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Storm Water Overview

- **Definition**: Storm water refers to precipitation that falls onto surfaces such as rooftops, roads, and parking lots and then flows overland or is collected by storm drainage systems.
- **Natural Process:** Storm water runoff is generated from rain and snowmelt that flows over land or impervious surfaces (e.g., paved streets, parking lots, building rooftops) and does not soak into the ground.
- **Environmental Impact:** Runoff can pick up pollutants such as oil, grease, trash, chemicals, dirt/sediment into streams, lakes, and groundwater.
- **Regulatory Context:** Regulatory agencies (e.g., Environmental Protection Agency (EPA), State Water Boards, Department of Toxic Substances Control (DTSC), etc.) have developed stormwater management programs and permits to control and mitigate its impacts.
- **Importance of Management**: Effective management of stormwater is essential for water quality, minimizing flood hazards, protection of natural environment, and public health and safety.
- **Role of Education and Training:** Educating individuals and organizations about the importance of stormwater management and providing training on best management practices (BMPs) are key components of addressing storm water pollution.

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Federal – Clean Water Act

- The Federal Clean Water Act (Clean Water Act) prohibits certain discharges of storm water containing pollutants.
- Enacted in 1972 to protect nation's water quality.
- Act prohibits the discharge of pollutants from a point source into "waters of the United States", unless a permit is obtained by the discharger.

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State – California

- The California State Water Resources Control Board (State Water Board) is responsible for overall water management and permitting in the state.
- Defines storm water as a "pollutant" and as a "point source" and is subject to permitting under NPDES regulations.

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Regional – California

- States are divided into regions based on watershed boundaries.
- Each region is responsible for separate "basin plans" in order to regulate water quality to ensure beneficial uses of the streams and lakes in its region.

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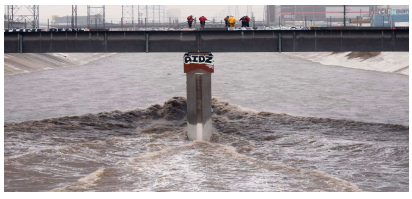
Municipal – California

- Los Angeles County Code (LACC), Title 12, Chapter 12.80, established the Stormwater Industrial/Commercial Facility Inspection and Certificate Program in the unincorporated areas of Los Angeles County
  - This Program requires that specific industrial or commercial businesses register with the Los Angeles County Public Works Environmental Programs Division.



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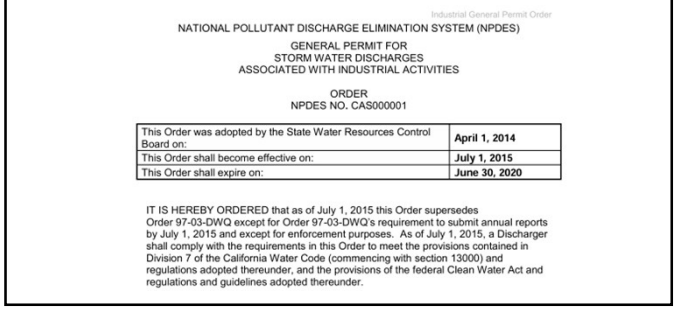
INDUSTRIAL GENERAL PERMIT



Industrial General Permit Order

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH INDUSTRIAL ACTIVITIES

ORDER
NPDES NO. CAS000001

This Order was adopted by the State Water Resources Control Board on:	**April 1, 2014**
This Order shall become effective on:	**July 1, 2015**
This Order shall expire on:	**June 30, 2020**

IT IS HEREBY ORDERED that as of July 1, 2015 this Order supersedes Order 97-03-DWQ except for Order 97-03-DWQ's requirement to submit annual reports by July 1, 2015 and except for enforcement purposes. As of July 1, 2015, a Discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

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Industrial General Permit (ICP)

- Applicability
  - Hazardous Waste Treatment, Storage, or Disposal Facilities
  - Landfills, Land Application Sites, and Open Dumps
  - Steam Electric Power Generating Facilities
  - Sewage or Wastewater Treatment Works
  - Recycling Facilities
  - Oil and Gas/Mining Facilities
  - Manufacturing Facilities
    - Facilities with Standard Industrial Classifications (SICs) 20XX through 39XX, 4221 through 4225.

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NEC & NONA

- Conditional Exclusion - No Exposure Certification (NEC)
  - This General Permit applies U.S. EPA Phase II regulations regarding a conditional exclusion for facilities that have no exposure of industrial activities and materials to storm water (40 CFR § 122.26(g)).
- Notice of Non-Applicability (NONA)
  - This General Permit allows industrial facilities to submit a Technical Report in the SMART system claiming either they have designed their facility to contain storm water so that there is no discharge of storm water to waters of the United States or their facility is not hydrologically connected to waters of the United States

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Storm Water Pollution Prevention Plan (SWPPP)

- The General Permit requires the development of a site-specific SWPPP.
- The SWPPP must include information needed to demonstrate compliance and must be submitted electronically via Storm Water Multiple Application and Report Tracking System (SMARTS).

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SWPPP Performance Standards

- The Discharger shall ensure a SWPPP is prepared to:

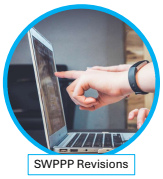
Identify All Sources of Pollutants

Identify Pollutants

Identify Best Management Practices (BMPs) to Reduce or Prevent Pollutants

Identify BMPs

Identify Conditions which require SWPPP Revisions



SWPPP Revisions

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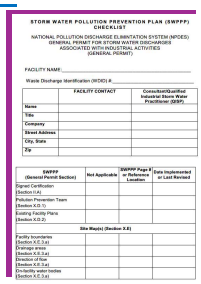
SWPPP Elements

- A site-specific SWPPP must be prepared for each industrial facility and shall contain the following elements (See the SWPPP Checklist for further details).
  1. Facility Name and Contact Information;
  2. Site Map
  3. List of Significant Industrial Materials;
  4. Description of Potential Pollution Sources;
  5. Assessment of Potential Pollutant Sources;
  6. Minimum Best Management Practices (BMPs);
  7. Advanced BMPs, if applicable;
  8. Monitoring Implementation Plan;
  9. Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation);
  10. Date that SWPPP was initially Prepared and the Date of Each SWPPP Amendment, if applicable.



STORM WATER POLLUTION PREVENTION PLAN (SWPPP) CHECKLIST

NATIONAL POLLUTION DISCHARGE ELIMINTATION SYSTEM (NPDES) GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES (GENERAL PERMIT)

FACILITY NAME:

Waste Discharge Identification (WDID) #:

	FACILITY CONTACT	Consultant/Qualified Industrial Storm Water Practitioner (QISP)
Name		
Title		
Company		
Street Address		
City, State		
Zip		

SWPPP (General Permit Section)	Not Applicable	SWPPP Page # or Reference Location	Date Implemented or Last Revised
Signed Certification (Section X.I.9)			
Pollution Prevention Team (Section X.D.1)			
Existing Facility Plans (Section X.D.2)			
Site Map(s) (Section X.E)			
Facility boundaries (Section X.E.2.a)			
Stormwater drainage (Section X.E.2.a.i)			
Direction of flow (Section X.E.2.a.i)			
On-facility water bodies (Section X.E.2.a.i)			

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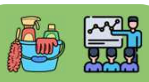
Pollution Control -Best Management Practices (BMPs)



Minimum BMPs

- Good Housekeeping
- Preventive Maintenance
- Spill and Leak Prevention and Response
- Material Handling and Waste Management
- Erosion and Sediment Controls
- Employee Training Program
- Quality Assurance and Record Keeping

Advanced BMPs

Advanced BMPs may include one or more of the following BMPs:

- Exposure Minimization BMPs
- Storm Water Containment and Discharge Reduction BMPs
- Treatment Control BMPs
- Other Advanced BMPs

Temporary Suspension of Industrial Activities

For facilities that plan to suspend activities for ten (10) or more consecutive days during a reporting year, the Discharger may also suspend monitoring if it is infeasible to conduct monitoring.

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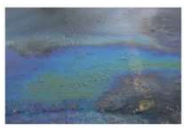
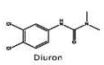
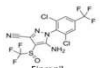
Storm Water Pollution

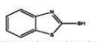
Urban stormwater



Pathogens
E. coli, enterococci
Urban-use biocides
diuron, triazines, chlorophenoxyacetic acids, pyrethroids, fipronil
Vehicle-related compounds
PAHs, benzothiazoles & alkylphenols (rubber) benzotriazoles (anti-freeze)







Clarke Prize Conf., Oct. 30, 2015

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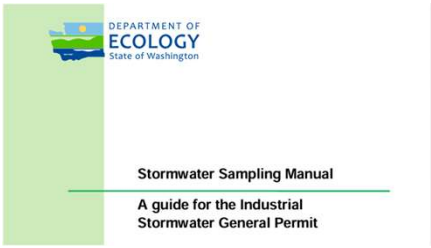
Storm Water Sampling

Washington Department of Ecology

The manual provides a step-by-step procedure of what facilities need to do to sample, gather, and report data in order to describe the quality of stormwater leaving the facility.



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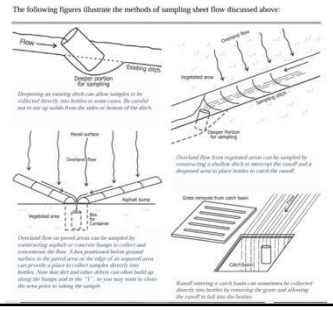
Stormwater Sampling Techniques



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Compliance

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Instantaneous & Average NAL Exceedance

The Discharger shall submit all sampling and analytical results for all individual or Qualified Combined Samples via SMARTS within 30 days of obtaining all results for each sampling event.

Instantaneous maximum NAL exceedance: An instantaneous exceedance occurs when two (2) or more analytical results from samples taken for any single parameter within a reporting year exceed the instantaneous maximum NAL value

Average: The Discharger shall determine the average concentration for each parameter and compare the average concentration for each parameter to the corresponding annual NAL values in Table 2.

TABLE 2: Parameter NAL Values, Test Methods, and Reporting Units

PARAMETER	TEST METHOD	REPORTING UNITS	ANNUAL NAL	INSTANTANEOUS MAXIMUM NAL
pH[4]	See Section XI.C.2	pH units	N/A	Less than 6.0 Greater than 9.0
Suspended Solids (TSS)[1], Total	SM 2540-D	mg/L	100	400
Oil & Grease (O&G)[1], Total	EPA 1664A	mg/L	15	25
Zinc, Total (H)	EPA 200.8	mg/L	0.26[5]	
Copper, Total (H)	EPA 200.8	mg/L	0.0332[5]	
Cyanide, Total	SM 4500-CN C, D, or E	mg/L	0.022	
Lead, Total (H)	EPA 200.8	mg/L	0.262[5]	
Chemical Oxygen Demand (COD)	SM 5220C	mg/L	120	
Aluminum, Total	EPA 200.8	mg/L	0.75	
Iron, Total	EPA 200.7	mg/L	1.0	
Nitrate + Nitrite Nitrogen	SM 4500-NO3- E	mg/L as N	0.68	
Total Phosphorus	SM 4500-P B+E	mg/L as P	2.0	
Ammonia (as N)	SM 4500-NH3 B+C or E	mg/L	2.14	
Magnesium, total	EPA 200.7	mg/L	0.064	
Arsenic, Total (c)	EPA 200.8	mg/L	0.15	
Cadmium, Total (H)	EPA 200.8	mg/L	0.0053[5]	
Nickel, Total (H)	EPA 200.8	mg/l	1.02[5]	
Mercury, Total	EPA 245.1	mg/L	0.0014	
Selenium, Total	EPA 200.8	mg/L	0.005	
Silver, Total (H)	EPA 200.8	mg/L	0.0183[5]	

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Annual Reporting

Industrial Storm Water General Permit Annual Report:

- Dischargers are required to certify & submit an Annual Report no later than July 15 following each reporting year via the Stormwater Multiple Application and Report Tracking System (SMARTS).
- The Annual Report:
- Is a list of questions for the discharger to complete, which demonstrates compliance with all applicable requirements of the Industrial Storm Water General Permit (IGP).
- Requires an explanation for any non-compliance of requirements during the reporting year, and certification that the Annual Comprehensive Facility Compliance Evaluation (Annual Evaluation) was completed.
- May be entered by any SMARTS user linked to the facility, but may only be certified and submitted by the Legally Responsible Person / Duly Authorized Representative.

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Level I & II ERA

Exceedance Response Actions (ERA) This General Permit requires Dischargers to develop and implement ERAs, when an annual NAL or instantaneous maximum NAL exceedance occurs during a reporting year.

Level I –
The first time an annual NAL or instantaneous maximum NAL exceedance occurs for any one parameter, a Discharger's status is changed from Baseline to Level 1 status, and the Discharger is required to evaluate and revise, as necessary, its BMPs (with the assistance of a QISP) and submit a report prepared by a QISP.

Level II –
The second time an annual NAL or instantaneous maximum NAL exceedance occurs for the same parameter in a subsequent reporting year, the Discharger's status is changed from Level 1 to Level 2 status, and Dischargers are required to submit a Level 2 ERA Action Plan and a Level 2 ERA Technical

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Qualified Industrial Storm Water Practitioner (QISP)

Qualified Industrial Stormwater Practioner (QISP)

- Dischargers must designate a Qualified Industrial Storm Water Practitioner (QISP) for each facility that has entered **Level 1 status** in the Exceedance Response Action (ERA) process as described in the General Permit.
  - Completion of a State Water Board-sponsored or approved training course is required for qualification
  - A competency exam may be required by the Water Board to assess understanding
- A QISP must:
  - Assist the Discharger in fulfilling Level 1 & 2 ERA requirements outlined in Section XII
  - Assist new Dischargers discharging into impaired water body with a 303(d) listed impairments by demonstrating eligibility for coverage through preparing the data.

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Benefits and Impacts

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Benefits of Storm Water Compliance

- Improved Water Quality:
  - Proper stormwater management helps reduce pollutants entering water bodies, protecting aquatic ecosystems and ensuring cleaner water for communities.
- Increase Water Supply:
  - Capturing and reusing stormwater can augment local water supplies, which is particularly valuable in drought prone areas.
- Enhanced Public Spaces:
  - Implementing green infrastructure for stormwater management can create more recreational spaces and increase urban green areas.
- Habitat Creation:
  - Stormwater projects can enhance stream and riparian habitats, supporting biodiversity.
- Community Resilience:
  - Effective stormwater management helps mitigate flood risks and can improve air quality, contributing to overall community resilience against climate change.

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Negative Impacts of Non-Compliance

- Public Health Risks:
  - Bacterial and viral infections, drinking water contamination, bio amplification in aquatic wildlife. Effective stormwater management reduces the contamination of drinking water sources, and cost of treatment.
- Improved Water Quality:
  - Proper stormwater management helps reduce pollutants entering water bodies, protecting aquatic ecosystems and ensuring cleaner water for communities.
- Degradation of Waterway Quality
  - Sediment build-up, removal of trees and vegetation (buffers) along waterways, sewage discharges, petroleum discharges and spills, activation and transportation of pollutants. Clean water bodies support healthy fish populations, which is vital for both commercial and recreational fishing industries.
- Economic Impact:
  - Properties near clean and well-maintained water bodies tend to have higher values.
- Enhanced Public Spaces/Water Recreation:
  - Activities such as swimming, boating, and kayaking rely on clean and safe water. Good stormwater management can boost local tourism and community well-being.
- Violations | Fines | Negative PR

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Questions?

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