Final Action
Renewal of National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater General Permit No. 1200-A

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Permit Category
Industrial Stormwater General Permit No. 1200-A. The permit replaces the existing permit effective July 1, 2007 to June 30, 2012.

Sources Affected
A general permit is designed to provide coverage for a group of related facilities or operations of a specific industry type or group of industries. DEQ issues general permits when the discharge characteristics are similar and a standard set of permit requirements can effectively provide environmental protection and comply with water quality standards for discharges to the state’s surface waters.

This general permit provides coverage for discharges of stormwater associated with sand and gravel operations, rock quarries, and similar mining operations. It also provides coverage for concrete batch operations and hot mix asphalt operations. There are approximately 221 facilities throughout the state that are operating under the permit. The majority of these facilities are located in western Oregon.

Mining operations covered under this permit are authorized to discharge stormwater to waters of the state of Oregon subject to the conditions contained in the general permit. During rain events, stormwater can runoff these sites and discharge to rivers and streams. Stormwater falling on a site becomes polluted by dissolving or eroding material it contacts. The stormwater may contain pollutants such as sediment that may harm aquatic life and their habitat. The permit requires facilities to implement best management practices to reduce pollutants in stormwater and to meet the pollutant benchmarks that measure the success of these management practices.

Permit Issuance and Effective Date
DEQ is issuing the permit for a five year term. The permit will be effective on November 1, 2012 and expire on October 31, 2017.
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Background

The federal Clean Water Act provides that discharges from point sources to waters of the United States are prohibited, unless in compliance with a national pollutant discharge elimination system permit.1 In 1987, the CWA was amended to establish a framework for regulating municipal and industrial stormwater discharges under the NPDES program.2 In 1990, the U.S. Environmental Protection Agency adopted regulations requiring NPDES permits for stormwater discharges to surface waters from certain categories of industries, including sand and gravel and batch plant operations.3 In 1992 and 1999, EPA issued additional stormwater regulations for industrial stormwater discharges.4

As an EPA approved state program, the Oregon Department of Environmental Quality is responsible for implementing these regulations and issuing NPDES permits. In 1991, DEQ adopted the first NPDES general permit for stormwater discharges to surface waters from sand and gravel and batch plant operators, called the 1200-A permit. The 1200-A permit was part of a series of NPDES stormwater general permits that DEQ adopted for certain sectors of industries. In 1997, DEQ issued a statewide industrial stormwater general permit that covered a broad range of industries throughout the state, called the 1200-Z permit. The 1200-A permit remained separate from the 1200-Z permit because it applies to a subset of industries that conduct sand and gravel and batch plant operations. The 1200-A permit expires every five years. DEQ updated and re-issued the permit in 1997, 2002 and 2007. The current permit became effective on July 1, 2007 and expired on June 30, 2012.

The 1200-A permit contains conditions that are similar to Oregon’s NPDES general permits for construction and industrial stormwater, Oregon’s water pollution control facility general permit for sand and gravel operations discharging to the ground (WPCF 1000) and the federal NPDES multi-sector general permit for industrial stormwater discharges. DEQ updated and re-issued all three state permits since the 1200-A permit was issued in July 2007. EPA updated and re-issued the federal permit in September 2008. Changes to these permits that are relevant to the requirements for discharges from sand and gravel and batch plant operations are included in the proposed 1200-A permit.

Partnership with Department of Geology and Mineral Industries

The Oregon Department of Geology and Mineral Industries assists DEQ with the implementation of the permit. Pursuant to Oregon Statute (ORS 517.860), DOGAMI is responsible for enforcing the mined land reclamation statutes in Oregon and has an existing framework for working directly with mining operations to implement the state’s water pollution control practices.

To streamline the use of state regulation resources, DEQ entered into an agreement with DOGAMI to act as its agent and administer the permit to mining operations under its jurisdiction. Throughout the permit, DEQ uses the language “DEQ or DOGAMI” to reflect this partnership.

As an agent, DOGAMI reviews permit applications, stormwater plans and monitoring data, conducts inspections and evaluates permit compliance for the majority of the 1200-A permit holders (approximately 192 out of 221). Mining operations in their jurisdiction must submit application materials, discharge monitoring reports and any correspondence to DOGAMI rather than DEQ.

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1 Clean Water Act 301(a).
2 Clean Water Act 402(p).
Summary of Key Changes
DEQ changed the permit based on federal stormwater requirements, changes to the state’s construction and industrial stormwater permits, feedback from the environmental and industry groups, and the evaluation of the permit by DEQ and DOGAMI staff. These changes include the following:

- Adding narrative technology based and water quality based effluent limit requirements that all facilities must meet. Facilities will identify in a stormwater pollution control plan the best management practices that facilities will implement to meet these requirements.
- Lowering the total suspended solids benchmark, which is a target concentration rather than a numeric effluent limit.
- Requiring facilities that consistently exceed benchmarks to meet Tier II corrective action requirements in the permit and install treatment best management practices. These facilities must hire a professional engineer or certified engineering geologist to design and stamp the portion of the Stormwater Pollution Control Plan addressing the treatment measures.
- Adding more pollutant monitoring for discharges to impaired waters that are not meeting the state water quality standards.
- Expanding the inspection requirements, including documenting inspection results.

More information on these requirements as well as other changes is provided in the appropriate sections of this report below.

Sources Covered By These Permits
The permit provides coverage for discharges of stormwater associated with sand and gravel operations, rock quarries, and similar mining operations. It also provides coverage for concrete and asphalt batch operations, including mobile operations.

Facilities with the following primary Standard Industrial Classification codes are currently operating under the permit:
1400- Mining and Quarrying of Nonmetallic Minerals, Except Fuels
1411- Dimension Stone
1422- Crushed and Broken Limestone
1423- Crushed and Broken Granite
1429- Crushed and Broken Stone, Not Elsewhere Classified
1442- Construction Sand and Gravel
1499- Miscellaneous Nonmetallic Minerals, Except Fuels
1541- General Contractors-Industrial Buildings and Warehouses
1542- General Contractors-Nonresidential Buildings, Other than Industrial Buildings and Warehouses
1629- Heavy Construction, Not Elsewhere Classified
2951- Asphalt Paving Mixtures and Blocks, including recycle
3200- Stone, Clay, Glass and Concrete Products
3241- Cement, Hydraulic
3273- Ready-Mixed Concrete
3281- Cut Stone and Stone Products
3295- Minerals and Earths, Ground or Otherwise Treated

DEQ removed the ability for an applicant to obtain permit coverage for multiple mining and quarrying sites that are under single ownership, because the information required in the stormwater pollution control plan is tailored for individual sites. DEQ and DOGAMI currently require applicants to apply for coverage for each individual site.
Mining Activities
The majority of mining sites in Oregon covered by this permit are aggregate mines for sand and gravel and quarry rock. Aggregate is the main ingredient in concrete and asphalt pavement and is used as a base on which roads and buildings are placed.

Mining activities typically begin by removal of the overburden to expose the desired material. Removing the vegetative cover and disturbing the soil makes the area more susceptible to erosion. Stormwater can readily suspend the exposed soil and carries it to nearby surface water. Mining activities are often in remote locations and may operate seasonally or intermittently, yet need year-round control because significant materials remain exposed to precipitation until reclamation of the site is complete. The most important best management practice is that facilities minimize the amount of stormwater which contacts exposed areas and raw materials or flows into active processing or process water storage areas. The use of berms, vegetative covers, settling ponds and diversion ditches is typically used to control the volume and quality of stormwater runoff from the site. It is also desirable to infiltrate all or part of the stormwater that falls on a site.

Most facilities also use water to mine, process, handle or transport mined material. This water is categorized as process wastewater and is prohibited from being discharge under this permit. Most process wastewater results from dust control or washing and screening mined gravel or rock materials. Facilities often use rock crushers in the mining process to provide material that meets job specifications. Processing the material may also include washing. The process wastewater generated from these activities is retained on-site in ponds and re-circulated and re-used in the mining operations.

Most sand and gravel facilities also generate mine dewatering water which is incidental to the mining operation. It includes groundwater that seeps into the mine pit or accumulates due to precipitation into the mine pit. DEQ clarified in the proposed permit that mine dewatering can be discharged to surface waters under this permit. Some sand and gravel operations only manually discharge this water during the summer months when mining operations are taking place. DOGAMI generally limits dewatering during the wet season to ensure flood waters do not flow into a dewatered pit which can result in significant amounts of erosion. Mine dewatering that commingles with process wastewater becomes process water and cannot be discharged under this permit.

Concrete batch plant operations are commonly associated with sand and gravel mining. Operators may add dry materials to a truck from overhead silos and mix with water in the truck or they may premix materials with water at the facility and transfer the mixture to the truck wet. The truck then delivers the load to the job site. Between loads or at the end of the day, returned concrete is discharged from the truck to a wash water collection area that drains to a pond for treatment. Many facilities reuse their process wastewater after treating it.

Asphalt batch plant operations are also associated with sand and gravel mining. Facilities dry sand and gravel in a rotary drier and then place the material in a hopper to mix it with hot asphalt cement. The asphalt concrete is then usually dumped into a truck for transport to the job site. Any wastewater associated with this process is discharged to a pond or holding tank and is not allowed to be discharged under this permit.

Pollutants That May be Present in Stormwater Discharges
Pollutants in stormwater discharges from mining operations vary depending on the specific activities on site, the location and topography of the site and the size or age of the operation. In order to determine the pollutants that may be present in stormwater discharges from these sites, DEQ has relied on analysis
conducted by EPA and best professional judgment based on staff knowledge of Oregon geology, industrial processes, and conditions typically found at mining operations in Oregon.

EPA identified the pollutants that are typically associated with sand and gravel mining operations when it issued the first multi-sector industrial stormwater permit in 1995.\(^5\) EPA collected monitoring data from sand and gravel facilities as part of the National Urban Runoff Program. The data included conventional pollutants such as pH, total suspended solids, biological and chemical oxygen demand, oil and grease, and nutrients. For most activities, such as site preparation, mineral extraction, mineral processing, and reclamation, typical pollutants included dust, total suspended solids, total dissolved solids, and turbidity. Based on median data collected from sand and gravel facilities, EPA developed benchmarks in the federal permit for total suspended solids and nitrogen.\(^6\) EPA also identified the potential for pollution from oil and fuel, and other toxic contaminants, such as metals, benzene, trichloroethane, tetrachloroethylene, polyaromatic hydrocarbons, and solvents from equipment and vehicle maintenance, as well as nitrogen and phosphorus from any fertilizer used in reclamation activities. In 2006, EPA issued an industrial stormwater factsheets series and identified the pollutants that may be present in stormwater discharge from sand and gravel operations and best management practices to control these pollutants.\(^7\) These same pollutants were identified in the fact sheet.

Ground-disturbing activities have the potential to mobilize certain metals that are present in soils in Oregon and for which DEQ has adopted toxics criteria for the protection of human health and aquatic life. For example, iron is the fourth most abundant element, by weight, that makes up the Earth’s crust and is naturally occurring in most soils.\(^8\) High arsenic concentrations in Oregon’s waters are due to particular rock associations in some areas of the state and alluvial deposits in other areas, particularly in portions of southern Oregon and in the Snake River Basin.\(^9\) Mercury occurs naturally in soil in much of Oregon. For example, DEQ estimates that 48% of the mercury load to Willamette Basin waters is due to erosion of native soil.\(^10\) Stormwater that comes into contact with soils and rocks from sand and gravel mining operations may carry these elements into Oregon waters.

Other contaminants may also be present at sand and gravel sites. For example, vehicle and truck traffic at sand and gravel mining sites has the potential to release toxic metals, particularly copper, lead, and zinc, which may ultimately get picked up by stormwater and discharged into Oregon waters. In addition, many sand and gravel mining operations are located in floodplain areas that previously were agricultural areas. It is possible that legacy pesticides, including aldrin, DDT, dieldrin, and heptachlor, were used at one time in these areas. Ground-disturbing activities, such as mining, have the potential to mobilize these pollutants, which tend to bind to soil particles and become suspended in stormwater before being discharged from the site.


\(^6\) 60 Federal Register 189, p. 50918-50934.


Antidegradation Review
DEQ’s antidegradation policy in OAR 340-041-0026 requires a review of discharges to surface waters to
determine if existing water quality will be protected and maintained. The antidegradation review for this
permit included an evaluation of the permit requirements and changes in the number of mining operations
that obtained permit coverage over the past permit term.

DEQ is not relaxing or eliminating any permit requirements. The new permit contains more stringent
technology and water quality based requirements. For example, the following requirements are more
stringent than the current permit:

- Added narrative technology based effluent limits.
- Reduced the benchmark concentrations for total suspended solids.
- Added monitoring of impairment pollutants that may be present in stormwater discharges from
these mining operations.
- Added tiered corrective action requirements. Certain facilities will install treatment BMPs to
further protect water quality.

A review of the changing number of permit registrants has shown that there is a relatively consistent
number of facilities operating under the permit at any time. As of July 9, 2012, there were 221 facilities
operating under the 1200-A permit. There has been an average of 221 permitted facilities, with a
difference of ± 5% of the average, operating under the 1200-A since July 2007, the effective date of the
current 1200-A permit. To the extent that there is any additional load from a net increase in facilities it
will be offset by the implementation of additional sediment and erosion control best management
practices, lower benchmarks concentrations and a higher level of corrective actions in the new permit.

Therefore, the renewal of the permit is deemed to not cause a lowering of water quality for the purpose of
antidegradation review. Stormwater discharges from 1200-A mining operations are expected to have
reduced pollutant concentrations entering receiving waters.

PERMIT COVERAGE AND EXCLUSION FROM COVERAGE SECTION
The “Permit Coverage and Exclusion from Coverage” section is included in the permit to provide the
description of permit application and notification procedures. The requirements in this section of the
permits did not change significantly. However, DEQ included permit eligibility requirements for new
dischargers to impaired waters (see below).

Permit Eligibility for New Discharger to Impaired Waters
The Clean Water Act prohibits the issuance of NPDES permits to new dischargers that will cause or
contribute to water quality standards violation. To be consistent with the requirements of 40 CFR
122.4(i) and EPA’s permit, the permit contains new requirements for new dischargers to impaired waters
that do not meet the state’s water quality standards. A new discharger is defined in the permit as newly
constructed facility without permit coverage or an existing facility that should have obtained permit
coverage and failed to do so.

DEQ assesses the quality of waterbodies throughout the state pursuant to federal Clean Water Act Section
305(b) and identifies impaired waterbodies needing water quality restoration plans, called a Total
Maximum Daily Loads, pursuant to Section 303(d). To determine if a waterbody is impaired, DEQ
reviews available data and information, including data from the agency’s monitoring activities and data
submitted by third parties. DEQ compares the data and information to the water quality standards that

11 There was a decrease in the number of permittees in 2008 and 2009, most likely due to the poor economy in
Oregon; the number then climbed back to 2007 levels in 2010 and has remained fairly steady since.
apply to each waterbody. Standards include beneficial uses, narrative criteria that may address general levels of protection for beneficial uses, and numeric criteria for specific pollutants. Numeric criteria for pollutants such as toxic substances protect general aquatic life or human health beneficial uses.\textsuperscript{12} To determine if waters are impaired, DEQ applies the most stringent criteria that are appropriate to the waterbody (freshwater, estuarine, marine).

DEQ’s Integrated Report describes the condition of Oregon's waters and includes the 303(d) list of impaired waterbodies needing TMDLs for certain pollutants. The current 303(d) list is based on the 2010 Integrated Report, which is located at http://www.deq.state.or.us/wq/assessment/2010Report.htm.\textsuperscript{13}

A new discharger to a 303(d) listed waterbody needing a TMDL must meet one of the following requirements to obtain coverage under this permit:

- Prevent any stormwater exposure to the impairment pollutants and document that this finding in the Stormwater Pollution Control Plan.
- Demonstrate that the impairment pollutants are not present at the site and document this finding in SWPCP.
- If impairment pollutants are likely to be present at the site and DEQ has not issued a TMDL for the pollutants, submit data establishing that the discharge will meet in-stream water quality standards at the point of discharge.

DEQ conducted a review on Oregon’s TMDLs to determine if stormwater discharges were considered in the source assessment of the TMDLs and whether stormwater was identified as a significant source.\textsuperscript{14} During source assessment, the TMDL program evaluates the significant sources of the impairment. Typically, stormwater is not considered a significant source because of the pollutant/impairment (for example, temperature) the TMDL is addressing. Most TMDLs either do not mention stormwater or specifically state that stormwater is not considered a significant source of the impairment.

A new discharger does not need to meet these additional eligibility requirements if they discharge to impaired waters with a TMDL that addresses the impairment pollutants. In this instance, DEQ presumes that compliance with the terms and conditions of the permit complies with the TMDL. However, if the TMDL establishes a waste load allocation for industrial stormwater discharges, DEQ will evaluate whether additional requirements are necessary to ensure the discharge is consistent with the TMDL.

Consistent with EPA’s permit, new dischargers are not required to meet the additional eligibility requirements if the waterbody is impaired for temperature, biological criteria or flow or habitat modifications. DEQ is also expanded this exemption to waterbodies impaired for aquatic weeds or algae, or chlorophyll a because these impairments are not associated with pollutants present at mining sites.

**Application for Permit Coverage**

The permit contains provisions for applying for coverage under the permit, such as (1) when to submit application materials, including stormwater pollution control plans, to DEQ or DOGAMI; (2) holding a

\textsuperscript{12} The water quality criteria for toxic substances can be found in OAR 340-041-0033.

\textsuperscript{13} EPA has partially approved the 2010 Integrated Report and is currently proposing several additional impairment listings. DEQ does not believe that the additional listings will significantly increase the number of facilities that will be required to monitor for impairment pollutants. DEQ expects a final approval from EPA prior to the release of the final 1200-A permit. DEQ also is currently developing the 2012 Integrated Report, which will update the 2010 303(d) list. Waterbodies may be removed from the list due to changes in DEQ’s water quality standards or if a TMDL is approved. Waterbodies that are not meeting water quality standards will be added to the list.

\textsuperscript{14} DEQ evaluation of approved Oregon TMDLs, presented to Industrial Advisory Committee, January 2009 meeting, located at: http://www.deq.state.or.us/wq/stormwater/docs/Advisory/ISAC6TMDLIndStormwater.pdf.
30 calendar day public notice period; and (3) being notified that permit coverage has been granted. DEQ is not making significant changes to these requirements.

New facilities or existing facilities that are operating without permit coverage can apply for the permit starting on November 1, 2012. Prior to November, these facilities must obtain a Mutual Agreement and Order from DEQ in lieu of obtaining permit coverage. The order will include similar requirements that are included in this permit and is enforceable.

Existing facilities that are currently operating under the permit have submitted their renewal applications to DEQ. As a result, pursuant to OAR 340-045-0040, DEQ administratively extended these facilities’ coverage under the current permit. These facilities will operate under the current permit until DEQ has taken final agency action and either granted or denied them coverage under the new permit.

The permit requires existing facilities to submit updated stormwater pollution control plans that meet the requirements of the new permit to DEQ or DOGAMI by January 11, 2013. DEQ or DOGAMI will review this information before granting the facility coverage under the new permit.

**Public Notice and Comment Provisions**

Under public records laws, the public has the ability to review the records related to the permit, including application forms, stormwater pollution control plans, permit assignment letters to facilities, inspection records, discharge monitoring report forms, and compliance records. Under the current permit the public is also notified of DEQ’s decision to grant a facility’s coverage under the permits via DEQ’s industrial stormwater website. The public had 14 calendar days to review and comment on the application and SWPCP. DEQ formally responds to any public comments received.

DEQ is modifying the public participation requirements in the permit. First, DEQ is providing the public 30 calendar days to review application information. In the past, the public needed more than 14 days to review these materials and DEQ granted extensions for public review. As a result, DEQ is providing an additional two weeks for the public to have sufficient time to review the materials. Second, DEQ will formally respond to only those public comments that pertain to the stormwater pollution control plans for new facilities and existing facilities that exceeded benchmarks based on the 4th year benchmark evaluation in the current permit. This change will allow DEQ to prioritize its resources on new facilities and those facilities that have not consistently met pollutant benchmarks.

Generally, the purpose of these public notice requirements is to ensure sufficient public participation. The public notice and review of the application materials has the potential to result in environmental benefits because citizens may provide information on site conditions and considerations that are not known by DEQ or DOGAMI. However, consistent with the position taken by EPA, DEQ does not believe that the stormwater pollution control plan constitutes an effluent limit for the purposes of the Waterkeeper and EDC decisions.15 In the Waterkeeper case, the courts held that because the terms of the Nutrient Management Plan employed by concentrated animal feeding operations imposed restrictions on discharges, those restrictions amounted to effluent limitations that needed to be made part of the permit and to be subject to public and permit writer review. In the EDC case, the court found that under the MS4 regulations, the “notice of intents for permit application were functional equivalents of permits” and “EPA’s failure to make notice of intents available to the public or subject to public hearings contravene the express requirements of the Clean Water Act.”16 Consistent with EPA’s permit, the stormwater pollution control plan is not an established effluent, instead it documents what practices the discharger is

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15 Waterkeeper Alliance, Inc. v. EPA, 399 F.3d 486 (2nd Cir. 2005), Environmental Defense Center v. EPA, 344 F.3d 832 (9th Cir. 2003).
16 Environmental Defense Center v. EPA at 858
implementing to meet the effluent limits in the permit. The actual narrative effluent limits are established in the permit itself and are subject to public notice and comment at that time.

**Name Change or Transfer of Permit Coverage**

This section of the permit outlines the procedures for transferring permit coverage to a new owner or when the permit registrant changes names. The requirements did not change significantly. DEQ clarified that the owner or operator must submit a new stormwater pollution control plan to DEQ or DOGAMI.

**Non-Stormwater Discharges**

This permit authorizes certain non-stormwater discharges consistent with EPA’s Multi-Sector General Permit. A separate NPDES permit is not necessary for these uncontaminated discharges, provided that appropriate management practices, if needed, are developed in the stormwater pollution control plans.

DEQ is more restrictive than EPA in that discharges of pavement and external building wash water are not allowed if hot water is used, and DEQ requires sweeping prior to pavement washing, which is consistent with requirements in the NPDES general permit for wash water No. 1700-A, which is located at [http://www.deq.state.or.us/wq/wqpermit/docs/general/npdes1700a/permit.pdf](http://www.deq.state.or.us/wq/wqpermit/docs/general/npdes1700a/permit.pdf). DEQ also added that vehicle washing that does not use detergents or hot water as an authorized discharge under these permits. Facilities should consult the 1700-A permit to determine if they need to apply for that permit. For example, a business that washes more than 8 vehicles or pieces of equipment per week needs to obtain the 1700-A permit.

Consistent with EPA’s permit, DEQ added new provisions in Schedule A of the permit (technology based requirements and SWPCP requirements) related to non-stormwater discharges. Under the narrative technology based effluent limits, the permit reiterates that facilities must eliminate any unauthorized non-stormwater discharges. Facilities must also describe in the SWPCP the best management practices that are used to ensure only authorized non-stormwater discharges are occurring at the facility. These requirements reinforce that the facilities are only allowed to discharge non-stormwater discharges that are authorized by the permit and taking necessary actions to prevent contaminated non-stormwater discharges from occurring (for example, ensuring that no detergents or hot waters are used when washing pavement or the outside of buildings).

**Limitations on Coverage**

DEQ added language to clarify its authority to deny coverage to an applicant or revoke a facility’s coverage under the permit. OAR 340-045-0033(10) provides DEQ with authority to revoke a permit registrant’s coverage under a general permit under certain instances. Similarly, any interested person may petition DEQ requesting this same action.

DEQ added language specifying when the permit is not available. In practical terms, this language does not change requirements, because these discharges have always been implicitly prohibited under the permit. This section simply makes the prohibition explicit and unambiguous.

**Schedule A of the Permits**

Schedule A of the permit contains the following requirements:

- Technology Based Effluent Limitations
- Limitations for Process Wastewater
- Water Quality Based Effluent Limitations

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17 EPA 2008 Multi-Sector General Permit Factsheet, page 7.
DEQ restructured Schedule A to conform to the new requirements in EPA’s permit (for example, new provisions on technology based and water quality based effluent limits). EPA reorganized the federal permit to clarify for facilities and the public what constitutes an “effluent limit” and what constitutes “other permit conditions” (for example, planning and documentation requirements used to demonstrate compliance with the permit). As a result, control measures or BMPs facilities use to meet the technology based effluent limits in the permit are described in the stormwater pollution control plan and considered “other permit conditions”, not “effluent limits” themselves.

**Technology Based Effluent Limitations**

All NPDES permits are required to contain technology based effluent limitations. The Clean Water Act requires that discharges from existing facilities at a minimum meet the technology based effluent limitations in the permit. Depending on the discharge, these technology based limits are best practicable control technology currently available for conventional, toxic, and non-conventional pollutants, best conventional pollutant control technologies for conventional pollutants and best available technology economically achievable for toxic pollutants. Consistent with the EPA permit, the permit contains narrative technology based effluent limits that taken as a whole constitute the required levels of technology based control for the pollutants that may be discharged in stormwater from these mining operations.

Most of the technology based limits in stormwater permits are based on best professional judgment decision-making because there are only a few federal effluent limitation guidelines that apply to stormwater discharges. If EPA has not promulgated federal effluent limitation guidelines for an industry, or an operator is discharging a pollutant not covered by the effluent limitation guidelines, permit limitations must be based on the best professional judgment of the permit writer.

### Authority to Include Narrative Technology Based Effluent Limits in the Permits

The technology based effluent limits in the permit are expressed as narrative limits. Numeric effluent limitations are not always feasible for stormwater discharges as such discharges pose challenges not presented by the vast majority of NPDES-regulated discharges. Stormwater discharges can be highly intermittent, they are usually characterized by very high flows occurring over relatively short time intervals, and they carry a variety of pollutants whose source, nature and extent varies. This is in contrast to process wastewater discharges from a particular industrial or commercial facility where the effluent is more predictable and can be more effectively analyzed to develop numeric effluent limitations. The variability of effluent and efficacy of appropriate control measures makes setting uniform effluent limits for stormwater extremely difficult. There is a high level of variability among stormwater discharges, in terms of both flow rates and volumes and levels of pollutants, since the volume and quality of stormwater discharges associated with industrial activity depend on a number of factors such as the industrial activities occurring at the facility, the nature of precipitation, and the degree of surface imperviousness. Thus, it is generally not feasible for EPA or DEQ to calculate numeric effluent limitations, with the

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18 40 CFR §§122.44(a)(1) and 125.3; CWA sections 301(b)(1)(A); 301(b)(2)(A); and 301(b)(2)(E).
19 EPA 2008 Multi-Sector General Permit Factsheet, page 35
20 EPA 2008 Multi-Sector General Permit Factsheet, page 36
21 33 U.S.C. § 1342(a)(1); 40 CFR 125.3(c); see also Student Public Interest Group v. Fritzsche, Dodge & Olcott, 759 F.2d 1131, 1134 (3d Cir. 1985); American Petroleum Inst. v. EPA, 787 F.2d 965, 971 (5th Cir. 1986)).
22 EPA 2008 Multi-Sector General Permit Factsheet, page 37.
limited exception of certain effluent limitations guidelines that have already been established through EPA rulemaking. Therefore, EPA and DEQ have determined that it is not feasible to calculate numeric, technology-based limitations for many of the discharges covered under this general permit and, based on the authority of 40 CFR 122.44(k), has chosen to adopt non-numeric technology-based effluent limitations.

EPA has adopted regulations to allow BMPs to take the place of numeric effluent limitations under certain circumstances. Under EPA’s regulations, narrative effluent limits are authorized in lieu of numeric limits, where “numeric effluent limitations are infeasible.” These regulations have been upheld by the courts. As far back as 1977, courts have recognized that there are circumstances when numeric effluent limitations are infeasible and have held that EPA may issue permits with conditions (e.g., BMPs) designed to reduce the level of effluent discharges to acceptable levels. EPA has substantial discretion to impose non-quantitative permit requirements pursuant to Section 402(a)(1)), especially when the use of numeric limits is infeasible.

Description and Purpose of Narrative Technology Based Limits

Facilities must comply with narrative technology based effluent limits in the permit. Many of these narrative limits are in the current permit under SWPCP requirements for stormwater best management practices (see Schedule A.3.b of the 1200-A permit that expired in June 2012). DEQ changed these requirements into narrative technology based effluent limits to be consistent with the regulatory scheme in EPA’s permit.

The narrative technology based effluent limits are expressed as specific pollution prevention requirements. Consistent with EPA’s permit, facilities are required to meet the following narrative limits: (1) erosion and sediment control (2) minimize exposure (3) oil and grease control (4) waste chemicals and material disposal (5) debris control (6) housekeeping (7) spill prevention and response, (8) preventative maintenance, (9) employee education and (11) non-stormwater discharges. These narrative limits constitute the permit’s technology-based limits, expressed narratively per 40 CFR 122.44(k), and are developed using best professional judgment of the permit writer. The narrative limits are enforceable. If a facility fails to meet them, it is a violation of the permit.

For many facilities controlling pollutants in stormwater discharges can be achieved without using highly engineered, complex treatment systems. The narrative limits emphasize effective “low-tech” controls, such as regularly cleaning outdoor areas where industrial activities may take place, proper maintenance of equipment, diversion of stormwater around areas where pollutants may be picked up, and effective advanced planning and training (for example, spill prevention and response).

Erosion and Sediment Control

Facilities must meet more specific erosion and sediment control best management practices in the permit to prevent sediment discharge to nearby surface waters. DEQ added the following conditions to the permit:

- Slope or berm the site to increase infiltration or diverting stormwater away from the exposed areas. These measures are effective at controlling sediment that gets picked up by stormwater runoff from the site.

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23 40 C.F.R. §122.44(k).
24 EPA 2008 Multi-Sector General Permit Factsheet, page 36.
25 EPA 2008 Multi-Sector General Permit Factsheet, page 36.
28 EPA 2008 Multi-Sector General Permit Factsheet, page 38.
• Seed and mulch exposed areas until permanent vegetation is established.
• Control sediment track-out onto public or private roads outside the mining site. Sediment track-out is often an issue at mining sites and it is important that sediment remains on-site and is not washed off surface roads to nearby streams and rivers. Under the current permit, DEQ and DOGAMI expect facilities to prevent sediment track-out, but the permit did not include specific requirements. This permit now clearly specifies best management practices to use to control sediment track-out.

These conditions are similar to erosion and sediment control requirements in the NPDES 1200-C construction stormwater permit and the WPCF 1000 permit for discharges from these sites to the ground.

Control Measures used to meet the Technology Based Limits
Consistent with the EPA permit, DEQ added new requirements on the methods facilities should follow to determine the control measures that will be implemented on the site to meet the narrative limits in the permit. The permit uses the term “control measures” more often than “best management practices”.
Consistent with EPA’s permit, this change was adopted to better describe the range of pollutant reduction practices that may be employed, whether they are structural, operational or procedural. Control measures can be actions (including processes, procedures, schedules of activities, prohibitions on practices and other management practices), or structural or installed devices to prevent or reduce water pollution. The definition of “control measures” includes both BMPs and “other methods” used to prevent or reduce the discharge of pollutants to receiving waters.

Many of the narrative limits require the facility to “minimize” pollutants in their discharge. Consistent with the control level requirements of the Clean Water Act, EPA and DEQ clarified in the permit that the term “minimize” means to reduce and/or eliminate to the extent achievable using control measures (including BMPs) that are technologically available and economically achievable and practicable in light of best industry practice.

Facilities must select, design, install and implement control measures to meet these narrative limits that reflect best industry practice considering their technological availability and economic practicability and achievability. To determine what is technological availability and economic achievability, facilities need to consider what control measures are considered “best” for their industry, and then select and design control measures for their site that are viable in terms of cost and technology. When determining what is “best” for their industry, facilities may evaluate control measures for similarly situated mining operations in Oregon and nearby states such as Idaho, Washington, and California. Also, facilities should consider the following: 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 reduction likely to be achieved, any adverse environmental or energy effects of potential measures, and the costs of achieving pollutant reductions. Facilities must select, design, and implement control measures in accordance with good engineering practices and manufacturer’s specifications and evaluate a variety of factors when choosing their BMPs.

There are many control measures that could be used to meet the technology based limits in the permit. Facilities often implement operational or structural source control measures to minimize the potential for pollutants coming in contact with stormwater that discharges to receiving waters. Examples of operational BMPs are employee training, good housekeeping measures, and spill prevention. Examples of structural BMPs to minimize contamination of stormwater are using roofs over storage areas or grading the site to provide even infiltration of rain. If operational and structural source control measures are not feasible or adequate at controlling the pollutants in their discharge then stormwater treatment BMPs that remove

pollutants from stormwater may be necessary. Examples of treatment BMPs are chemical flocculation, detention ponds, media filtration, and constructed wetlands. The following are helpful resources for developing and implementing control measures for industrial stormwater discharges:

- EPA National Menu of Stormwater BMPs, located at: www.epa.gov/npdes/stormwater/menuofbmps.

Existing facilities operating under the current permit already have control measures in place. They will need to evaluate these measures to ensure they are sufficient to meet the narrative limits in the permit. Also, the specific control measures used to meet the limits must be described in the stormwater pollution control plan. Modifications or improvements to control measures may be made throughout the permit cycle to meet other conditions in the permit (for example, installing treatment measures based on Tier II corrective actions).

Limitations for Process Wastewater

The requirements for disposal of process wastewater from mining operations are not new requirements. Similar requirements are also included in the WPCF 1000 permit for discharges from mining operations to the ground.

Discharge of process wastewater to surface water is not allowed by the permit. Facilities are required to adequately control process wastewater by settling, recirculation, controlled seepage or irrigation. If process wastewater cannot be controlled on-site, an individual NPDES permit is required prior to discharging to surface waters. To ensure that process wastewater does not incidental discharge to surface waters, DEQ is clarifying in the permit that process wastewater may not be used for dust control on roads if there is the potential that it will drain to surface waters.

Most sand and gravel operations also generate mine dewatering water which is incidental to the mining operation. It includes groundwater that seeps into the mine pit or accumulates due to precipitation into the mine pit. Consistent with EPA’s permit, DEQ clarified in the permit that mine dewatering can be discharged to surface waters under this permit. However, mine dewatering that commingles with process wastewater becomes process wastewater and cannot be discharged under this permit.

Narrative Water Quality Based Effluent Limits

To be consistent with EPA’s permit, the permit contains the following narrative water quality based effluent limits in conditions A.4 and A.5:

- Discharge may not cause or contribute to a violation of water quality standards in the receiving waterbody.
- Facilities must meet specific requirements for discharges to impaired waters.
- Facilities must comply with any additional, more stringent requirements that DEQ determines are necessary to meet applicable water quality standards.

These narrative water quality based effluent limits supplement the permit’s technology-based effluent limits in conditions A.1 and A.2.
Water Quality Standards

Water quality standards are the foundation of the water quality-based pollution control program mandated by the Clean Water Act. Water quality standards define the goals for a waterbody by designating its beneficial uses, setting water quality numeric and narrative criteria to protect those uses, and establishing antidegradation policies (see antidegradation discussion on page 6 of the report). Stormwater discharges authorized by this permit are prohibited from causing or contributing to an exceedance of instream water quality standards. DEQ expects that facilities that comply with the technology based limits as well the monitoring and corrective actions requirements in the permit generally will result in discharges that are controlled as necessary to meet applicable water quality standards.

DEQ’s water quality standards are described in OAR 340-041, including tables containing the numeric criteria for the protection of aquatic life and human health. When DEQ establishes or revises water quality standards, DEQ identifies the beneficial uses and establishes criteria based on the levels needed to protect those uses. For example, the uses typically most sensitive to dissolved oxygen are fish and aquatic life. Fish and other aquatic organisms need an adequate supply of oxygen in the water to be healthy and productive. In this case, the criteria identify amounts of dissolved oxygen levels or concentrations that need to be in the water to protect the fish. In other cases, as with many of the toxic pollutants, the numeric criteria identify the levels in the water that if met, will protect aquatic life and human health.

Water quality criteria to protect aquatic life consist of three components: the magnitude, which refers to the acceptable concentration of a pollutant and varies by pollutant; duration, which is the averaging period for comparison to the concentration and is one hour for acute aquatic life criteria and four days for chronic aquatic life criteria; and frequency, which is how often the criteria can be exceeded to allow the aquatic community sufficient time to recover from excursions of aquatic life criteria and to thrive after recovery. For aquatic life criteria, the frequency limitations specify that both the acute and chronic criteria may be exceeded once in a three-year period on the average. The human health criteria are based on lifetime exposure. As a result, compliance with these criteria is difficult to determine based on a single grab sample.

The permit applies to mining operations across the state that discharge to many different types of receiving waters. For example, stormwater may be discharged to a municipal separate stormwater sewer system, a stormwater conveyance system such as a roadside ditch, or directly to a creek or other surface water body. The discharge will enter waters assigned designated uses intended to protect aquatic life and human health. In highly urbanized areas, the discharge likely enters a collection system and commingles with other sources of stormwater before discharging to a waterbody. In a more suburban setting, the receiving water is not as likely to be subject to multiple municipal and industrial stormwater discharges, but is more likely to be a small creek or intermittent stream. In both cases, the potential impact of stormwater can be significant.

Application of the water quality criteria to a discharge requires site-specific analysis of the discharge and receiving water. DEQ typically conducts this analysis to develop numeric water quality based effluent limits in NPDES individual permits. Depending numeric water quality based limits is not possible in a statewide general permit like the 1200-A permit that covers more than 200 mining operations. To establish a violation of the narrative water quality standards language in the permit, water quality samples collected from the facility’s discharge along with samples at upstream and downstream locations in the receiving waterbody are required.

If the facility becomes aware, or DEQ determines, that the discharge causes or contributes to a water quality standards exceedance, the facility is required to take immediate corrective actions within 24 hours of discovering the violation to evaluate the cause of the exceedance. Within 30 days of discovering the violation, the facility must evaluate the effectiveness of the control measures on-site and identify in a
report corrective actions to ensure that the discharge does not cause an exceedance of water quality standards in the future. These corrective actions must be summarized in a report that is submitted to DEQ or DOGAMI. If SWPCP revisions are necessary based on the corrective action review, the facility must submit a revised SWPCP with the report. These corrective actions must be implemented within sixty days, unless additional time is approved by DEQ or DOGAMI. These deadlines are reasonable given the potential risk of adversely affecting aquatic life and degrading the quality of the receiving stream. If a facility needs additional time to install additional control measures such as a structural BMPs or a treatment system to effectively address the problem, DEQ or DOGAMI may extend the deadline to account for additional time to design and install the BMPs.

In addition to the corrective actions in the permit, DEQ may impose additional site specific requirements such as requiring the facility to develop a monitoring plan and collect additional samples of the discharge and receiving waterbody to ensure that instream water quality standards are being met. If DEQ determines that additional site specific requirements are necessary, DEQ will require the permit registrant to revise the stormwater pollution control plan to include additional monitoring and control measures. DEQ will hold a 30-calendar day public review period on the revised plan.

Discharges to Impaired Waters
Consistent with EPA’s permit, the permit contains water quality based effluent requirements for new and existing discharges to impaired waters with or without water quality restoration plans, called total daily maximum loads. These requirements are in the following sections of the permits:

- Narrative water quality based effluent limits requirements in condition A.5 of the permit.
- Monitoring requirements for certain impairment pollutants in condition B.1 of the permit.

New Discharger:
After meeting the permit eligibility requirements (see new discharger discussion on page 7 of report), new dischargers are required to ensure that the best management practices in their SWPCPs are maintained and implemented properly to prevent any degradation of water quality. For example, a new facility that has impairment pollutants present in its discharge that have not been addressed by a TMDL must implement best management practices to ensure the discharge does not exceed instream water quality standards.

Existing Discharger to impaired waters without TMDL
Existing facilities that discharge to impaired waters must monitor for certain impairment pollutants that have not been addressed by a TMDL (see monitoring discussion on page 22 of the report). In addition, these facilities are required to ensure the discharge complies with all applicable in-stream water quality standards.

To establish that a permit registrant’s discharge caused or contributed to a water quality standards violation, typically samples of the facility’s discharge along with samples at upstream and downstream locations in the receiving waterbody must be collected. If the permit registrant becomes aware, or DEQ determines, that the discharge causes or contributes to a water quality standards exceedance, the permit registrant is required to take immediate corrective actions. In addition to the corrective actions in the permit, DEQ may impose additional site specific requirements to ensure the discharge does not violate water quality standards.

The permit requires facilities to monitor for certain impairment pollutants to determine if they are present in their discharge, the source of the pollutants and what best management practices are needed to control the pollutants in their discharge. Because DEQ has not developed TMDLs for these impaired waters, the agency has not assessed industrial stormwater’s contribution to the impairment of a specific waterbody. As a result, DEQ’s intention with developing these requirements is to gather important data for future
TMDLs on whether these pollutants are present in industrial stormwater discharges and to evaluate whether industrial stormwater is a significant contributor to the impairment.

DEQ is not making significant changes to the requirements in the permit for existing facilities that discharge to a waterbody impaired for sedimentation or turbidity needing a TMDL to address the water quality impairment. These facilities must implement additional erosion and sediment control treatment measures to ensure stormwater discharges do not further degrade the waterbody. The treatment measures identified in the permit are effective at controlling and removing sediment that may be present in these discharges. DEQ eliminated the option in the current permit to monitor the discharge to meet a turbidity benchmark. During the past permit cycle a small percentage (approximately 1 percent) of 1200-C and 1200-A facilities discharged to these waterbodies, and not one facility choose the monitoring option. DEQ does not believe that this change will relax the permit requirements or result in less water quality protection since the treatment measures in the permit are effective at controlling and treating sediment and turbidity. This change is consistent with the requirements in the 1200-C permit.

**Existing Discharger to impaired waters with TMDL**

DEQ presumes that compliance with the terms and conditions of the permit complies with the TMDL for the impaired waters unless a waste load allocation is established for industrial stormwater discharges (for further information, see TMDL discussion on page 8 of the report). If the TMDL establishes a waste load allocation and additional requirements for industrial stormwater discharges, the facility must monitor the impairment pollutants according to the requirements in the permit. DEQ will also evaluate whether additional requirements are necessary to ensure the discharge is consistent with the TMDL. If DEQ determines that additional site specific requirements are necessary, DEQ will require the facility to revise the stormwater pollution control plan to include additional monitoring and control measures. DEQ will hold a 30-calendar day public review period on the revised plan.

**Preventing Significant Amounts of Sediment from Discharging to Receiving Stream**

The permit contains performance requirements focused on the prevention of discharges of “significant amounts” of sediment. This is a not a new condition and mirrors similar requirements in the 1200-C permit. The primary pollution concern at sand and gravel mining sites - like construction sites - is the discharge of sediment and turbid stormwater to the state’s surface waters. The permit also establishes discrete procedures for taking corrective actions in response to detecting the discharge of significant amounts of sediment, and documenting and reporting those corrective actions to the DEQ or DOGAMI in a timely manner.

**Stormwater Pollution Control Plan**

To obtain coverage under the permit, applicants must submit a stormwater pollution control plan that meets the requirements in Schedule A. DEQ is not making many changes to these requirements. Generally, the applicant must document in the plan the following: (1) a description of the site; (2) site map; (3) summary of potential pollutant sources; (4) description of control measures; and (5) identification of sampling locations and whether outfalls are substantially similar.

The plan serves as a documentation tool to identify the specific control measures dischargers will use to meet the technology and water quality based effluent limits in the permit. The plan itself does not contain effluent limits. Where control measures are modified or replaced, these changes must be documented in the plan.

DEQ is requiring that facilities only submit a revised plan to DEQ or DOGAMI under the following circumstances:

- Change in site contact;
- Part of a corrective action or inspection;
• Changes to the site 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, or
• Changes to the monitoring locations or outfalls.

Facilities are required to keep their plan up-to-date, but they are only required to submit specific revisions to DEQ or DOGAMI. DEQ is no longer requiring facilities to submit an Action Plan if they revise their plan. Instead, the permit requires the facility to submit the revised pages of the plan or site map within 30 days of making the revisions. Facilities may submit these revisions by email. Review of the revisions by DEQ or DOGAMI prior to implementation is not required. If a response is not received within 30 days, the revisions are deemed accepted.

Facilities that use chemical treatment systems such as electro-coagulation or flocculation to remove pollutants from their discharge must include an operational and maintenance plan section in their plan. Because chemicals are used in the treatment process, DEQ is requiring facilities to ensure that the chemicals are applied at a rate that is not toxic to aquatic life in the receiving waters. These requirements are similar to the 1200-C permit and the Washington Department of Ecology requirements for chemical treatment.31

Benchmarks
Benchmarks are target concentrations that are intended to assist facilities in determining whether their pollution control measures are adequate to protect water quality. A benchmark exceedence does not necessarily indicate that a discharge is causing or contributing to a water quality standard violation, but does require an evaluation of control measures and follow-up corrective actions.

Benchmark parameters were re-assessed for the renewal of this permit. DEQ is retaining the benchmark parameters from the current permit, but is lowering the benchmark value for total suspended solids (see Table 1 below). The description and basis for the unchanged benchmarks can be found in the 1997 and 2002 NPDES Industrial Stormwater Permit Evaluation Reports.

DEQ is proposing to lower the TSS benchmark value from 130 mg/L to 100 mg/L to be consistent with the more stringent value in EPA’s permit. The TSS benchmark in EPA’s permit is the median concentration assessed in the National Urban Runoff Program. 32 An analysis of 1200-A discharge monitoring data collected from July 1, 2009 through June 30, 2011 showed that only one 1200-A facility has at least one monitoring location with geometric mean TSS concentrations in excess of 130 mg/L. The monitoring data contrasted against a TSS benchmark of 100 mg/L shows this is the only facility that would have geometric mean TSS concentrations in excess of 100 mg/L. The International Stormwater BMP Database shows that commonly used best management practices are capable of reducing TSS to the 100 mg/L benchmark concentration.33

32 The rationale for EPA’s current benchmark values can be found on pages 97-113 of EPA’s permit factsheet at: http://www.epa.gov/npdes/pubs/msgs2008_finalf6.pdf.
33 The International Stormwater BMP Database, is located at http://bmpdatabase.org/
Table 1. Summary of the current and new 1200-A benchmarks

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Permit Expired 6/30/12</th>
<th>Proposed Permit</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>5.5 - 9.0 SU</td>
<td>unchanged</td>
</tr>
<tr>
<td>Total Suspended Solids</td>
<td>130 mg/L</td>
<td>100 mg/L</td>
</tr>
<tr>
<td>Total Oil &amp; Grease</td>
<td>10 mg/L</td>
<td>unchanged</td>
</tr>
<tr>
<td>Settleable solids</td>
<td>0.20 ml/L</td>
<td>unchanged</td>
</tr>
</tbody>
</table>

DEQ considered including a benchmark or at least requiring monitoring for nitrogen or nitrate. EPA’s permit requires certain mining operations conduct nitrogen monitoring based on an analysis of samples collected as part of the National Urban Runoff Program.[2] Nitrate monitoring is required by the State of Washington’s Sand and Gravel Mining Permit due to potential for blasting residues.[3] DEQ determined that neither nitrogen nor nitrate monitoring is necessary. Many facilities, particularly sand and gravel facilities located in floodplains, as well as many quarries, do not conduct blasting activities; it does not make sense to require nitrogen monitoring for those facilities. Some quarries do blast, but only occasionally. These facilities should design their sites so that any residues that are picked up by stormwater end up in settling ponds, rather than in stormwater discharge.

Finally, DEQ does not consider that there is an environmental need for nitrate or nitrogen monitoring. DEQ’s primary concern of nitrogen in surface water is excess aquatic plant and algae growth. In Oregon, issues such as dissolved oxygen depletion and nuisance algal blooms are limited by phosphorus, biological oxygen demand, or light, rather than nitrogen. As a result, when DEQ issues TMDLs for waters impaired for excess aquatic plant and algae growth the amount of phosphorus that are discharged from point and nonpoint sources is limited.34 Waste load allocations and load allocations for nitrogen are not established.

Corrective Actions
Stormwater general permits are based on an adaptive management approach where facilities monitor their stormwater discharge, evaluate the effectiveness of their control measures and take corrective actions to ensure they are controlling pollutants to achieve the benchmarks in the permit and to protect water quality.

Facilities often implement operational or structural source control best management practices to minimize the potential for pollutants coming in contact with stormwater discharges. Examples of operational best management practices are employee training, good housekeeping measures, and spill prevention. Examples of structural BMPs are using roofs over storage areas or berming or grading the site to direct stormwater away from exposed areas. If operational and structural source control BMPs are not feasible

[2] EPA’s analysis is based on seven grab and five composite samples from sand and gravel products facilities from around the country. This analysis found a mean nitrate plus nitrite nitrogen concentration of 1.56 mg/L in grab samples and 3.31 mg/L in composite samples.


or adequate at controlling the pollutants in their discharge then stormwater treatment BMPs that remove pollutants from stormwater may be necessary. Examples of treatment BMPs are detention ponds, flocculation, media filtration, and constructed wetlands or bioswales.

DEQ included tiered corrective actions in the permit. Tier I corrective action requirements are triggered when facilities exceed the benchmarks or reference concentrations for the impairment pollutants. Under the Tier I corrective actions, facilities must take a traditional adaptive management approach to evaluating the cause of the problem and correcting it. The Tier II corrective action requirements require facilities that regularly exceed benchmarks to take specific actions to further control the pollutants in their discharge and install treatment BMPs. The Tier I and II corrective actions are pollutant specific, but they may result in overall pollutant reductions in stormwater discharge.

**Tier I Corrective Actions**

Facilities that exceed the statewide benchmarks or reference concentrations for impairment pollutants must meet the following requirements:

- Within 30 days of receiving the monitoring results, facilities must investigate the cause of the elevated pollutant concentrations; review the stormwater pollution control plan and determine if additional best management practices are necessary to control the pollutants, and document the results of review and corrective actions that were/will be taken.
- If plan revisions are necessary based on the investigation, submit the revisions within 30 days.
- Retain the Tier I corrective action report on-site and submit it to DEQ or DOGAMI upon request.
- Implement the corrective actions before the next discharge event if possible or as soon as practicable.

This approach is similar to the requirements in the current permit. However to better track plan revisions, DEQ is requiring facilities to submit the revised plan rather than identifying the revisions in the corrective action report.

It is important for facilities to investigate the cause of the elevated pollutant levels in their discharge. Facilities must evaluate if they are properly implementing the stormwater pollution control plan such as regularly sweeping the site, training employees on proper pollution prevention measures and conducting maintenance on BMPs and cleaning out catch basins. This information is important to the facility and must be summarized in a Tier I report. However, DEQ is streamlining the reporting requirements in the new permit and now requiring facilities to submit these reports upon written request from DEQ or DOGAMI. These reports are helpful to review in conjunction with conducting site inspections and providing technical assistance. Prior to an inspection, DEQ or the DOGAMI may request that the facility submit their information. Also, because this report is a public record, the public may request that DEQ have the facility submit it to the agency. It is important that these reports are retain on-site and maintained with other recordkeeping materials such as the stormwater pollution control plan, discharge monitoring report forms and inspection records.

**Tier II Corrective Actions**

Facilities that exceed benchmarks based on the fourth year benchmark evaluation in the current permit (see Schedule A.10 of 1200-A permit that expired in July 2012) or the second year geometric mean compliance evaluation in the new permit will trigger Tier II corrective action requirements. These facilities must install treatment measures to reduce the pollutant concentrations in future discharges below the benchmarks.  

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35 Examples of treatment BMPs are detention ponds, infiltration basins, media filtration, electrocoagulation, flocculation, and constructed wetlands or bioswales.
Geometric Mean Evaluation in Permit expired June 2012
Based on data collected under the current permit cycle, there is one facility that exceeded the benchmarks based on the fourth year geometric mean evaluation in the current permit. The facility exceeded the total suspended solids benchmark. The facility must submit an updated stormwater pollution control plan as part of the permit renewal process that identifies treatment measures to address the TSS benchmark exceedances (see condition 4 of the Permit Coverage and Exclusion for Coverage section of the new permit). The implementation requirements for this facility are same as those facilities that exceed the benchmarks based on the second year geometric mean evaluation in the new permit (see discussion below).

Geometric Mean Evaluation in the New Permit:
After the second year of permit coverage under the new permit, facilities will evaluate the samples collected during that year at each outfall that is monitored and conduct a geometric mean calculation of the data. To reflect current practices at the site, the facilities are only required to evaluate data collected during the second year.

The permit does not specify when the second year of permit coverage is for each facility. Because of the number of facilities that will renew their coverage under the permit, it may take a year to complete the renewal process. DEQ will identify when the corrective action and monitoring requirements apply for the facilities in the permit assignment letter. The letter is mailed to facilities when permit coverage under the new permit is approved.

Facilities that exceed benchmarks based on the geometric mean calculation must implement treatment measures to reduce the pollutant concentrations in future discharges below the benchmarks. DEQ broadly defined treatment measures in the new permit to include passive and active treatment measures. Facilities should first consider using volume reduction measures such as low impact develop practices, if feasible based on site conditions and potential for groundwater contamination. Additional source control measures can be used in conjunction with passive treatment measures to effectively address the pollutants of concern. Some facilities may need to also install active treatment, which is costly and resource intensive, if they have exhausted all other treatment measures or have site constraints.

These facilities must submit an updated stormwater pollution control plan before the next wet weather season (by September 15) that describes the rationale for the selected treatment measures and projected pollutant reductions. The portion of the SWPCP that addresses the treatment measures must be designed and stamped by a licensed professional engineer or certified engineering geologist. Professional engineers or certified engineering geologists have level of training and expertise to design these systems. Professional engineer’s design and stamp passive treatment and engineered active systems. Certified engineering geologists can design and stamp passive in-ground treatment systems as allowed by statute.

These facilities must implement the selected treatment measures within one year. Because facilities will need time to budget, make any necessary design changes and install the new control measures, DEQ allowed a year to complete the corrective actions. If additional time is necessary to design or get approval to install the treatment measures, an extension may be requested no less than 90 days before the one year deadline. Until the final measures are installed, the facility must implement interim corrective measures before the wet weather season begins to ensure that water quality is protected.

36 The geometric mean tends to dampen the effect of very high or low values and is an appropriate measure of stormwater discharges given their highly variable nature. Guidance on how to calculate the geometric mean of monitoring data, Appendix VII of the DEQ’s guidance on applying for the 1200-Z and 1200-COLS Industrial Stormwater General Permits, December 2007, located at: http://www.deq.state.or.us/wq/wqpermit/docs/general/1200indguide.pdf.
Table 2: Timeline Tier II corrective actions in new permit

| Conduct geometric mean evaluation by July 15th of second year | Submit discharge monitoring report form by July 31st | Submit revised stormwater plan by Sept. 15th | Implement interim management practices by Oct. 1st until final treatment measures are installed | Install final treatment measures within one year (by Sept. 15th of the subsequent year) |

Because the benchmarks are target concentrations, it is not violation if the additional treatment measures do not achieve the benchmarks in future discharges. However, if a facility fails to install the BMPs by the deadlines in the permit, it is a permit violation.

If after the treatments measures are implemented the discharge continues to exceed the same benchmark parameters that triggered the Tier II corrective action requirements, the facility must within 30 days of obtaining the sample results, evaluate whether the treatment measures were properly installed, maintained and implemented and whether modifications are necessary. The facility must determine the reasons for the exceedances (for example, there was a design or maintenance error) and take corrective actions to correct the problem. These findings must be summarized in a report and submitted to DEQ or DOGAMI.

To promote the use of volume reduction measures that reduce stormwater flow and control the mass load of pollutants that enter the receiving stream, facilities that implement volume reduction measures are not required to implement additional treatment BMPs. Facilities will need to evaluate their site and show how the mass load of pollutants in their discharge are at or below the mass equivalent of the benchmarks in Schedule A.10 of the new permit. The updated stormwater pollution control plan must provide data and analysis to support this determination, including the description of the measures, date measures expected to be implemented and the mass load analysis. DEQ is developing guidance on the data and analysis that is necessary to support this determination (guidance will be complete in winter 2013).

**Permit Compliance**

Consistent with EPA’s permit, DEQ added language to the permit to clarify when permit violations are triggered. There are a variety of circumstances when a facility is required to take corrective actions (for example, in response to a discharge of significant amounts of sediment). Failure to take the required corrective actions is a violation of the permit independent of the underlying violation (for example, discharging significant amounts of sediment). In instances where corrective actions is triggered by an event that does not itself constitute a violation, such as a benchmark exceedance, there is no permit violation provided that the facility takes the corrective action within the deadlines in the permit.

DEQ also included in the permit time for a new permit registrant (for example, a new facility that begins operation after July 1, 2012 or an existing facility that was in operation before July 1, 2012 without a stormwater discharge permit) to implement stormwater control measures to meet narrative effluent limits in the permit. These facilities must meet these requirements within 90 days of receiving permit coverage. If a facility is implementing control measures that require capital improvements, they must include in an implementation schedule in the stormwater pollution control plan and complete the improvements within two years of receiving permit coverage. Similar requirements are in the current permit.
Schedule B – Monitoring Requirements

Monitoring Parameters

Benchmarks
All facilities must monitor for the benchmarks in the permit. If a facility received a monitoring waiver under the current permit, they must reinstate the benchmark monitoring once they obtain coverage under the new permit. Facilities may request a monitoring waiver after four consecutive samples are below the benchmarks.

Impairment Pollutants
Existing facilities that discharge to impaired waters needing a water quality restoration plan, called a total maximum daily load, must monitor for the following impairment pollutants:

- Iron, zinc, and arsenic, which may occur naturally in areas where facilities are disturbing soils and thus may be discharged.
- Zinc, lead, copper, and polynuclear aromatic hydrocarbons, which are present in motorized equipment and thus may enter stormwater discharges during rain events.
- Aldrin, DDT, DDE, dieldrin, and heptachlor, which are pesticides that may be present at mining sites that have been converted from agricultural areas and may be mobilized during ground disturbing activities and enter stormwater discharges during rain events.

DEQ developed this subset of pollutants based on its evaluation of the potential pollutants that may be present in discharges from sand and gravel and batch plant operations (see discussion above on page 5 on “Pollutants that May be Present in Stormwater Discharges”).

Because of the number of impairment pollutants that facilities will monitor, DEQ did not identify the reference concentrations for these pollutants in the permit. DEQ will identify the final concentrations in the permit assignment letter.

The reference concentrations will be based on the acute aquatic life criteria, where they exist.\(^{37}\) The acute aquatic life criteria are more appropriate to use for developing the reference concentrations than the chronic aquatic life criteria\(^{38}\) (which are based on long-term exposure) and human health criteria (which are based on lifetime exposure). Typically, stormwater discharges are intermittent and result in short term exposures to aquatic life.\(^{39}\) Also, storm events vary in intensity and duration and there are typically high stream flows associated with storm events.

DEQ has established acute aquatic life criteria for the majority of the toxic pollutants. However, there are some toxic pollutants in Oregon’s water quality standards without aquatic life criteria. In these cases, DEQ will use the human health criteria as reference concentrations for these pollutants. In instances where the human health criteria is lower than the quantitation limit, DEQ will use the quantitation limit identified in DEQ’s Reasonable Potential Internal Management Directive which based on DEQ’s survey of laboratories and EPA approved methods. Table 3 below provides an example of the reference concentrations for the impairment pollutants based on the water quality criteria or quantitation limit for the pollutants. The concentrations in bold indicate whether the water quality criteria or the quantification limit is the higher concentration.

\(^{37}\) Acute aquatic life criteria based on the acute exposure for the protection of fresh water aquatic life.
\(^{38}\) Chronic aquatic life criteria based on chronic exposure for the protection of fresh water aquatic life.
\(^{39}\) EPA 2008 Multi-Sector General Permit Factsheet, page 100.
Table 3. Reference concentrations for impairment pollutants

<table>
<thead>
<tr>
<th>Toxic Impairment Pollutants</th>
<th>Toxics Criteria (mg/L)</th>
<th>Criteria</th>
<th>Quantitation Limit (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldrin</td>
<td>0.003</td>
<td>Acute</td>
<td>0.00001</td>
</tr>
<tr>
<td>Arsenic (tri)</td>
<td>0.360</td>
<td>Acute</td>
<td>0.050</td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.0021</td>
<td>Human Health</td>
<td>0.00005</td>
</tr>
<tr>
<td>Chlordane</td>
<td>0.0024</td>
<td>Acute</td>
<td>0.0001</td>
</tr>
<tr>
<td>DDT</td>
<td>0.0011</td>
<td>Acute</td>
<td>0.00001</td>
</tr>
<tr>
<td>DDT Metabolite (DDE)</td>
<td>0.00000022</td>
<td>Human Health</td>
<td>0.00001</td>
</tr>
<tr>
<td>Dieldrin</td>
<td>0.0025</td>
<td>Acute</td>
<td>0.00001</td>
</tr>
<tr>
<td>Heptachlor</td>
<td>0.00052</td>
<td>Acute</td>
<td>0.00001</td>
</tr>
<tr>
<td>Iron</td>
<td>1.0</td>
<td>Chronic</td>
<td>0.1</td>
</tr>
<tr>
<td>Mercury</td>
<td>0.0024</td>
<td>Acute</td>
<td>0.00001</td>
</tr>
<tr>
<td>Polynuclear Aromatic Hydrocarbons</td>
<td></td>
<td>Human Health</td>
<td></td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>0.095</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Anthracene</td>
<td>2.9</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Benz(a)anthracene</td>
<td>0.0013</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td>0.0013</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Benzo(b)fluoranthene 3,4</td>
<td>0.0013</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Benzo(k)fluoranthene</td>
<td>0.0013</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Chrysene</td>
<td>0.0013</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Dibenz(a,h)anthracene</td>
<td>0.0013</td>
<td></td>
<td>0.001</td>
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<tr>
<td>Fluoranthene</td>
<td>0.014</td>
<td></td>
<td>0.002</td>
</tr>
<tr>
<td>Fluorene</td>
<td>0.39</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Indeno(1,2,3-cd)pyrene</td>
<td>0.0013</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>Pyrene</td>
<td>0.29</td>
<td></td>
<td>0.001</td>
</tr>
</tbody>
</table>

Table 4. Metals Reference Concentrations

<table>
<thead>
<tr>
<th>Impairment Pollutants</th>
<th>Reference Concentration (Based on Hardness = 29 mg/L)</th>
<th>Quantitation Limit (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>0.006</td>
<td>0.010</td>
</tr>
<tr>
<td>Lead</td>
<td>0.017</td>
<td>0.005</td>
</tr>
<tr>
<td>Zinc</td>
<td>0.041</td>
<td>0.005</td>
</tr>
</tbody>
</table>

As part of the permit application process, facilities provide DEQ or DOGAMI with information about where the stormwater from their site discharges to, which is called their receiving waters. To determine whether these impairment pollutant requirements apply to a facility, the owner or operator must identify the first natural waterbody that the stormwater discharges to. Man-made conveyances, such as a MS4 storm sewer system, are not considered receiving waters. For example, if the discharge enters Mill Creek.

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40 Criteria for these metals are calculated based on hardness of the water. Numbers given here are based on the statewide average hardness of 29 mg/L.

in the Salem area, which flows into the Willamette River, the receiving water is Mill Creek, because it is the first natural waterbody the discharge will reach.

To determine the impairment pollutant monitoring for each facility and the reference concentration for impairment pollutants, DEQ will use the location of the facility’s discharge and the 303(d) list and water quality criteria that are in effect and approved by EPA at the time the facility obtains coverage under the new permit. Based on this information, the permit assignment letter will identify the impairment pollutants the facilities must monitor and the reference concentrations for the specific pollutants. Prior to granting the facility coverage under the permit, the public will have 30 days to review the application materials, including the draft permit assignment. DEQ will then finalize the permit assignment letter and mail it to the facility notifying them of their monitoring requirements and that they have been granted coverage under the permit.

Based on the current 303(d) list, DEQ analyzed how many facilities operating under the permit may be affected by this new requirement. Approximately 29 facilities are discharging to waters impaired for at least one of these pollutants. This number may change as DEQ updates its 303(d) list in future years.

Table 5. Estimate of facilities that will monitor for impairment pollutants

<table>
<thead>
<tr>
<th>Water Body</th>
<th>Number of Facilities</th>
<th>Aldrin</th>
<th>Arsenic (tni)</th>
<th>Arsenic</th>
<th>Chlordane</th>
<th>Copper</th>
<th>DDT</th>
<th>DDE</th>
<th>DDE Metabolite (DDE)</th>
<th>Dieldrin</th>
<th>Heptachlor</th>
<th>Iron</th>
<th>Lead</th>
<th>Mercury</th>
<th>Polynuclear Aromatic Hydrocarbons</th>
<th>total impairments per waterbody</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willamette Basin</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Calapooia River</td>
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<td>1</td>
<td>X</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>Coast Fork</td>
<td>0-38.8</td>
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<td>X</td>
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<td>0-18.1</td>
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<td>South Yamhill River</td>
<td>0-80.636</td>
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<td>Tualatin River</td>
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<td>X</td>
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<td>X</td>
<td>X</td>
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<td>Willamette River</td>
<td>54.8-72</td>
<td>5</td>
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<td>X</td>
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<td>Bear Creek</td>
<td>0-27.4</td>
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<td>Columbia River</td>
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<td>Columbia River</td>
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<td>1</td>
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<td></td>
<td></td>
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<td>Sutherlin Creek</td>
<td>0-4.6</td>
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<tr>
<td>Eastern Oregon</td>
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<tr>
<td>East Fork Hood River</td>
<td>9.8-27.4</td>
<td>1</td>
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<td>Burnt River</td>
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<td>Klamath River</td>
<td>207-285.3</td>
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<td>Snake River</td>
<td>280.5-404</td>
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<td>X</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Facilities that would need to monitor for pollutant</td>
<td>29</td>
<td>6</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>6</td>
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<td>1</td>
<td>23</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Monitoring Costs
The chart below provides the costs associated with the monitoring requirements in Schedule B of the permit. All facilities will be required to monitor for the benchmarks. Some facilities will be required to monitor for impairment pollutants.

Table 6. Estimated analytical costs

<table>
<thead>
<tr>
<th>Pollutants</th>
<th>Estimated Analytical Costs (per storm event, per outfall)(^{42})</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Benchmarks</strong> (Base suite all facilities will monitor.)</td>
<td></td>
</tr>
<tr>
<td>TSS, settleable solids, oil and grease, and pH</td>
<td>$125-$129.50</td>
</tr>
<tr>
<td><strong>Impairment Pollutants</strong> (Facilities will monitor for those pollutants for which the receiving water is impaired)</td>
<td></td>
</tr>
<tr>
<td>Arsenic, Copper, Iron, Lead, Zinc</td>
<td>$20-$58/parameter(^{43})</td>
</tr>
<tr>
<td>Trivalent Arsenic</td>
<td>$122-325</td>
</tr>
<tr>
<td>Total mercury</td>
<td>$42-86</td>
</tr>
<tr>
<td>Pesticides (aldrin, DDT, DDE, dieldrin, heptachlor)</td>
<td>$185-195</td>
</tr>
<tr>
<td>Polynuclear Aromatic Hydrocarbons</td>
<td>$175-220</td>
</tr>
</tbody>
</table>

Monitoring Method
Facilities will continue to follow the single grab sample monitoring method under the new permits. Consideration was given during renewal of the 1200-Z permit to require grab composite sampling instead the collection of a single grab sample. Composite sampling produces samples that are more representative of runoff events. However, DEQ prefers that monitoring requirements not be so burdensome that it reduces a facility’s ability to collect stormwater samples.

DEQ encourages facilities to utilize composite sampling, which will produce data that are more representative of stormwater discharges from their site. More representative data are beneficial for the assessment of whether or not a facility will be required to undergo Tier II corrective actions. The National Research Council report, Urban Stormwater Management in the United States, suggests abandoning the grab sample method as a “credible stormwater sampling approach for virtually all applications.”\(^{44}\) Pollutant concentrations in stormwater are highly variable among and during storm events. Because of the variable concentrations during a runoff event, a single grab sample is not considered representative of runoff during the entire event. The National Research Council report promotes the use of continuous, flow-weighted sampling method as a means of collecting representative data that are less variable than data resulting from grab sampling. Composite sampling is excluded from use in collecting samples for pH and oil and grease.

Monitoring Location
Facilities can designate a subset of outfalls as representative of other outfalls, based on the types of mining operations and materials at various locations. A facility will be required to identify in the

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\(^{42}\) The number of years that facilities will incur these costs will be dependent on type of pollutant. Facilities are eligible to obtain a monitoring waiver for benchmark pollutants after the first monitoring year and impairment pollutants after the first two years of monitoring.

\(^{43}\) Some labs combine parameters into a single suite with some minor cost savings. Costs for iron analysis ranged from $20-45 and for arsenic analysis ranged from $20-$58.

stormwater pollution control plan those outfalls that will be sampled and whether they are representative (have substantially similar effluents). The facility must describe the location of outfalls and a detailed explanation of why the outfalls are expected to discharge substantially similar effluent. The representative outfall determination should be based on consideration of the industrial activity, significant materials, and management practices and activities within the area drained by the outfalls. If DEQ or DOGAMI determine that the outfalls are not representative, it can require the facility to sample additional outfalls. Otherwise, facilities are required to conduct sampling and visually observations of their discharge at representative outfalls.

Monitoring Timing
The current permit does not specify a time period for collecting samples during a storm event. As a result, facilities have had a lot of flexibility as to when they can collect stormwater samples. The permit will now require sample collection occur during the first twelve hours of a measurable storm event resulting in an actual discharge from a site.

EPA’s permit requires facilities to sample during the first 30 minutes of a storm event to account for first flush of pollutants into surface waters. EPA’s rationale for requiring first flush monitoring is that during the first 30 minutes of a storm event stream flows are at their lowest and the pollutant loading from stormwater runoff presents the greatest potential for adverse impacts to aquatic species.

A storm event first flush is not typically characteristic of runoff events in Oregon. In general, studies have shown that first flush occurrence is dependent on a number of factors and is more likely to occur with a smaller runoff area, a higher portion of impervious surface, and a greater amount of time since the preceding runoff event. The presence of a first flush is also influenced by the type of runoff generating storm event. A storm beginning with high intensity rainfall is more effective in mobilizing pollutants during the start of runoff. However, the frontal storm systems common to the Pacific Northwest are less likely to contribute to conditions that generate a first flush that mobilizes stormwater pollutants because high intensity rainfall does not typically occur at the start of the storm.

Washington’s sand and gravel permit requires permittees to collect samples based on State stormwater sampling guidance, which requires facilities to collect samples within the first twelve hours of the discharge. If a facility is unable to sample within twelve hours, it should do so as soon thereafter as possible and include in the discharge monitoring report the reason why the facility was unable to collect the sample within twelve hours. The permit includes the same requirements as Washington.

DEQ’s goal is to improve monitoring so that data is more representative of the discharge, yet not be so difficult that it reduces a facility’s ability to collect stormwater data. This data serves an important consistency and quality function that is necessary to inform the facility if their control measures are working effectively.

Monitoring Frequency
The monitoring year is July 1st to June 30th and consists of two 6-month monitoring periods spanning July 1st to December 31st and January 1st to June 30th. The frequency of benchmark monitoring is not changing. Impairment pollutant monitoring must occur twice a year throughout the five-year permit cycle. Table 7 provides a summary of monitoring frequency throughout the permit duration.

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Table 7. Summary of monitoring frequency

<table>
<thead>
<tr>
<th>Pollutant Category</th>
<th>Year of Coverage</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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</thead>
<tbody>
<tr>
<td>Benchmarks a</td>
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<td>2 X</td>
<td>2 X</td>
<td>2 X</td>
<td>2 X</td>
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<tr>
<td>Impairment Pollutants a</td>
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<td>1 X</td>
<td>1 X</td>
<td>1 X</td>
<td>1 X</td>
<td>1 X</td>
</tr>
</tbody>
</table>

a – Individual parameters eligible for monitoring waiver after four consecutive sampling events show concentrations below benchmark values or impairment pollutant reference value.

Monitoring Variance

The permit includes criteria that allow for facilities to submit a request for a sampling variance if they could not obtain all requisite samples in a given monitoring year. On occasion, facilities have not been able to collect the requisite number of stormwater samples because of insufficient opportunities to collect runoff from all sampling locations during normal working hours. Some of these facilities are located in drier areas of the state, such as Eastern and Southern Oregon. There are facilities implementing infiltration or retention systems that reduce runoff and the number of opportunities for sample collection. DEQ added that facilities can seek also seek a variance if the discharges on the site are controlled by pumps or values and contained on-site in ponds. The facility must provide the data or information with the discharge monitoring report form that supports the assertion that these criteria have been met.

The permit includes variance language for facilities that obtain permit coverage near the end of the monitoring year (after April 1st). By April, some facilities have already collected the benchmark samples for the year. Depending on where the facility is located, there can be insufficient rainfall for sampling collection during the late spring months. The permit clarifies that facilities will not be required to begin benchmark or impairment pollutant monitoring until the wet weather season.

Monitoring Waiver

DEQ is retaining the monitoring waiver for benchmark pollutants and making the waiver available for impairment pollutants. All facilities must monitor for benchmark and impairment pollutants. If four consecutive samples are below the benchmark(s) or the reference concentrations for the impairment pollutants, facilities can request a sampling waiver for the specific pollutants for the remainder of the permit term.

Existing facilities that previously obtained a sampling waiver will have to meet this requirement in order to reinstate their waiver. DEQ is requiring this sampling because it is important for facilities to evaluate each permit term whether the BMPs continue to effectively treat stormwater discharge from their site.

Benchmark exceedances may be due to natural background conditions. Consistent with EPA’s permit, the new permits exempt facilities that establish that benchmark exceedances are solely due to background natural conditions from further corrective action requirements and benchmark monitoring. Natural background does not include legacy pollutants from earlier activity on the site, or pollutants in run-on from neighboring sources which are not naturally occurring, or pollutants in discharge due to air deposition. To make this determination, natural background pollutant concentrations must be greater than the corresponding benchmark value, and there is no net facility contribution of the pollutant (the average concentration detected in runoff from all the monitored outfalls minus the average natural concentration...
of the parameter does not exceed zero). The updated stormwater pollution control plan must include any data collected, including literature studies, that describes the levels of natural background pollutants in the discharge. DEQ will update guidance on establishing background natural conditions to assist facilities with determining if this exception is applicable.

**Additional Monitoring required by DEQ**

Consistent with the EPA’s permit, DEQ may determine that additional discharge monitoring is required to ensure the protection of receiving water quality. In this case, DEQ will provide the appropriate facility with a brief description of why additional monitoring is needed, locations and parameters to be monitored, frequency and period of monitoring, sample types, and reporting requirements.

**Monitoring Required by the Three Basin Rule**

As required by DEQ water quality standards (OAR 340-041-0350), facilities that discharge to the following waterbodies must meet additional requirements in the permit: (1) Clackamas River; (2) McKenzie River above Hayden Bridge (River Mile 15) or (3) North Santiam River. These facilities must submit to DEQ a monitoring and water quality evaluation program no later than 180 calendar days after obtaining permit coverage. This program must be effective in evaluating the in-stream impacts of the discharge as required by OAR 340-041-0350. Within 30 calendar days of department approval, the facility must implement the monitoring and water quality evaluation program.

**Inspections**

Under the current permit, operators inspect the mining sites on a regular basis. To be consistent with EPA’s permit, DEQ clarified in the permit that operators should inspect the following:

- Dikes, containment system, and pond freeboard
- Mining clearing, grading, and excavation areas
- All streams within 300 feet of an active seepage pond
- All areas of the site where industrial activities are exposed to stormwater, including locations of BMPs, material storage and stockpiling areas, and vehicle entrance and exit areas
- Monitoring points
- Stormwater control facilities and drainage systems

As part of the facility’s preventative maintenance procedures, facilities typically inspect the industrial materials that are exposed to stormwater, checking to see if spills or leaks are occurring and that control measures are working properly. The proposed changes to the permit clarify exactly where and how the operators should conduct their inspections. Visual observations are used as a regular check to confirm that best management practices are functioning properly.

DEQ is adding that facilities must document their observations in an inspection report and if any corrective actions are necessary based on their inspection (for example, evaluated BMPs due to observations of oily sheen in stormwater discharge and corrected the problem). These reports should be retained on site and used to ensure that the best management practices are working effectively and the SWPCP is being implemented. Facilities are no longer required to report their visual observations of their discharge in the Discharge Monitoring Report form.

DEQ is streamlined the reporting requirements by asking facilities to retain these records on site and submit them to DEQ or DOGAMI upon request. These reports are helpful for DEQ or DOGAMI to review in conjunction with conducting site inspections and providing technical assistance. Prior to an

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inspection, DEQ or DOGAMI may request that the facility submit their information. Also, because this report is a public record, the public may request that DEQ have the facility submit it to the agency. It is important that these reports are retain on-site and maintained with other recordkeeping materials such as the SWPCP, discharge monitoring report forms and inspection records.

Consistent with EPA’s permit, DEQ reduced the inspection frequency for temporarily inactive sites to quarterly inspections during the wet weather season. Inspections should be carried out during this season to determine whether severe weather have adversely affected the site in such a way as to damage control measures and result in erosion and sediment discharge to surface waters. If circumstances change and the facility becomes active, this exception no longer applies and permit registrant must immediately resume monthly facility inspections.

The permit also requires that stormwater control facilities and drainage systems are inspected before the wet weather season to ensure they are working effectively and maintenance is not required.

**Discharge Monitoring Report Form**

Permit registrants must document the analytical laboratory results of benchmark monitoring in a department approved discharge monitoring report form. The form and a copy of the results provided by the analytical laboratory must be submitted to the DEQ or DOGAMI annually by July 31st, one month after the conclusion of the monitoring year. DEQ will develop a new form to account for the additional pollutant parameters that facilities will monitor under the new permit (for example, impairment pollutants).

DEQ is retaining the condition in the current permit that facilities report the minimum detection level and analytical methods for the pollutants analyzed. The detection level which is the same as the method detection limit is derived from 40 CFR 136 and is based on the lowest result that the method is capable of producing. DEQ prefers that that whenever possible, permit registrants use a quantitation limit that is lower than benchmark or reference concentration. The quantitation limit is the same as the method reporting limit and represents a certain level of quality assurance and quality control. DEQ added a detention level for settleable solids analysis for facilities that use an on-site Imhoff cone to ensure appropriate quality control of the data.

**Schedule D – Special Conditions and Definitions**

DEQ included additional definitions to address new requirements in the permit such as discharges to impaired waters. DEQ also added additional definitions that were included in EPA’s permit (for example, new discharger).

**Schedule F – General Conditions**

Schedule F includes the general conditions that are applicable to all NPDES permits and are adopted directly from 40 CFR Part122. DEQ recognizes that a majority of these conditions do not apply to stormwater discharges. Many specifically address industrial and domestic wastewater treatment facilities. However, the stormwater permits are NPDES permits and these conditions are required for all such permits. Several minor revisions were made to the general conditions to update them to the most current version in use by DEQ and EPA.

Schedule F contains General Conditions that are included in all general permits issued by DEQ. Should conflicts arise between Schedule F and any other schedule of the permit, the requirements in Schedule F will not apply.