-icing Best Management Practices

1.0 General Best Management Practices (BMPs) (Port and Tenants)

1.1 Proper Storage of Anti-icing and Deicing Materials

Aircraft and pavement deicing, and anti-icing materials must be stored in accordance with all applicable regulatory requirements. All permanent, aboveground deicing and anti-icing fluid storage tanks at the airport must be double-walled or equipped with secondary containment and undergo routine inspections. To prevent contamination of stormwater, tenant must use appropriate spill response techniques per their established spill response plan.

1.2 Weather Forecasting

The Port and tenants will obtain existing and forecasted weather conditions for HIO endeavor to utilize that information, as well as existing conditions, to determine the timing and selection of anti-icing or deicing materials application. Each tenant is solely responsible for deicing their aircraft consistent with FAA guidelines and regulatory requirements. The overall goal is to contribute the lowest possible pollutant loading consistent with maintaining safe operating conditions.

1.3 Education and Training of Employees and Contractors

It is the responsibility of each tenant to develop and implement an employee and contractor education and training program about environmental requirements and proper application associated with the use of anti-icing and deicing materials, ensure awareness of best management practices and spill response procedures, and to inform and train personnel who are directly involved in anti-icing or deicing operations regarding required best management practices and operational procedures.

The training programs include (but are not limited to) the following:

- The requirements of the 1200-Z National Pollutant Discharge Elimination System permit Sector S requirements
- Tenant best management practices
- Tenant operational procedures and requirements
- Tenant spill response plan and procedures
- Tenant material management practices

2.0 Aircraft BMPs (Tenants)

Anti-icing and deicing BMPs for aircraft must be implemented at HIO. Tenants must select appropriate application equipment and deice in locations that minimize

discharges to the maximum extent practicable to the storm system. Each tenant is solely responsible for deicing of their aircraft consistent with FAA guidelines.

2.1 Best Management Practices for Aircraft Deicing and Anti-icing

To reduce the potential environmental impacts of anti-icing and deicing materials, each tenant must identify and implement best management practices for aircraft deicing and anti-icing operations. Best management practices may include:

- Indoor storage of aircraft
- Manual deice methods
- Hot water deicing
- Aircraft anti-icing and deicing efficient mixtures
- Heating aircraft deicing mixtures
- Application techniques for deicing mixtures
- Proactive aircraft anti-icing
- Two-step aircraft application method

These are described individually below.

2.2 Indoor Storage of Aircraft

When practical, tenants will store aircraft in hangars until aircraft are ready for departure. Port Airport Operations will coordinate airfield snow removal operations with tenants to limit the time aircraft wait on their ramps to taxi.

2.3 Manual Deice Methods

When practical, tenants may remove snow and ice with squeegees, brooms, or other appropriate tools. Although manual methods typically take more time to remove contaminants compared to deicing fluid, the manual method reduces the amount of deicing fluid required for safe flight. This method can be used for aircraft that have overnighted or have long-turnaround times. Manual methods are most satisfactory with light, dry snow accumulations.

2.4 Hot Water Deicing

Water heated to 180F-200F can be used satisfactorily to remove ice or snow from the aircraft surfaces when the ambient temperature is 27F or greater. To prevent the water from freezing, an application of anti-icing fluid to aircraft surfaces immediately after hot water deicing may be necessary, depending upon ambient conditions.

2.5 Aircraft Anti-icing and Deicing Efficient Mixtures

Adjust Type I deicing fluid concentrations based on ambient temperature or use lower concentration formulas as the standard mixture.

FAA's "clean aircraft" concept requires that an 18°F buffer must be provided between outside air temperature and the freeze point of the deicing mixture. For example, a 50:50 mixture of a Type I deicing fluid has a freeze point of -30°F, and can be used when the outside air temperature is as low as -12°F. It cannot be used, however, if the air

temperature decreases further, because the temperature buffer of the deicing fluid would be less than 18°F. Under typical winter conditions at HIO, deicing and anti-icing will be conducted at air temperatures at or above -12°F. At these moderate temperatures, lower concentration deicing mixtures with as little as 20 percent glycol can be effective in meeting FAA requirements.

2.6 Heating Aircraft Deicing Mixtures

Tenants may heat Type I deicing mixtures to a minimum temperature of 140°F before application to the aircraft to ensure maximum deicing effectiveness.

2.7 Efficient Application Techniques

To improve efficiency, tenants may use adjustable deicing nozzles to apply mixtures and apply only as needed to ensure aircraft safety.

2.8 Proactive Anti-icing

To the extent practical, tenants may apply Type IV fluids to prevent or retard the formation of ice or frost on the aircraft. This approach can reduce the overall pollutant loads to stormwater because Type IV fluids provide longer holdover times (time between deicing and departure), thus reducing the amount of deicing fluid needed.

2.9 Two-step Aircraft Application Method

Tenants may employ the "two-step" method of deicing and anti-icing. Under the appropriate conditions, Type IV anti-icing fluids are applied to clean aircraft after receiving applications of Type I deicing fluids to prevent refreezing of surfaces. Use of Type IV fluids improves aircraft holdover times (time between deicing and departure) and increases the chance that the aircraft can take off without secondary deicing, i.e., a second round of deicing. This practice tends to reduce the total volume of deicing and anti-icing materials needed.

2.10 Post-Application Collection

Tenants will collect aircraft deicing materials to the maximum extent practicable. Tenants may choose from the following BMPs to manage aircraft deicing runoff:

- Deice aircraft in locations that drain to the sanitary sewer
- Deice the aircraft indoors with no discharge to the sanitary sewer
- Deice the aircraft outdoors and collect the runoff

2.10.1 Deice aircraft in locations that drain to the sanitary sewer

Deice aircraft in locations outdoors or indoors where the runoff drains to a sanitary sewer inlet. Deicing locations may include; a fuel pad with a valve connection to both

the storm and sanitary systems that can be operated to discharge to the sanitary sewer during deicing activities or the inside of a hangar that has a drain that discharges to the sanitary. Deicing activities that discharge runoff into the sanitary sewer must obtain and comply with a pretreatment permit from Clean Water Services.

2.10.2 Deice aircraft indoors to minimize co-mingling with stormwater

Deicing indoors will minimize co-mingling with stormwater and runoff. Tenant must prevent deicing fluids from entering the sanitary drains unless allowable under a pretreatment permit with Clean Water Services.

2.10.3 Deice aircraft outdoors

The tenant must prevent fluid to maximum extent practicable from discharging into the storm system. Plug inlets and collect deicing runoff with absorbent material, a boom collection system or glycol recovery vehicle. All collected material must be disposed of appropriately.

2.11 Recordkeeping

Each co-permittee must monitor the types and volumes of aircraft deicing and anti-icing materials used and purchased during the deicing season (November 1 through April 30). Tenants must also submit their usage to the Port annually; see the Annual Reconciliation Form below.

3.0 Pavement BMPs (Port and Tenants)

Consistent with flight safety, the Port and tenants will implement pavement deicing and anti-icing BMPs these include:

- Material selection
- Minimizing applications and application areas
- Management of Ice, Slush and Snow Containing Deicing Materials
- Record Keeping

3.1 Selection of Pavement Anti-icing and Deicing Materials

All anti-icing and deicing materials used within the HIO airfield perimeter fence must meet FAA approved specifications. Tenants must select pavement anti-icing and deicing materials that provide the lowest pollutant loading for conditions at HIO consistent with FAA requirements. Sodium formate (solid) and potassium acetate (liquid) are recommended for pavement deicing because both products have a lower pollutant loading compared to other FAA-approved deicers. Anhydrous sodium acetate (solid) may be used as a backup product if sodium formate is temporarily unavailable.

3.2 Minimize Pavement Anti-icing and Deicing Area

Tenants and Port maintenance must apply deicing and anti-icing materials to the smallest possible area, consistent with safe operations, to minimize pollutant loading.

Deicing and anti-icing of airside pavements by HIO Maintenance is performed consistent with the prioritization in the *Snow Removal Priorities and Braking Action Reporting Producers.* Runways and taxiways are first plowed before deicing material is applied to reduce the quantity of deicer applied.

3.3 Management of Ice, Slush, and Snow Containing Airside Deicing Materials

The snow and ice mechanically removed from runways and taxiways remain piled alongside in snow banks. Snow bank heights are sloped back from the taxiway or runway to clear aircraft engines and wingtips. The snow bank will melt overtime into vegetated areas before discharging into the storm system.

3.4 Recordkeeping

Each tenant is responsible for monitoring the types and quantities of airside pavement deicing and anti-icing materials used and purchased during the deicing season (November 1 through April 30). Tenants must also submit their usage to the Port annually; see the Annual Reconciliation Form below.

HIO Maintenance monitors the types and quantities of airside pavement deicing and anti-icing materials used and purchased by the Port during the deicing season (November 1 through April 30).

4.0 Summary

To reduce pollutant loads to surface waters, tenants will implement BMPs, consistent with flight safety measures during the deicing season (November 1 – March 30), as summarized below.

Summary of Deicing Best Management Practices (BMPs) for HIO

BMP	Implementation
General	
Proper storage	All permanent, aboveground ADF storage tanks will be double-walled or equipped with secondary containment. Aboveground tanks will be routinely inspected. Spill response plans will be followed to minimize stormwater impacts.

Summary of Deicing Best Management Practices (BMPs) for HIO

BMP	Implementation
Forecasting of anti-icing and deicing weather	Weather forecasting will be used to minimize deicing material usage while maintaining safe aircraft operating conditions in compliance with applicable regulations.
Education and training	Tenants will conduct permit, best management practice and spill management training for their employees and contractors.
Aircraft	
Indoor Storage of Aircraft	Tenants will store their aircraft indoors to the maximum extent practical before takeoff.
Efficient mixtures	Tenants will use variable mixtures or fixed mixtures at less than 50% concentration of glycol consistent with safe flight and manufacturer recommended hold-over times.
Heating Mixtures	Deicing mixtures will be heated to minimum of 140°F before application to maximize deicing effectiveness.
Efficient application techniques	Adjustable deicing nozzles will be used to the maximum extent practical to improve application efficiency.
Proactive Anti-icing	Under appropriate conditions, tenants will apply Type IV fluids to reduce fluid usage and associated pollutant loads.
Two-Step Application	Under appropriate conditions, the two-step method of deicing and anti-icing will be performed.
Post-application collection	Tenants will collect aircraft deicing materials to the maximum extent practicable
Pavement	
Material selection	Select materials that provide the lowest pollutant loading conditions consistent with safe flight. Liquid potassium acetate and solid sodium formate will be used airside, unless sodium formate supply limitations warrant use of hydrated sodium acetate.
Reduce application amounts	Flow-controlled application equipment will be used to maximize material application and reduce volume of applied material.

Summary of Deicing Best Management Practices (BMPs) for HIO

BMP	Implementation
Minimize pavement applications	Deicing and anti-icing material are applied to the smallest area practicable.

HILLSBORO AIRPORT
AIRCRAFT ANTI-ICING/DEICING MATERIAL
ANNUAL RECONCILIATION LOG

Company: _____

Name of Facility Contact: _____

Phone No.: _____

Email: _____

Amounts On-hand at Beginning of the Season (November 1):

Type I _____ gallons (undiluted glycol) Manufacture/Brand/Model_____

Type II _____ gallons (undiluted glycol) Manufacture/Brand/Model_____

Type IV _____ gallons (undiluted glycol) Manufacture/Brand/Model_____

Amounts Received During the Season:

Type I _____ gallons (undiluted glycol) Manufacture/Brand/Model_____

Type II _____ gallons (undiluted glycol) Manufacture/Brand/Model_____

Type IV _____ gallons (undiluted glycol) Manufacture/Brand/Model_____

Amounts On-hand at the End of the Season (April 30):

Type I _____ gallons (undiluted glycol)

Type II _____ gallons (undiluted glycol)

Type IV _____ gallons (undiluted glycol)

Non-aircraft Usage (November 1 – April 30):

[Includes lavatory use, fluid disposed off-site, fluid sold to other airlines, etc.]

Type I _____ gallons (undiluted glycol)

Type II _____ gallons (undiluted glycol)

Type IV_____ gallons (undiluted glycol)

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 gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, 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.

Signatur**e:** _____ Date: _____

Name Printed: _____

Appendix G

General Aviation Preventative Maintenance Tracking Sheet

HIO Stormwater Preventative MX Tracking

Task	Date	Location Description	Notes
CB Filter Change Out		MX Facility	
CB Cleaning		Multiple areas at HIO	
Boom Replacement		Basin 2	
280 gal AST Used Oil Clean Out		MX Area	
280 gal AST Used Oil Clean Out		MX Area	
Drainage Ditch Mowing			
Drainage Ditch Mowing			
Sweeping		Taxiways and Runways	
Contech Stormwater Filter		Basin 2	
Contech Stormwater Filter		Basin 3	
Pavement wash downs			Sweeping must occur before pavement washdowns

Note: This form is used to track stormwater preventative maintenance tasks at GA airports including: Ditch MX, catch basin cleanout, boom change out, catch basin filter replacement, outfall repair and used oil tank mx.

Appendix H

Record of Revisions & Corrective Actions

Date	Revision or Review	Corrective Action?	Person Making Change
February 4, 2014	Oil boom removed from Basin 4 Outfall on January 14, 2014. SWPCP Tables 4 & 6 and Appendix D updated.	No	Blake Hamalainen
December 29, 2014	Facility contact updated to Danelle Peterson	No	Danelle Peterson
December 29, 2014	Appendix I added for Tier II Corrective Action at SP2 for zinc	Yes	Danelle Peterson and Landau Associates
March 28, 2016	Corrective Action Appendix I updated to include roof seal coat	Yes	Danelle Peterson and Landau Associates
November 9, 2016	Added a monitoring location to the Site Plan for the new Hillsboro Aviation facility; Updated Table 3 to include the new monitoring points; Updated Table 1 to include the description of the new industrial activities in drainage basin 5 and updated the monthly outfall inspection form.	No	Danelle Peterson
December 21, 2017	Added the following for the new permit requirements: points of run-on to the site map, changed the monitoring point names from 1, 2, 3, and 5a to 001, 002, 003 and 004 respectively. explanation for each of the technology based effluent limitations, added more detail to the catch basin inspection schedule, reformatted the Table of Contents, general edits and formatting	No	Danelle Peterson
June 21, 2018	The following changes were made as requested by CWS: Changed the annual report due date to July 31.	Yes	Danelle Peterson

	Added monitoring points to Table 2. Added monitoring points names to the monthly inspection forms.		
04/14/2019	Administrative updates made to reflect the changes in the reissued 1200-Z permit.	No	Danelle Peterson
		Yes/No	
		Yes/No	

Appendix I

Tier II Corrective Action for the Geometric Mean Exceedance of Zinc at Sample Point 2 includes the following:

- **Tier II Revised Stormwater Pollution Control Plan Checklist**
- **Engineered stamped memo describing the rational for treatment measures, the operation and maintenance schedule and the schedule for implementing measures**
- **Treatment schematic**

DEQ Industrial Stormwater Permits
Tier II Revised Stormwater Pollution Control Plan Checklist

Instructions: *Complete this form and submit with the revised SWPCP and engineered plan or waiver request. Fill in the requested information in the highlighted cells and the appropriate page number(s) indicating the location of information in the revised SWPCP.*

Facility Name: Hillsboro Airport (HIO) **File No.:** 107009

Permit Schedule	Requirement					Page #	Comments (for official use only)
A.12.c.ii	Date Revised Plan submitted:						
A.12	Outfall	Parameter	Geometric Mean Exceedance	Units	Percent Reduction in Concentration	Percent of Design Storm Infiltrated or Injected	
	Sample Point 2	Zinc	0.17	mg/L	0.098	NA	
A.12.c.i.1	**Proposed Tier II Corrective Action Response**					Portable media filter	
		Design storm in inches				NA	
A.12.c.i.1	Rationale for the selection of the measures					Attached	
A.12.c.ii.	Schedule for implementing these measures					Attached	
A.12.c.i.2	Stamped by PE or CEG					Attached	
Cost of installation						~$7,000.00	
Treatment system schematic and operational plan						Attached	
Operation and maintenance schedule for treatment measures and/or volume reduction measures proposed						Attached	

For DEQ or Agent use only			
A.12.c	Revised SWPCP complete and acceptable		
A.12.c.ii	Implementation of treatment measures by June 30th of 4th year of permit		
A.12.c.iii	Tier II Benchmark Exceedance Report submitted to DEQ or Agent		

Notes: _____

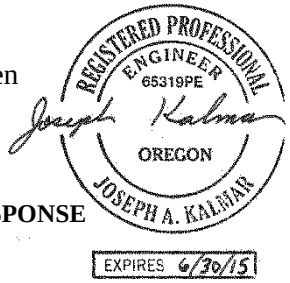
Late updated: 11/12/14
Created by: Mark Riedel

TECHNICAL MEMORANDUM

LANDAU ASSOCIATES
ENVIRONMENTAL | GEOTECHNICAL | NATURAL RESOURCES

TO: Danelle Peterson, Port of Portland

FROM: Joseph Kalmar, P.E. and James Raspen



DATE: Wednesday, December 17, 2014

RE: TIER 2 CORRECTIVE ACTION RESPONSE
HILLSBORO AIRPORT (HIO)
PORT OF PORTLAND
HILLSBORO, OREGON

INTRODUCTION

This technical memorandum provides an engineering review of stormwater source control and treatment measures at the Hillsboro Airport (HIO) in accordance with the requirements of its National Pollutant Discharge Elimination System (NPDES) General Stormwater Discharge 1200-Z Permit (Permit) issued by the Oregon Department of Environmental Quality (DEQ).

HIO is located at 1040 NE 25th Avenue in Hillsboro, Oregon, and is owned and operated by the Port of Portland (Port). As per Schedule A.12 of the Permit, a 2nd year Geometric Mean Benchmark Evaluation, which includes submitting the geometric mean of the sampling results at all designated sampling locations, is to be conducted during the second year of the current permit. The geometric mean of total zinc at one of the Port's designated sampling locations, SP2, was 0.17 milligrams per liter (mg/L) which exceeds the total zinc permit benchmark of 0.12 mg/L; therefore, a Tier II Corrective Action Response (CAR) is to be submitted to Clean Water Services, a DEQ authorized agent, by December 31, 2014. This Tier II CAR is to include an evaluation of the Port's Stormwater Pollution Control Plan (SWPCP) to determine source control and/or treatment measures that need revision and/or new measures that need to be implemented in order to achieve permit benchmarks during future sampling events. A licensed Professional Engineer (PE) or Certified Engineering Geologist (CEG) must then review and stamp any revisions applied to the SWPCP. This technical memorandum, also to be stamped by a PE, is provided to the Port to be included with a revised and updated SWPCP. As described in the terms of the Permit, the submittal and acceptance of these documents, followed by successful implementation, will achieve full compliance. In addition, pollutant reduction analysis and a schedule of implementation are included within this technical memorandum. The following sections refer to specific sections of the current permit to assist with acknowledging permit requirements and DEQ's Tier II Revised Stormwater Pollution Control Plan Checklist.

RATIONALE FOR SELECTION OF NEW TREATMENT MEASURE (A.12.C.I.1)

Based on a previous technical memorandum submitted to the Port by Landau Associates (HIO Zinc Investigation) (Landau Associates 2014), it was determined that the uncoated metal roof sections of Building 3301 were a major source of zinc and was a potential cause for elevated concentrations of zinc within the HIO's Drainage Basin 3 and subsequent sampling location, SP2. After review of the HIO Zinc Investigation which included a cost evaluation of various treatment measures, the Port decided to install downspout treatment units at downspout locations around Building 3301. This plan was determined to be the most efficient way to reduce the zinc concentrations at SP2. Installation of downspout treatment units at various other industrial sites and ports have proven to be effective treatment measures in reducing the total zinc concentration within stormwater generated from metal roof runoff.

TREATMENT MEASURE OPERATIONAL PLAN

The Port of Vancouver recently developed downspout treatment units called the Grattix. These treatment units are similar in design to the City of Portland's Stormwater Management Manual (SWMM) for a planter filter, in which a recycled Immediate Bulk Container (IBC) is layered with drain rock, sand, a bio-retention soil mix, and mulch with a few plants. Contained within the drain rock is an underdrain system of perforated pipe connected to the outlet of the IBC. While zinc concentration loading can vary at each location, zinc removal efficiency was reported to range from 92 to 98 percent.

The Port intends to install a similar type of downspout treatment unit as the Grattix at selected downspouts connected to Building 3301 with a few modifications. The Port's downspout treatment unit (referred to as a Portable Media Filter) will specify that the sand used must be washed and meet ASTM C33 specifications as concrete sand and will adhere to the media specifications addressed in the Port's Stormwater Design Manual for media filter. In addition, the drain rock will be washed aggregate of 0.75 to 3-inch round or crushed rock and the void space in the aggregates will be between 30 to 40 percent. No plants will be added as they generally provide an aesthetic element and are not necessary for the effective removal of zinc. These slight modifications should provide equal or greater zinc removal efficiency rates as compared to the reported results of the Grattix. A design schematic of the Portable Media Filter is provided by the Port as Figure 1.

The following design alternatives may be incorporated upon installation of these Portable Media Filters, but should not affect the overall zinc removal efficiency of the media filter. Rhyolite sand, a naturally occurring mineral used as top dressing on golf courses, is an effective and reliable substitute for concrete sand due to its favorable physical properties (e.g., durable, light weight, low angularity, consistent gradation). The 6-inch layer of pea gravel may be replaced with geo-textile fabric which will reduce the overall height of the media while still providing a separation of fines from the drain rock and

underdrain system. A 2-inch overflow bypass pipe may be installed at an elevation that allows at least a minimum ponding depth of 2 inches. This bypass pipe connects directly to the underdrain system and allows for overflow water to drain to a piped outlet.

The Port's Portable Media Filters will be made from triple-rinsed, recycled IBC totes with overall capacity of 275 gallons. These totes provide a surface area of approximately 11.56 square feet (ft^2) with depth of approximately 38 inches. In Landau Associates' previous experiences with similar types of downspout treatment units; these Portable Media Filters are capable of treating a drainage area of approximately 2,000 ft^2. Building 3301 has two uncoated metal roof sections; one main section consisting of approximately 24,000 ft^2 and four downspouts, and an auxiliary section consisting of approximately 2,300 ft^2 and one downspout. While each downspout handles over 4,000 ft^2 of roof drainage, the roof pitch is fairly flat and the deep box gutter style allows for a fair amount of time for the entire roof to discharge. Therefore two Portable Media Filters should be able to handle the drainage flow rate from each downspout. During high intensity rainfalls in which a portion of the roof drainage may bypass treatment via the overflow device, the zinc concentration would be much more dilute because of the reduced contact time with the uncoated metal.

With ongoing monitoring, the Port may find that two Portable Media Filters at each of the four main Building 3301 downspouts and at the auxiliary section downspout provide a relatively short life span for the filter media before requiring media replacement. Addition of a third filter at each downspout may be advisable if that is found to be the case. Most of the roof downspouts are rectangular in shape and shall be fitted with y-splitters above the Portable Media Filters, to allow for roughly equal flow to each filter unit.

TREATMENT MEASURE OPERATION AND MAINTENANCE SCHEDULE

In addition to the Port's normal monthly visual inspections, these Portable Media Filters will be periodically inspected to make sure the number of filters are adequately handling the roof runoff from typical storms without overflow occurring. As each application and downspout location is slightly different, inlet/outlet sampling of the filters will be done semiannually at first to ensure breakthrough is not reached earlier than expected. If the effluent of a filter has a zinc concentration greater than 0.09 mg/L, that filter should be marked for media replacement. Spent filter media will be managed and disposed of per the Port's hazardous waste specifications and guidelines.

PROJECTED REDUCTION OF ZINC CONCENTRATION (A.12)

In order to provide an estimated reduction in zinc concentrations through the installation of the Portable Media Filters, the results of the HIO Zinc Investigation were used to approximate the amount of

zinc that was generated from Building 3301 and the amount of zinc that would eventually pass through SP2 if the Portable Media Filters were installed. For the following calculations, stormwater samples collected from downspouts of Building 3301, the manhole directly upstream of SP2 and SP2 were used from the HIO Zinc Investigation. All calculations and assumptions for the projected reduction of zinc at SP2 are listed in Table 1 and are described as follows. Since these Portable Media Filters act as flow-through media filters with no infiltration or injection into the ground surface, there was no projected volume reduction analysis completed and therefore no requirement for determining a design storm depth.

For the HIO Zinc Investigation, stormwater samples were collected during two rain events. During the second rain event, a stormwater sample was not collected from SP2; therefore, the two stormwater samples collected from the manhole directly upstream from SP2 (STSMH435) and SP2 during the first rain event were used to develop a dilution factor of the stormwater passing through SP2 in comparison to stormwater passing through STSMH435. Three stormwater samples collected during the second rain event, two downspout locations connected to Building 3301 and one from STSMH435, were used to provide a correlation of the amount of zinc generated from roof runoff of Building 3301 to the amount of zinc passing through STSMH435. Then using the dilution factor calculated from the first rain event, the total amount of zinc passing through SP2 during the second rain event was calculated.

Building 3301 is comprised of multiple sections of varying roofing materials. The main and northeast sections of the building are an uncoated, galvanized metal roof, while another section is painted metal, with the remaining sections consisting of single poly ethylene propylene (EP) membrane. One of the Building 3301 downspouts sampled during the second rain event is located in the southeast corner of the building, which receives roof runoff from the main section of Building 3301 and is assumed to be the major source of zinc. During the second rain event, the southeast downspout had total zinc concentration of 4.91 mg/L.

Using the total impervious area of Drainage Basin 3 and the total precipitation depth that occurred during the second rain event, a total volume of water that passed through SP2 was calculated. The total precipitation depth was supplied from a local rain gauge provided by the Weather Underground website (Wunderground 2014). The concentration at SP2 was then calculated by using the dilution factor calculated from the first rain event and the concentration at STSMH435 during the second rain event. Then using the concentration at SP2 and the total volume of water that passed through SP2, a total amount of zinc that passed through SP2 was calculated.

Since the southeast downspout sample location received roof runoff entirely from the uncoated metal section of Building 3301, the amount of zinc generated from the entire metal roof section was calculated based on the total surface area of the uncoated metal roof sections, the zinc concentration of the southeast downspout, and the total precipitation depth during the second rain event.

To estimate the future effectiveness of using Portable Media Filters for HIO building downspouts, testing results of the Grattix units were examined. The Grattix unit zinc removal testing results are provided in Table 2. Considering that the maximum observed effluent zinc concentration from the similar Grattix treatment units was 0.0213 mg/L, it is conservatively estimated that the effluent zinc concentration from Portable Media Filters used at HIO would not exceed 0.1 mg/L assuming proper monitoring and media replacement. Based on this expected zinc removal effectiveness, installing the Portable Media Filters at downspout locations around the uncoated metal roof sections of Building 3301 is projected to reduce zinc at SP2 by approximately 55 percent. Applying this estimated reduction to the 2nd year geometric mean of total zinc at SP2 would result in a zinc concentration of 0.098 mg/L (see Table 1), which is below the permit benchmark.

SCHEDULE (A.12.C.II)

Installation of the Portable Media Filters at downspout locations connected to uncoated metal roof sections of Building 3301 is planned to begin following agreement with Clean Water Services that the aforementioned treatment measures are satisfactory to remain compliant with the Permit. Installation is to be completed in timely fashion but no later than the end of the fourth year of the Permit. In the event of future zinc benchmark exceedances, additional Portable Media Filters will be installed at additional downspouts to assist with achieving the zinc benchmark.

JRR/JAK/emw

REFERENCES

Landau Associates. 2014. Technical Memorandum: *Drainage Basin 3 Zinc Investigation, Port of Portland, Hillsboro Airport (HIO).* From Joe Kalmar, P.E., Principal Engineer, and James Raspen, E.I.T., Senior Staff Engineer, to Danelle Peterson and Susan Aha, Port of Portland. February 28.

Wunderground. 2014. *Weather history for Portland Hillsboro, OR.* Available at http://www.wunderground.com/history/airport/KHIO/2013/12/20/DailyHistory.html?req_city=NA&req_state=NA&req_statename=NA. Accessed October 23.

ATTACHMENTS

Table 1: Projected Reduction of Zinc Calculations
Table 2: Grattix Performance Data
Figure 1: Portable Media Filter Design Schematic (provided by the Port)

TABLE 1
PROJECTED REDUCTION OF ZINC CALCULATIONS
PORT OF PORTLAND
HILLSBORO, OREGON

	Area (ft^2) (a)	Volume (ft^3) (b)	Volume (L)	Zinc Concentration 12/20/13 (mg/L) (c)	Mass of Zinc (mg) (d)	Mass of Zinc after Treatment (mg) (e)	Zinc Concentration after Treatment (mg/L) (f)	Overall Projected Reduction of Zinc (g)
Drainage Basin 3 Impervious Area	1,211,613	11,106	314,500	0.217 (h)	68,246	30,965	0.098 (SP2)	55%
Metal Roof Sections of Building 3301	29,860	274	7,751	4.91	38,056	775	0.1	

Total Precipitation Depth on 12/20/13 (inches)	0.11
Total Zinc Permit Benchmark (mg/L)	0.12
2nd Year Total Zinc Geometric Mean at the Port Facility (mg/L)	0.174
Projected Total Zinc Geometric Mean After Treatment (mg/L)	0.078

Notes:

(a) Area is an estimated value based on approximate measurements provided by the Port of Portland. Actual surface area is not provided.

(b) Volume is calculated based on total volume of flow generated at each given area based on total precipitation depth on 12/20/13.

(c) Zinc Concentration of Building 3301 runoff is determined by associated downspout grab sample of the southeast downspout on the main section of the building.

(d) Mass is calculated based on assumed, uniform concentration over the duration of rain event.

(e) Based on grattix performance data, the maximum expected effluent concentration of zinc is 0.10 mg/L.

(f) Zinc concentration at SP2 after treatment is calculated by dividing the remaining mass of zinc by the total volume of stormwater. Zinc benchmark value is 0.12 mg/L

(g) Projected reduction of zinc is calculated by dividing the difference in zinc concentrations pre & post treatment by the pre-treatment zinc concentration.

(h) Concentration is calculated based on concentrations found at STSMH435 WL and calculated dilution factor between STSMH435 WL and SP2 on 11/7/13.

(SP2) Zinc concentration at sampling location, SP2.

ft^2 = Square Foot

ft^3 = Cubic Feet

L = Liter

mg/L = Milligrams per Liter

mg = Milligrams

TABLE 2
GRATTIX PERFORMANCE DATA
PORT OF PORTLAND
HILLSBORO, OREGON

Date		Total Zinc µg/l BM 120	Dissolved Zinc µg/l BM n/a
11/20/2008	Pre-Treat	295	290
	Post-Grattix	21.3	ND<5.00
	% Reduction	93%	98%
11/25/2008	Pre-Treat	947	1020
	Post-Grattix	14.7	ND<5.00
	% Reduction	98%	100%
12/12/2008	Pre-Treat	278	275
	Post-Grattix	ND<5.00	ND<5.00
	% Reduction	98%	98%
12/29/2008	Pre-Treat	213	178
	Post-Grattix	ND<20.0	ND<20.0
	% Reduction	91%	89%
2/10/2009	Pre-Treat	155	141
	Post-Grattix	11.8	9.67
	% Reduction	92%	93%
5/4/2009	Pre-Treat	148	154
	Post-Grattix	5.27	ND<5.00
	% Reduction	96%	97%
9/7/2010	Pre-Treat	202	151
	Post-Grattix	13.3	12.3
	% Reduction	93%	92%
10/25/2010	Pre-Treat	264	308
	Post-Grattix	3.14	ND<3.08
	% Reduction	99%	99%
2/16/2011	Pre-Treat	94.1	85.3
	Post-Grattix	ND<3.08	ND<3.08
	% Reduction	97%	96%
1/19/2012	Pre-Treat	55.6	56.1
	Post-Grattix	ND<4.00	ND<4.00
	% Reduction	93%	93%

Influent Geometric Mean	201
Effluent Geometric Mean	6.02 (a)
% Reduction	97.0%

Notes

(a) Non-detect values are assumed to be one-half of the reported limit

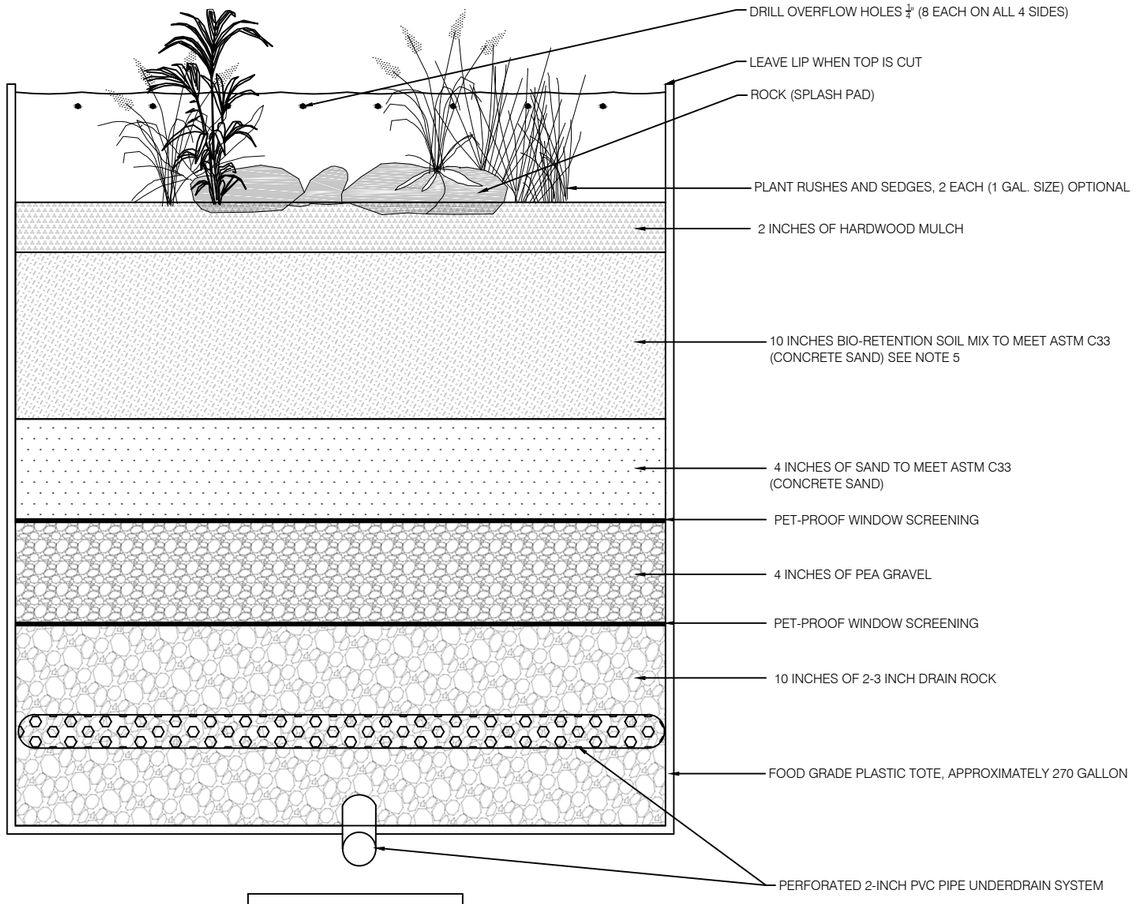
ND = Not detected

µg/L = Micrograms per Liter

Figure 1 Treatment Schematic

GRAPHIC SCALE FOR REFERENCE ONLY
0 1/4" 1/2" 1" 2"

CROSS SECTION OF A PORTABLE MEDIA FILTER



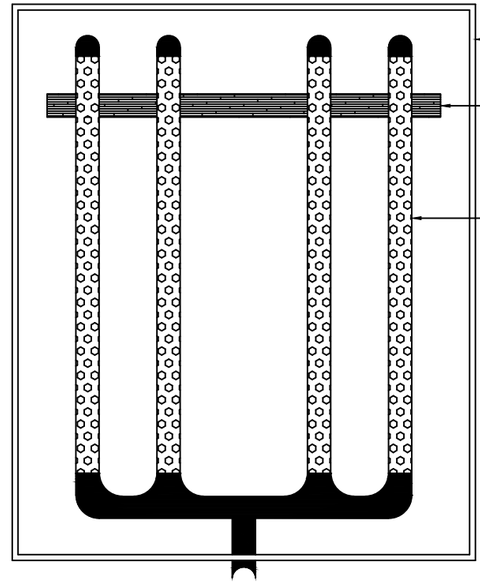
PORTABLE MEDIA FILTER

Scale: NTS

NOTES:

1. LEAVE 8-10 IN. FREEBOARD FOR PONDING
2. CREATE A SPLASH PAD FROM LARGE ROCK OR COBBLES
3. DRILL HOLES IN ALL 4 SIDES FOR BYPASS (SMALL - SEE NOTE ABOVE)
4. REMOVE MULCH 6 MO - 1 YR (WHEN FILM FORMS)
5. ADD 10-INCHES OF BIO RETENTION SOIL MIX [80-88% SAND, 8-12% SANDY LOAM, 1-5 % ORGANICS - MATURE COMPOST]

DIMENSIONS (45" X 38" X 36")



UNDERDRAIN SYSTEM

Scale: NTS

10 STEPS TO BUILDING PORTABLE MEDIA FILTER

1. OBTAIN A FOOD GRADE PLASTIC TOTE APPROXIMATELY 270 GALLON CAPACITY / RINSE THOROUGHLY / DISCHARGE TO SANITARY
2. INSTALL A PERFORATED 2-INCH PVC PIPE UNDERDRAIN SYSTEM
3. ADD 10 INCHES OF 2-3 INCH DRAIN ROCK (DOUBLE WASHED TO PREVENT TURBIDITY AND CLOGGING)
4. PLACE A LAYER OF PET-PROOF WINDOW SCREENING
5. ADD 4 INCHES OF PEA GRAVEL (DOUBLE WASHED)
6. PLACE ANOTHER LAYER OF PET-PROOF WINDOW SCREENING OVER THE PEA GRAVEL
7. ON TOP OF THE SCREENING, ADD 4 INCHES OF SAND (DOUBLE WASHED)
8. THEN ADD 10-INCHES OF BIO RETENTION SOIL MIX [80-88% SAND, 8-12% SANDY LOAM, 1-5 % ORGANICS - MATURE COMPOST]
9. PLANT RUSHES AND SEDGES - 2 EACH, 1 GAL. SIZE, AND THEN PLACE 2-3 INCHES OF HARD-WOOD MULCH AROUND PLANTS. POSITION ROCKS TO CREATE A SPLASH PAD

CAN YOU SEE THE AIRPLANES? THE ADJACENT SAMPLES SHOW THREE DIFFERENT LEVELS OF SHADING. SETTINGS FOR VIEWING AND PRINTING DRAWING CONTENT ARE OPTIMIZED WHEN ALL THREE PLANES ARE VISIBLE. THIS GUIDANCE IS PROVIDED FOR REFERENCE ONLY.

NO.	DATE	BY	REVISIONS	APP'D	CK'D

NO.	DATE	BY	REVISIONS	APP'D	CK'D

PORT OF PORTLAND
PORTLAND, OREGON

2014ZGEN — DESIGN NUMBER
1174 — PROJECT NUMBER

DESIGNED BY M. GRAVES & M. MATTIX
DRAWN BY J. HOYE-HOUSE
CHECKED BY B. FREEMAN
DATE NOV 2014
SCALE AS SHOWN

PORTLAND INTERNATIONAL AIRPORT

STORMWATER TREATMENT TECHNOLOGY ASSESSMENT
PORTABLE MEDIA FILTER
BASED ON GRATTIX APPLICATION

SUBMITTED BY BRIAN FREEMAN — PROJECT MANAGER
TYPE CD | DRAWING NO. PDX 2014-3 1 / 1 (C-1)