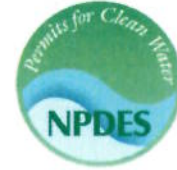




Annual Report Template
Naval Station Everett
Municipal Separate Storm Sewer System (MS4)
Permit WAS026620



Reporting Period

- Year 1 Reporting Period: effective date of the permit – January 31, 2022
Year 2 Reporting Period: February 1, 2022 – January 31, 2023
Year 3 Reporting Period: February 1, 2023 – January 31, 2024
Year 4 Reporting Period: February 1, 2024 – January 31, 2025
Year 5 Reporting Period: February 1, 2025 – January 31, 2026
Other

General Information

Contact Person Name and Title: Holli Lamb

Phone Number: 425-304-3277 E-mail: holli.k.lamb.civ@us.navy.mil

Stormwater Website URL: https://www.cnrc.navy.mil/regions/cnrrnw/installations/ns_everett/om/naval-station-everett-environmental-policy.html

Signature and Certification

Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: [Handwritten Signature] Date: 3/16/22

Printed Name: Joshua M. Menzel

Signatory Title: Commanding Officer

Section I. Permittee Responsibility (Part 1):

If you answer "NO" to any of these questions, please explain in the Comments section.

Year 1 Annual Report		
1.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Has the Permittee submitted to EPA for consideration any documents, plans, programs or program summaries that the Permittee believes to be equivalent to a required control measure or control measure? <i>If the answer is "YES", use the Comments section to briefly list the one or more documents, plans or programs you have requested be considered as an Equivalent Document, Plan or Program. Cite the relevant Permit provision for each. (Part 1.5)</i>
All Reporting Years		
2.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Do you, the Permittee, share Permit implementation responsibility with one or more Outside Entity for compliance with the Permit? <i>If yes, please explain in the Comments section. (Part 1.4.1)</i>
3.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	If yes, is the agreement with Outside Entity(s) formalized in a written and binding agreement between parties? (Part 1.4.1)
4.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	If yes, is the agreement with Outside Entity(s) described/cited in the Stormwater Management Program (SWMP) Document? (Part 1.4.1)
5.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you established and maintained relevant enforceable mechanisms, to control pollutant discharges into and from the MS4 and to meet the requirements of this Permit? (Part 1.4.2)
6.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Are you maintaining system(s) to track SWMP data and information? (Part 1.4.4)

Permittee Responsibility and Equivalent Documents, Plans or Programs Comments:

2. - 4. NAVSTA Everett does not share permit implementation responsibility with one or more outside entities for compliance with the permit.

Section II. Stormwater Management Program (SWMP) Control Measures (Part 2)

Please answer all questions.

Education and Outreach on Stormwater Impacts (Part 2.1)

If you answer "NO" to any of these questions, please explain in the Comments section.

7.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you listed and publicized means for the public and Permittee personnel to report spills and other illicit discharges? (Part 2.1.1.1)
8.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you informed target audiences of the environmental impacts associated with illegal discharges and improper disposal of waste and how to report them? (Part 2.1.1.2)
9.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you selected specific education and outreach topics to build general awareness and effect behavior change? <i>Please list these topics in the Comments section.</i> (Part 2.1.1.3)
10.	Narrative	<i>In the Comments section, please summarize your activities and accomplishments as part of the Southern Resident Killer Whale Outreach and Education efforts.</i> (Part 2.1.2)
11.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you assessed, or participated in efforts to assess, the understanding and adoption of intended behaviors by the target audiences for at least one of the topics? <i>In the Comments section, please summarize your efforts to assess the education and outreach activities conducted during the reporting period, and how this information is being utilized to improve the public education and outreach program efforts.</i> (Part 2.1.3) <i>Please also include one or more example of successful education/outreach.</i> (Part 2.1.3)

Education and Outreach Comments:

9. The specific education and outreach topics focused on in 2021 included improved stormwater awareness for our Environmental Work Center Coordinators (EWCCs), spill response and clean up, and recycling. EWCCs oversee their command's adherence to environmental compliance and attend environmental awareness refresher training annually. The training covers hazardous waste disposal, SPCC, wastewater, and stormwater permit requirements including BMPs. For 2020 and 2021, much of the training focused on stormwater awareness, MSGP and MS4 permit compliance, and a broader description and discussion on how we impact stormwater quality. 16 EWCCs attended the class and specific stormwater topics covered included actions to take for a spill, proper outdoor storage of metal materials, improved oversight of contractor lay down areas, stormwater catch basin cleanliness, and reiteration of what is allowed to enter the stormwater system and what is not. For dewatering vaults, training was given to those who oversee contractor work in the vaults and a process was put in place to ensure analytical analysis is conducted and results submitted prior to permission to pump to the MS4 system. Further education has been provided to NAVSTA Everett and Smokey Point personnel via the Quarterly Environmental Newsletter which started January 2020 in anticipation of the MS4 permit. The newsletter is sent to all EWCCs and their leadership which equates to over 100 NAVSTA Everett and Smokey Point personnel. The latest Environmental Newsletter is in Appendix A. Since the MS4 permit was the impetus for creating the newsletter, the first page always addresses MS4 concerns. Topics covered thus far include general awareness of the Navy's Environmental Mission, stormwater permit requirements, leading causes of stormwater pollution and poor water quality, education on infiltration rates into the natural environment, the urban water cycle, illicit discharge, stormwater impacts on fish and Southern Resident Killer Whales, and BMPs. Information regarding the MSGP is also covered as well as information on the Spill, Air, Hazardous Waste, Natural Resources, and Recycling Programs. The previous 4 editions of the newsletter can be found at:

https://www.cnic.navy.mil/regions/cnrnw/installations/ns_everett/om/naval-station-everett-environmental-policy.html

10. As required by part 2.1.1.3, NAVFAC NW worked with National Marine Fisheries Service (NMFS) to develop and deliver a training program for target audiences. Discussions with NMFS started in July 2020 and notes were provided to NMFS detailing the permit requirements. NAVSTA Everett's Stormwater Program Manager and Natural Resource Program Manager attended Southern Resident Killer Whale (SRKW) training presented by NOAA January 26, 2022. The training covered SRKW monitoring and mitigation strategies; their status under the Endangered Species Act, habitat, prey, chemical threats such as PCP, PCB, DDT, PBDEs, persistent organic pollutants, bio-accumulation of chemicals, and the decline of Chinook and Coho salmon due to poor stormwater quality.

11. Three examples to demonstrate improved understanding and adoption of intended behaviors include increasing EWCCs environmental involvement and oversight, spill response and recycling.

a. NAVSTA Everett Environmental partnered with PSNS&IMF Det Everett's EWCCs and instituted a weekly walk of the piers during ship maintenance availabilities. Discussions regarding improving contractor oversight, commitment to BMPs and a shared responsibility towards stormwater compliance has resulted in improved storage and covering of material, reduction of trash in the storm trench drain and overall cleanliness of the piers. Additional online trainings from ECATTs were assigned to EWCCs, key personnel and contractors. A listing of all trainings can be found in Appendix B.

b. The Environmental Newsletter's recycling section has provided base personnel with explicit information on what is recyclable and what is not in an effort to reduce time wasted separating out non-recyclable materials. Recycling has also taken it a step further and provided information on how to DRMO unwanted items that cannot be thrown away or how to turn in items to DLA. This has helped reduce the outdoor storage of unwanted items from deteriorating in the elements and impacting stormwater quality.

c. Spill response continued to be a focus in 2021. A regional worst case discharge table top exercise was held last year and was monitored by the Coast Guard. This exercise played out across several naval bases including Manchester, Whidbey Island, Everett, Bangor, and Bremerton. The Emergency Operations Center, Port Operations, Environmental, and other stakeholders were involved in the planning, coordination and execution of the drill. Several Environmental staff, Port Ops personnel and EWCCs also attend Hazardous Substance Incident Response Management (HSIRM) class each year which covers spill response, spill management, and reporting. A detailed description can be found in Appendix B.

Public Involvement/Participation (Part 2.2)

If you answer "NO" to any of these questions, please explain in the Comments section.

12.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	Have you complied with applicable federal notice requirements, as relevant? (Part 2.2.1)
13.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you conducted one or more meetings to coordinate among appropriate staff, managers and others who play a role in Permit implementation? <i>Briefly describe meeting(s), participants and topics in the Comments section.</i> (Part 2.2.2)
14.	Narrative	<i>In the Comments section, please describe any engagement with affected entities in setting priorities for the storm water program.</i> (Part 2.2.2)
15.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Have you sponsored at least twice during the Permit term volunteer activities designed to actively engage residents and/or employees to better understand stormwater pollution? <i>Please describe these events and activities in the Comments section.</i> (Part 2.2.4)

Public Involvement/Participation Comments:

13. Monthly stormwater meetings are held with key stormwater personnel at Naval Station Everett, Naval Air Station Whidbey Island, and Naval Base Kitsap. Consistent monthly meetings were started in February 2020 and have continued since. These monthly meetings are used to discuss any topic related to stormwater including the MS4 permit, MSGP, and CGP. The meetings provide a collaborative approach to stormwater management at the NW installations. Below is a summary of meetings held since February 2021:

Month	Short Summary of Meeting Topics
February	Upcoming MS4 construction training, SAM letters of intent, IDDE, EAP sampling MSGP SWPPP
March	Construction site contract language, EAP sampling, stormwater trainings available and education
April	EAP sampling, IDDE, education and outreach materials
May	SAM update, EAP sampling, future funding discussions
June	Funding discussions, SWMPs, EAP sampling
July	SWMPs, EAP sampling, MSGP sampling
August	No meeting held due to scheduling conflicts
September	SWMPs, EAP sampling status- weather update, education and pet waste materials
October	SWMPs, annual report, spill response posters
November	Meeting not held due to holidays, combined with December meeting on 12/1 instead.
December	SAM effectiveness study, 6PPD, methods of outreach, SWMPs, Annual reports, construction language, EAP sampling results, Southern Resident Killer Whale (SRKW) Training update, MSGP annual report,
January	SAM effectiveness study, 6PPD, SWMPs, annual report status including EAP reports, construction training, SRKW training, MSGP annual report

Beyond stormwater program manager's monthly meetings, NAVSTA Everett environmental also engages often with the maintenance partners on the base, specifically the contractor's government oversight to ensure stormwater compliance.

14. This is not applicable as we do not have any partners who play a role in implementing Permit elements or are involved in effective implementation of the SWMP control measures required by this Permit. NAVSTA Everett's stormwater management activities and decisions do not affect nearby neighbors or nearby activities and operations and therefore do not warrant public engagement outside the perimeter of the base.

15. April 2021, an Earth Day event took place along the shores at NAVSTA Everett. The cleanup resulted in 115 pounds of refuse and 55 pounds of recycling collected. A second event is planned for Earth Day 2022 to meet the Permit requirement of two events during the Permit term.

Illicit Discharge Detection and Elimination (Part 2.3)

If you answer "NO" to any of these questions, please explain in the Comments section.

16.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	Have you developed updated maps of the MS4 within the Permit Area that include all of the features listed in Part 2.3.1 of the Permit? <i>For Annual Reporting Years 1 through 4, you may check NA if these maps have not yet been completed. (Part 2.3.1)</i>
17.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	Do you effectively prohibit non-storm water discharges into the MS4 (except those authorized in Part 1.3.4 of this Permit) through effectively robust policies and procedures? <i>For Annual Reporting Years 1 and 2, you may check NA if you have not yet implemented effective policies and procedures. (Part 2.3.2)</i>
18.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	For any discharges of potable water, have you dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4? (Part 2.3.2.2.1)
19.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>	Have discharges from lawn watering and other irrigation runoff been minimized through public education and water conservation efforts? (Part 2.3.2.2.2)
20.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	For any discharges of swimming pool, spa and hot tub waters, have you dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted and re-oxygenized if necessary, volumetrically and velocity controlled to prevent resuspension of sediments in the MS4, thermally controlled to prevent an increase in temperature of the receiving waters, and prohibited the discharge of pool cleaning wastewater and filter backwash? (Part 2.3.2.2.3)
21.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>	Have discharges from street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents been minimized through public education and water conservation efforts? (Part 2.3.2.2.4)
22.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> NA <input type="checkbox"/>	For any discharges of accumulated stormwater from utility vaults, have you conducted sampling to verify that no pollutants cause or contribute to water quality impairments; AND visually verified prior to any discharge, that there are no visible sheens or solids in the discharge? (Part 2.3.2.2.5)
23.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	For any discharges from secondary containment structures, have you conducted sampling to verify that no pollutants cause or contribute to water quality impairments, AND visually verified prior to any discharge, that there are no visible sheens or solids in the discharge?? (Part 2.3.2.2.6)
24.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Does the program described in the SWMP document include procedures for locating priority areas likely to have illicit discharges, including areas where complaints have been recorded and areas with storage of large quantities of

		materials that could result in spills and areas where storage, usage, releases or contamination of any pollutant in Table 2.4.4 is or has occurred? (Part 2.3.3.1)
25.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	Do you conduct a dry weather analytical and field screening monitoring program to identify non-stormwater flows from stormwater outfalls? <i>For Annual Reporting Years 1 and 2, you may check NA if you have not yet begun dry weather field screenings. (Part 2.3.3.2.1)</i>
26.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	For Annual Reporting Year 5 only, have you completed field screening of at least 75% of all MS4 outfalls located within the Permit Area? <i>For Annual Reporting Years 1 through, you may check NA unless you have completed screening of 75% of the MS4 outfalls in the Permit Area. (Part 2.3.3.2.2)</i>
27.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Are your screening methods/protocols consistent with <i>Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments</i> , Center for Watershed Protection, October 2004, or another methodology of comparable effectiveness? (Part 2.3.3.2.3)
28.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Do you have and implement procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges which are found by or reported to the Permittee? (Part 2.3.3.3)
29.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Do these procedures include the evaluation of whether the discharge must be immediately contained and the steps to be taken for containment of the discharge per the stipulations in Part 2.3.3.3? (Part 2.3.3.3)
30.	Narrative	<i>In the Comments section, please summarize all illicit discharge responses, including responses to spills and recurring discharges. Also summarize any investigations and referrals as detailed in Part 2.3.3.3.2. (Parts 2.3.3.3.1, 2.3.3.3.2 and 2.3.3.3.3)</i>
31.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Do you have and implement procedures for notification of affected parties, including immediate notification of the spills and illicit discharges and ongoing updates about abatement measures and possible impacts? (Part 2.3.3.4)
32.	Narrative	<i>In the Comments section, please summarize all notifications to downstream operators of MS4s, shellfish beds/fisheries, agricultural/livestock operations, drinking water systems (public or private) or other affected entity of spills or other non-stormwater discharges that may impact those systems. (Part 2.3.3.4.1) Please include in the description all outreach, discussions and/or information exchanges regarding the impacts of discharges and the status of illicit discharge elimination activities. (Part 2.3.3.4.2)</i>
33.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Do you have and implement procedures for tracing sources of illicit discharges, including visual inspections, opening manholes, using mobile cameras, collecting and analyzing water samples, and other procedures, as appropriate? (Part 2.3.3.5)

34.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Do you have procedures for eliminating illicit discharges, including scheduling and implementing remedial measures and other safeguards to ensure the discharge does not recur? (Part 2.3.3.6)
35.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Do these procedures include initiation of an investigation within 21 days of a report or discovery of an illicit connection to determine the source, nature and volume, and responsible party? (Part 2.3.3.6.1)
36.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Do these procedures include initiation of action to eliminate the illicit connection within 45 days of confirming the connection? (Part 2.3.3.6.1)
37.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have all staff responsible for investigating, identifying and eliminating illicit discharges, spills, and illicit connections into the MS4 received program-specific training? (Part 2.3.4)
38.	Narrative	<i>In the Comments section, please describe any training provided during this reporting period, including new employee training and follow-up training. (Part 2.3.4)</i>
39.	Narrative	<i>In the Comments section, please include a general summary of the results of dry weather screening program activities conducted over the preceding reporting period, including number and type of illicit connections identified, dry weather screening efforts, and location and efforts to correct identified illicit discharges. (Part 2.3.5)</i>

Illicit Discharge Detection and Elimination Comments:

23. Stormwater accumulation in secondary containment structures that are caused by rainfall are visibly inspected prior to release to the MS4. If an oil sheen is present, pads are used to absorb the sheen prior to releasing the water to the sewer. If an incident were to occur where there was a large amount of oily water, the water would be pumped and sent to the Oily Water Separator Facility (OWSF) on base for treatment prior to being sent to the City of Everett's waste water treatment facility.

30. NAVSTA Everett did not experience any illicit discharges that made it into the MS4 system. We responded to a few small oil/ gas spills that were cleaned up prior to reaching the MS4. This includes 2 spills at the gas station which occurred when a fuel nozzle continued to leak fuel after it was removed from a car. The fuel nozzle was inspected and repaired or replaced. There were also a couple of responses to oil sheens in the parking lots which were cleaned up with absorbent pads. All storm water catch basins on base discharge stormwater to one of four outfalls. All outfalls have an oil interceptor which traps the oil and prevents it from reaching the outlet side of the outfall which discharges to the Snohomish River. Visual inspections of the inlet side of the outfalls occurs quarterly, and if the inspections shows the presence of oil, the outfall is pumped or pads are used to absorb the oil. NAVSTA Everett receives stormwater from the Port of Everett and from Marine Drive. Past investigations and dye testing revealed grease from restaurants located in the Port of Everett was entering NAVSTA Everett's MS4 through stormwater catch basins. Measures were put in place and employees were trained on the proper disposal of cooking grease which solved the illicit discharge.

32. NAVSTA Everett does not have any downstream operators of MS4s, shellfish beds/ fisheries, agricultural/ livestock operations, drinking water systems or other affected entity of spills or other non-stormwater discharges that may impact those systems. As a receiver of stormwater from the Port of Everett, outreach, discussion and changes were made to eliminate the discharge of cooking grease into our MS4 system.

38. EWCC training occurs annually and covers all aspects of environmental compliance. The SWMP also lays out required training for targeted personnel. The trainings are online through the ECATTs website and a chart of required training by position is included in the SWMP. Some examples are listed below.

- a. Stormwater - Basic Information: Washington
- b. Stormwater Pollution Prevention for MS4 Video Training
- c. Sediment and Stormwater Construction Training
- d. Water Quality: Washington
- e. General Environmental Compliance
- f. NAVFAC Construction Contractor Prime – Stormwater

39. Dry weather screenings at Smokey Point were conducted during the summer of 2021 and no illicit discharge was noted. Further examination with the Snohomish Conservation District recently revealed a number of storm drains located on the road adjacent to the base discharging stormwater onto the naval base at Smokey Point. GPS mapping was provided by the Snohomish Conservation District and will be provided to a contractor who is remapping all storm drains across the region and updating all storm water maps for each facility. Dye testing to validate the findings will also be conducted to ensure next summer a more thorough dry weather screening can be performed. A facility inspection at NAVSTA Everett is required each quarter under the MSGP. One of the outfalls which receives most of its stormwater from parking lots, had a sheen of oil on the inlet side of the outfall. At low tide during the summer, sediment from the outfalls are pumped out annually and disposed. Further education on car maintenance was discussed at EWCC trainings and helpful reminders such as "No Car Maintenance on Base" magnets were provided to the on base quarters to give to their residents. No other observations beyond known groundwater penetration was noted. It is believed stormwater from Marine Drive off base has stormwater catch basins that flow into the base's stormwater system. Dye testing this spring will help determine which ones so they can be inspected in the future. The contractor hired to update the stormwater maps will also verify and include in the updated stormwater maps.

New Development, Redevelopment, and Construction Site Runoff Control (Part 2.4)
If you answer "NO" to any of these questions, please explain in the Comments section.

40.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Does the SWMP document describe, and are you implementing, a program to reduce pollutants in stormwater runoff to the MS4 from all construction, new development and redevelopment project site activities in the Permit Area, including roads? (Part 2.4)
41.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	During this reporting year have you provided adequate oversight to "regulated construction activities" and "regulated industrial activities" to ensure that all regulated activities obtained coverage under the appropriate stormwater permits? <i>Only choose NA if there were none of these activities in the Permit Area during this reporting year.</i> (Part 2.4.1)
42.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you implemented an enforceable mechanism to address runoff from new development, redevelopment and construction site projects to include the minimum requirements, thresholds and definitions? (Part 2.4.2.1)
43.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Does the enforceable mechanism include all of the criteria listed in Part 2.4.2.2 of the Permit? (Part 2.4.2.2)
44.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Have you had any equivalent criteria approved by EPA for use in stormwater controls from new development, redevelopment, and construction site runoff? <i>If so, in the Comments section please describe how these have been utilized during this reporting year.</i> (Part 2.4.2.4)
45.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you implemented policies and procedures, including contract mechanisms, to ensure review of all stormwater site plans for proposed development activities? (Part 2.4.3.1)
46.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	Do you inspect, prior to clearing and construction, all development sites that have a high potential for sediment transport as determined through plan reviews based on definitions and requirements of Appendix C of the Permit? <i>Only choose NA if there were none of these activities in the Permit Area during this reporting year.</i> (Part 2.4.3.2)
47.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	Do you inspect all development sites during construction to verify proper installation and maintenance of required erosion and sediment controls? <i>Only choose NA if there were none of these activities in the Permit Area during this reporting year.</i> (Part 2.4.3.3)
48.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	During this reporting year, did you take the necessary enforcement actions, as relevant, based on the results of these inspections? <i>If yes, please describe in the Comments section. Only choose NA if there were no construction activities in the Permit Area or you did not identify any failures to properly install or maintain the required controls.</i> (Part 2.4.3.3)
49.	Narrative	<i>In the Comments section please document what percentage of all permanent stormwater treatment and flow control</i>

		<i>BMPs/facilities and catch basins in new developments were inspected every six months prior to 90% of the common plan of development being constructed during this reporting year? (Part 2.4.3.4)</i>
50.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	Do you inspect all development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities? Only choose NA if there were none of these activities in the Permit Area during this reporting year. (Part 2.4.3.5)
51.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Are all maintenance requirements assigned/entered into the electronic tracking system for stormwater treatment and flow control BMPs/facilities? (Part 2.4.3.5)
52.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Do you keep adequate records to document that all the requirements of Part 2.4.3 of the Permit have been fully implemented? (Part 2.4.3.6)
53.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Were at least 80% of scheduled inspections completed during this reporting year? (Part 2.4.3.6)
54.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you established and implemented an internal tracking system to respond to issues of non-compliance? (Part 2.4.3.7)
55.	Narrative	<i>Annual Reporting Year 1: In the Comments section, please describe the Early Action Projects (EAPs) you plan to implement during this permit term. Please also provide a summary of all EAP planning and implementation actions taken to date. (Part 2.4.4)</i>
56.	Narrative	<i>Annual Reporting Year 2-5: In the Comments section, please provide any updates to your Early Action Projects (EAPs) plan. Please also provide a summary of all EAP planning and implementation actions taken in this reporting year. (Part 2.4.4)</i>
57.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	<i>Annual Reporting Year 4: Have you submitted a written Stormwater Infrastructure Investment Plan to EPA that documents future investments and upgrades in Naval Station Everett's stormwater infrastructure designed to improve MS4 discharge quality, AND that meets all of the requirements of Part 2.4.4? (Part 2.4.4)</i>
58.	Narrative	<i>In the Comments section, please describe any training provided during this reporting period, including new employee training and follow-up training. (Part 2.4.5)</i>
59.	Narrative	<i>In the Comments section, please include a general summary any corrective actions taken at construction sites, number of site plans reviewed, site inspections, and one or more example of follow-up actions. (Part 2.4.6)</i>

New Development, Redevelopment, and Construction Site Runoff Control Comments:

44. No equivalent criteria has been submitted or approved by the EPA for use.

49. NAVSTA Everett and Smokey Point did not have any new development.

51. Maintenance items are entered into the electronic tracking system but not all get addressed due to lack of funds, manpower or due to non concurrence. New and repeated maintenance items were recently re-entered into the system that are required under the MS4 Permit.

52. Only a "no" because there was no construction, new development, or redevelopment project site activities.

53. "No" was checked because there was no construction, new development or redevelopment projects to inspect.

55. Please see the documents in Appendix C for the Early Action Projects (EAPs) Plan and subsequent enclosures to the EAP including the analytical results of the first EAP.

56. N/A as we are in year 1.

58. In March 2021, construction training was provided during "Construction Day" as part of a regional training day. Approximately 25 personnel attended the training and 50 were sent the presentation to review after the training day was completed. The training topics presented included stormwater awareness, introduction to the MS4 permit, the SWMP (draft version), MS4 permit requirements, the Stormwater Management Manual for Western Washington, a refresher information about the Construction General Permit, and construction BMPs.

59. No corrective actions were needed to be performed because there was no construction, new development, or redevelopment projects at NAVSTA Everett or Smokey Point.

Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance (Part 2.5)

If you answer "NO" to any of these questions, please explain in the Comments section.

60.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Have you established maintenance standards that are protective of facility function for all permanent stormwater facilities used for onsite management, flow control and treatment? (Part 2.5.1.1)
61.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Were all required maintenance activities, as relevant, undertaken per the schedules in Part 2.5.1.2? (Part 2.5.1.2)
62.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	Does your operation and maintenance program include an enforceable mechanism that clearly identifies the party/parties responsible for maintenance? (Part 2.5.1.3)
63.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	During this reporting year have you conducted inspections of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4 at least annually or per an alternative schedule as established in the SWMP based on maintenance records or other documented information? (Part 2.5.2)
64.	Narrative	<i>In the Comments section, please specify the number of inspections of permanent stormwater facilities conducted pursuant to Parts 2.5.2. Please also indicate what percentage of the overall number of permanent stormwater facilities these numbers represent. (Part 2.5.2)</i>
65.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	During this reporting year, have you conducted spot checks of all permanent stormwater facilities, per the requirements of Part 2.5.3 after all major storm events? (Part 2.5.3)
66.	Narrative	<i>In the Comments section, please specify the number of catch basins and inlets that were inspected during this reporting year. Please also indicate what percentage of the overall number of catch basins and inlets, this represents. (Part 2.5.4)</i>
67.	Narrative	<i>In the Comments section, please specify the number of catch basins cleaned during this reporting year. (Part 2.5.4)</i>
68.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	During this reporting year, did you undertake and complete all the necessary maintenance, as required by Part 2.5.6 of the Permit, and as described in the SWMP document? (Part 2.5.6) <i>Please briefly describe in the Comments section.</i>
69.	Narrative	<i>In the Comments section, please briefly describe the enhanced street sweeping measures undertaken in all areas draining to Naval Station Everett Outfalls A, B, C, and D, during this reporting year. (Part 2.5.7)</i>
70.	Narrative	<i>In the Comments section, please describe any training provided during this reporting period, including new employee training and follow-up training. (Part 2.5.8)</i>
71.	YES <input type="checkbox"/> NO <input type="checkbox"/> NA <input checked="" type="checkbox"/>	Have you developed and implemented SWPPPs for all heavy equipment maintenance and storage yards and all material storage facilities within the MS4 area that are not already regulated under the MSGP? <i>Only choose NA if there were</i>

		<i>none of these facilities in the Permit Area OR if this is the Annual Report for Year 1. (Part 2.5.9)</i>
72.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	During this reporting year, have you kept records of all inspections, findings of inspections, follow up actions to correct problems, and all maintenance? (Part 2.5.10)

Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance Comments:

61. NAVSTA Everett is currently restructuring and transitioning stormwater funding from facilities to utilities. A contractor is updating all stormwater maps at NAVSTA Everett and Smokey Point to adequately determine financial need going forward under the MS4 Permit. Planned maintenance for sediment disposal of trench drains that run along Piers A and B and the South Wharf were not cleaned out in 2021 as the current maintenance plan indicates.

62. The SWMP includes an enforceable mechanism that clearly identifies the party/ parties responsible for maintenance. The SWMP at this time has not been signed by the Installation Commanding Officer but is projected to be signed by mid-March.

64. During year 1 of the MS4 Permit, four stormwater inspections were conducted at Smokey Point. The inspections included sampling for the EAP, an onsite consultation with the Snohomish Conservation District and two separate inspections in which 100% of the stormwater system, which is a series of ponds, were inspected. GPS data was collected for the project updating the Stormwater maps, new stormwater inflows were discovered on the base and an inspection was conducted in the area of large vehicle storage and its impact on stormwater. At NAVSTA Everett, the location of the street sweeping pile was discussed due to its proximity to a storm water catch basin. Requirements were put in place to manage it such as additional analytical monitoring and a better cover for the street sweeping pile. Both measures are in progress. Also at NAVSTA Everett, all four Outfalls were inspected and sediment was removed from the inlet side of the outfall per the normal maintenance plan. Additional oil in Outfall C will be addressed based on the most recent quarterly inspection and discussion on cleaning out the trench drains that run along the piers and wharf are in progress as those catch basins have not been adequately maintained due to lack of proper equipment.

66. With the exception of the large trench drain that run the length of the piers and wharf, no catch basins have been inspected at Smokey Point and NAVSTA Everett. As the MS4 program ramps up, more emphasis on funding and equipment is occurring in order to comply. The plan is to complete 25% of catch basin inspections each year at both bases over the next 4 years.

67. Sediment from all four Outfalls was removed this past year. No other stormwater catch basins on either base were cleaned.

68. Due to similar MSGP requirements, a majority of the activities listed in 2.5.6 of the MS4 Permit are already in compliance. Existing navy or installation requirements and established BMPs provide written guidance. Some of the activities do not apply because they do not occur on the base. For the few activities that need to be addressed, we are currently evaluating policies and procedures for the maintenance activities to make sure they are in compliance with the MS4 Permit and pollution prevention practices. Due to ship maintenance activities on NAVSTA Everett, a weekly environmental surveillance of the piers and lay down areas is conducted by government oversight and provided to the Environmental office. An example of the form is in Appendix D. This helps educate and ensure stormwater compliance.

69. Street sweeping is conducted frequently on NAVSTA Everett. Street sweeping occurs biweekly on Piers Alpha and Bravo, the North and South Wharfs, and all the streets. Parking lots are swept one to two times per year.

70. Please see Appendix A which lists required and follow up training by key personnel such as EWCCs, Environmental staff, Port Operations personnel and other identified key personnel.

Part III. Monitoring, Recordkeeping and Reporting Requirements (Part 3)

If you answer "NO" to any of these questions, please explain in the Comments section.

73.	Narrative	<i>In the Comments section, please provide an evaluation of your compliance with the Permit conditions and progress towards achieving the control measures, during this reporting year. (Part 3.1)</i>
74.	<input type="checkbox"/> Option 1 <input checked="" type="checkbox"/> Option 2	For Annual Reporting Year 1: Did you select monitoring Option 1 (Monitoring/Assessment Plan) or monitoring Option 2 (participation in the Stormwater Action Monitoring Program)? <i>For all reporting years: If you selected Option 1, please answer questions 75, 76 and 77. If you selected Option 2, please answer question 78.</i>
75.	Narrative	<i>In the Comments section, please summarize the results of all monitoring and evaluation undertaken during this reporting year. Discuss results of all types of assessments per the monitoring plan approved by EPA pursuant to Parts 3.3.1 through 3.3.10 of the Permit. Provide your interpretation of these data and how you are using them to inform your stormwater management program. (Part 3.3)</i>
76.	YES <input type="checkbox"/> NO <input type="checkbox"/>	During this reporting year, was all sample collection, preservation and analysis conducted according to test procedures approved under 40 CFR Part 136, or another method approved by EPA? (Part 3.3.4)
77.	YES <input type="checkbox"/> NO <input type="checkbox"/>	During this reporting year, have you complied with all elements of your Quality Assurance Program Plan (QAPP) developed pursuant to the requirements of part 3.3.9 of the Permit? (Part 3.3.9)
78.	Narrative	<i>In the Comments section, please summarize your activities as a participant with the Stormwater Action Monitoring Program.</i>
79.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Are you complying with the record-keeping requirements of Part 3.6 of the Permit? (Part 3.6)
80.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	During this reporting year have you ensured that an updated SWMP and all SWMP records are available to the public? (Part 3.7.2.2) <i>In the Comments section please discuss what records are available on your website, any requests you have received for records and your responses.</i>
81.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	During this reporting year, have any boundary changes to your facilities resulted in either an increase or a decrease in the Permit Area? <i>If yes, please describe in the Comments section. (Part 3.7.2.2.4)</i>
82.	Narrative	<i>In the Comments section please provide an annotated list of any attachments to this Annual Report. (Part 3.7.2.2.1)</i>
83.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Are all monitoring data collected during this reporting year, as applicable, attached to this Annual Report? (Part 3.7.3)

Monitoring, Recordkeeping and Reporting Comments:

73. Compliance with the MS4 Permit began before the official MS4 Permit became effective February 1, 2021. Efforts included drafting construction requirements, updating maps with stormwater structures, preparation for IDDE dry weather surveys, and development of maintenance standards. After the effective permit date, the efforts to meet compliance intensified. Significant changes and new requirements such as the requirement to test utility vaults prior to pumping to the MS4 was addressed with contractors and base personnel in an effort to ensure the new requirement was adhered to. Appendix E shows the number of vaults that have been tested and their results in order to communicate which vaults have been tested and which ones only need a visual inspection going forward.

MCM #1 – Training and outreach efforts were established to meet permit compliance in 2021 and continue into 2022. Existing EWCC training was updated to include MS4 permit requirements and the training was conducted in person in small groups. In 2020 in anticipation of the MS4 Permit, an environmental newsletter was established to help educate all personnel on base regarding all the environmental programs, especially stormwater. It is sent out quarterly to approximately 100 base personnel.

MCM #2 – NAVSTA Everett held an Earth Day event April 2021 which focused on the removal of trash and recycling along the riprap of the base. Another clean-up effort is planned to take place on the base April 2022.

MCM #3 – Procedures in accordance with the MS4 Permit were developed and incorporated within the SWMP Plan. Materials to aid in dry weather surveys and investigations, including a portable spectrophotometer and testing supplies, were purchased in 2021.

MCM #4/5 – Procedures and responsibilities were developed in accordance with the MS4 Permit and incorporated within the SWMP Plan. Multiple trainings were held during the first year of the program to communicate the permit requirements.

MCM #6 – In order to become compliant with permit conditions, several jobs were put in the database to bring to light and discuss mitigation tactics to achieve compliance. Jobs were put in the system to improve the storage of the street sweeping pile, stormwater catch basin inspections and subsequent clean out and adhering to the planned maintenance of cleaning out the trench drain annually.

78. Through negotiations with the Stormwater Action Monitoring (SAM) Network, the Navy is considered an active participant through annual payments. The regional MS4 Manager participates in SAM Stormwater Work Group Meetings, and while not currently voting on project proposals the ability to in the future is available. The Navy's participation in SAM is outlined in the Cover Letter provided by the Washington Department of Ecology SAM Program and can be found in Appendix F.

80. The SWMP and Annual report will be uploaded to a public website March 31, 2022 and April 30, 2022 respectively.

82. Annotated List of Attachments

Appendix A, Quarterly Environmental Newsletter
Appendix B, Education and Training Courses
Appendix C, Early Action Program
Appendix D, PSNS&IMF Weekly Surveillance
Appendix E, Monitoring and Record Keeping – Utility Vaults
Appendix F, SAM cover letter

Part IV. Required Response to Exceedances of Water Quality Standards (Part 4)

84.	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	During this reporting year were any exceedances of water quality standards identified, per the terms of Part 4 of the Permit? (Part 4)
85.	Narrative	<i>If yes, please describe in the Comments section all measures that were taken to mitigate the water quality standards exceedance, including notifications, adaptive management measures undertaken, schedules for implementation, and a status of current conditions. Include details per the provisions in Part 4 of the Permit.</i>

Required Responses to Violations of Water Quality Standards Comments:

Environmental Insight



Impacts of Stormwater runoff on Southern Resident Killer Whales

Stormwater runoff from industrial and municipal areas can carry pollutants to surface water, like the Puget Sound, that are harmful to killer whales. The Southern Resident killer whale (SRWK) resides in the Puget Sound and are a listed Endangered Species. These whales are protected by the Endangered Species Act and the Marine Mammal Protection Act, and have a Recovery Plan established by the National Marine Fisheries Service.

Impacts to SRKW from stormwater can result from biomagnification and bioaccumulation of pollutants. Persistent Organic Pollutants, called POPs, are synthetic man-made chemicals that are particularly concerning in biomagnification and bioaccumulation. To better understand bioaccumulation, it is important to look at the start of the food web. Smaller organisms absorb POPs over time and the POPs accumulate within the organism's tissue. As larger organisms consume the smaller ones, the concentration of POPs increases in each organism as it moves up the trophic food levels from zooplankton to fish to apex predators. This is called biomagnification.

Since SRKWs are an apex predator at the top of the food chain, they are heavily impacted by these two processes. Research has identified high levels of PCBs in the blubber of orcas and evidence of mothers passing contaminants to their young through the mother's milk. PCBs can impair reproduction, and the endocrine and immune systems, making SRKWs more susceptible to disease or infection from injuries (Desforges et al., 2018; NMFS 2016).

By following MSGP and MS4 permit requirements and properly maintaining stormwater BMPs we can work together to help protect these beautiful whales.

References

Desforges, J.P., A. Hall, B. McConnell, A. Rosing-Asvid, J.L. Barber, A. Brownlow, S. De Guise, I. Eulaers, P.I.D. Jepson, R.J. Letcher, R.J. Letcher, M. Levin, P.S. Ross, F. Samarra, G. Vikingson, C. Sonne, and R. Dietz. 2018. Predicting global killer whale population collapse from PCB pollution. *Science*. 361, 6409.1373-1376.

National Marine Fisheries Service. 2016. Exposure to a Mixture of Toxic Chemicals: Implications for the Health of Endangered Southern Resident Killer Whales. NOAA Technical Memorandum NMFS-NWFSC-135. 118 pp.

<https://cimioutdoored.org/bioaccumulation-and-biomagnification-increasingly-concentrated-problems/>

Bioaccumulation

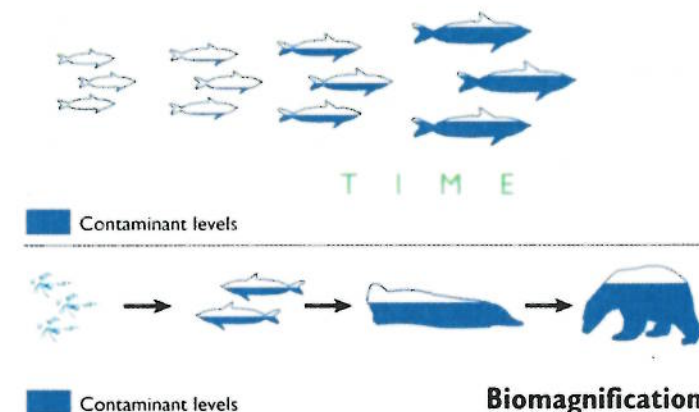


Photo credit and reference: <https://cimioutdoored.org/bioaccumulation-and-biomagnification-increasingly-concentrated-problems/>

Biomagnification

In This Edition...
Pg. 1 Stormwater Impacts

March 2022
Pg. 2 . Good Job Ben! & MS4 Education Materials

Volume 3, Issue 1
Pg. 3. Stormwater infographic

Quarterly
Pg 4. Drinking Water

NSE Environmental Staff

Environmental Office: [REDACTED]

Program	Phone
Spills	[REDACTED]
Natural Resources	[REDACTED]
Stormwater, Wastewater, & UST/AST	[REDACTED]
Air & Drinking Water	[REDACTED]
Recycling	[REDACTED]
Hazardous Waste	[REDACTED]

Great Job Ben!

Thank you to Ben [REDACTED] from Facilities for replacing the trench drain filter on Pier B and the South wharf. Having a removable filter greatly aids in the clean out of the trench drain and helps prevent trash from reaching the outfall.



Filter collecting trash



Trench drain after filter, all clean!

MS4 Education Materials

A large part of our MS4 Stormwater Permit is public outreach and education. As we move into nicer weather, you will notice some outdoor stormwater signage and indoor postings around the base which is meant to educate and remind base personnel of the Navy's commitment to stormwater compliance. The intent is to provide positive reinforcement as well as provide our contact information for reporting spills. Our program has both the pictured magnets available for posting on refrigerators in your command. I plan on passing them out to EWCCs, but if a command representative would like to come by and pick some up, please let me know so I can arrange a time to meet you. Please help us keep these magnets attached to refrigerators and postings posted. EWCCs are our conduit to the tenant commands on base, and your support of our environmental programs goes a long way in ensuring your command's understanding and compliance. If you need additional magnets or replacements, please let us know.

Prevent Water Pollution

Preventing, leaking or discarding any substance other than rainwater into stormwater system **degrades** our water resources.

Pollutants dumped onto our streets or in our storm drains do not go to a sewage treatment plant to be cleaned. Instead, these pollutants are discharged directly into the storm system which flows into our natural waterways.

If you witness a potential spill or an illegal dumping into a storm drain, the street, a ditch, or a water body, **REPORT IT!**

Naval Station Everett
To report spills call
(425)210-8391

ONLY RAIN DOWN THE DRAIN!



STORMWATER

What is Stormwater Pollution?

When rain hits concrete and asphalt, it cannot absorb and filter through the ecosystem as nature intended. Instead, it runs along these impervious surfaces and flows into drains and creeks, picking up any contaminants along the way. This pollutes waterways, damages vegetation and wildlife, and even contaminate drinking water.

Naval Station Everett areas are subject to the Clean Water Act. Together, we can help keep the Puget Sound Clean.



A Washington State University study showed that salmon die within hours of exposure to stormwater pollution. This is the cause for up to a third of salmon deaths in the Puget Sound.

What causes it?



SPILLAGE OF OIL, FUEL, AND ANTIFREEZE. Perform vehicle maintenance in a garage or under cover, and always use a drip pan. Pick up any spills with absorbent material like rags or kitty litter. Every drop counts.



CIGARETTE BUTTS AND TRASH. Rain picks up harmful bacteria and toxic metals from trash. Especially harmful to the environment are cigarette butts, which contain metals toxic to aquatic organisms.



PET WASTE. Poop left outside takes a very long time to decompose. It spreads parasites and bacteria that are not only harmful to the ecosystem, but also to humans and other pets. Always pick up after your dog.



PESTICIDES AND FERTILIZERS. Apply these chemicals sparingly, and in the proper method. Excess fertilizer and pesticides create runoff into waterways and can even leach into soil and groundwater.



SEDIMENT AND EROSION. Excess sediment harms aquatic organisms and reduces oxygen levels in the water. Cover dirt piles with a tarp. Never hose off any impervious surfaces without permission from Public Works.



The local orca pods thrive off salmon as their primary food source. If salmon populations do not improve, the Puget Sound orcas will go extinct.



Please do not wash your cars in your driveway! Take your car to a commercial carwash. This way the sediment, oil, and metals on your vehicle wash into a filtered recycled system.



NO DUMPING

DRAINS TO SOUND

Drinking Water Testing for PER-and Polyfluoroalkyl Substances

The 2020 Assistant Secretary of Defense policy requires the Navy to monitor for the potential presence of Per- and Polyfluoroalkyl substances (PFAS) within each installation's drinking water system where DoD is not the water purveyor. This is due to the fact that two specific PFAS compounds, Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA), have been assigned a Lifetime Health Advisory (LHA) limit of 70 parts per trillion (ppt) by the EPA.

Between 2014 and 2016, the Navy and/or the water suppliers conducted PFOS and PFOA sampling in drinking water serving the NRNW facilities and results were below detection limits (non-detectable). Due to the amount of time that has passed since that sampling occurred, changes in lab protocols, and lack of more recent data from water suppliers, the Navy is currently conducting additional sampling. For Naval Station Everett, the sampling was completed in 2021 and the results are posted here (URL below).

<https://www.cnic.navy.mil/content/dam/cnic/cnrnw/pdfs/NSE%20News/NSE%20PFAS%20Table.pdf>

https://www.cnic.navy.mil/regions/cnrnw/installations/ns_everett/om/naval-station-everett-environmental-policy/DrinkingWaterTesting.html

A few other recent links to learn more about PFAS (forever chemicals) are listed below.

<https://www.cnet.com/home/security/what-are-pfas-the-risks-of-forever-chemicals-in-your-home-and-what-you-can-do/>

[Toxic firefighting foam: Newly obtained emails show military knew about the risk for years | KHGI \(nebraska.tv\)](#)

If you have any questions, please contact the Drinking Water Program Manager.

Outreach Summary					
Date	Outreach Item	Topics Covered	Audience(s)	Distribution Method and # of personnel	Additional Information
Quarterly	Environmental Insights Newsletter	MS4/MSGP general awareness, BMPs, and stormwater concerns; Recycling; Hazardous Waste, Spill Response; Air, and Natural Resource Program	EWCCs and their leadership	Distributed electronically to 100 base personnel	
Jan-22	Navy Lodge at Smokey Point Pet Waste Discussion	General stormwater awareness of MS4 permit, Stormwater MS4 Infographic for educating visitors to pick up their pet's waste.	Navy Lodge visitors	Reviewed at Check in	
Mar-22	Stormwater Educational Display at the NEX at Smokey Point	Stormwater awareness and reminder of policy stating no vehicle maintenance/ car washing is allowed on base. Also provided education on Southern Resident Killer Whales	Personnel visiting the Navy Exchange	Display at Entrance	

Training Summary					
Date	Training	Topics Covered	Audience(s)	Training Method and # of personnel	Additional Information
Held Quarterly. Required Annually	EWCC Training	Stormwater awareness, regulatory and permit background, potential ecological impacts of stormwater runoff, proper BMPs usage and maintenance, allowable and prohibited discharges, key elements of the industrial stormwater program, common sources of stormwater pollution, and spill response. Also covers updates to the Air, Hazardous Waste, Spill, AST/UST, SPCC, and Natural Resource Programs	Civilian and Military workers	In person training, approximately 50 personnel per year	This has been a requirement under EMS for a number of years. It is a well established and tracked program
Annually	Hazardous Substance Incident Response Management (HSIRM)	Knowledge and skills necessary to respond safely and effectively to releases of, or substantial threats of releases of, hazardous substances, in compliance with applicable federal, state, and UNS environmental regulations and instructions.	Environmental personnel, Operations personnel and some EWCCs	Contractor from HAZTRAIN provides training in person	Fulfills training requirement established by regulations delineated in 29 CFR 1910.120(g) and 29 CFR 1910.120(p)(7)(f)
Assigned to key personnel in 2022	MS4 Video	General Stormwater Education as it pertains to the MS4		Virtual ECATTS	
Assigned to key personnel in 2022	Sediment and Stormwater Construction Training	Introduction to laws and regulations, environmental impacts of soil erosion, principals of erosion and sedimentation, vegetative stabilization, principals of stormwater runoff, construction site pollution prevention, sediment and stormwater plans.	Civilian and Military workers associated with construction; and construction contractors	Virtual ECATTS	
Assigned to key personnel in 2022	Stormwater-- Comprehensive Overview: Washington	General stormwater awareness, sources of pollution, laws and regulations, MS4 permits, environmental impacts of stormwater, controlling sediments and erosion control on construction sites, point and non-point source pollution sources, BMPs, LID, managing stormwater in industrial areas, and cross connections.	Civilian, Military and Contractors	Virtual ECATTS	
Assigned to key personnel in 2022	Stormwater-- Basic Information: Washington	General stormwater awareness, sources of pollution, laws and regulations, environmental impacts of stormwater, controlling sediments, point and non-point source pollution sources, BMPs, managing stormwater in industrial areas, and cross connections.	Civilian, Military and Contractors	Virtual ECATTS	
Assigned to key personnel in 2022	Certified Stormwater Inspection Course	HDDE Awareness, stormwater inspections	Stormwater Program Manager	Virtual or in person	
Mar-21	Construction Training	The training topics presented included stormwater awareness, introduction to the MS4 permit, the SWMP (what had been developed at the time), MS4 permit requirements, the Stormwater Management Manual for Western Washington, a refresher information about the Construction General Permit, and construction BMPs.	Design and Construction Personnel and FEAD	Virtual, 25 attended training, presentation was distributed to a total of 50 personnel in the NW Region	
Jan-22	Construction Training		FEAD Construction Managers	In person classroom training.	
Jan-22	Impacts of Stormwater on Southern Resident Killer Whales	The training covered SRKW monitoring and mitigation strategies, their status under the Endangered Species Act, habitat, prey, chemical threats such as PCP, PCB, DDT, PBDEs, persistent organic pollutants, bioaccumulation of chemicals, and the decline of chinook and Coho salmon due to poor stormwater quality.	MS4 program managers, other personnel that influence the quality of stormwater discharges	Virtual training hosted by NOAA	

Appendix C
MS4 Annual Report
Year 1

Naval Station Everett Early Action Projects Plan February 2022



Prepared by



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Silverdale, WA 98315-1101

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Naval Station Everett Early Action Projects Plan February 2022



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Prepared By

IUTZI- KUBISTA.NICOLE.M.151401675 1	Digitally signed by IUTZI- KUBISTA.NICOLE.M.151401675 Date: 2022.03.11 17:56:26 -08'00'
(Signature)	(Date)

Name: Nicole Iutzi-Kubista
Title: Environmental Engineer, P.E
Organization: NAVFAC Northwest
Address: 1101 Tautog Circle
Silverdale, WA 98315-1199

Executive Summary

In 2021 the Environmental Protection Agency issued a National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Separate Storm Sewer System (MS4) permit to Naval Station Everett. The MS4 permit covers Naval Station Everett and Naval Support Complex Smokey Point. Section 2.4.4 of the MS4 permit requires a list of Early Action Projects (EAPs) to be identified no later than the reporting deadline for year one of the permit, no later than March 31, 2022. This document lists the EAPs to be implemented within the permit term, by February 1, 2026. Due to the shortened length of time for project implementation, the projects are mainly maintenance or operational in nature.

Table of Contents

1	Introduction	1
2	Regulatory Authority	1
3	Data Evaluation	1
3.1	Relevant Monitoring data.....	1
3.2	Land Use and Activity Data.....	2
3.3	Designated Uses and Impairments	3
3.3.1	Fresh Waters	3
3.3.2	Marine Waters.....	3
3.3.2.1	Snohomish River Watershed.....	3
3.3.2.2	Hayho Creek/Quilceda Creek.....	3
3.4	Naval Station Everett Monitoring Data.....	4
4	Early Action Projects	6
4.1	Sampling Summary	6
4.2	MSGP Corrective Actions.....	7
4.3	Operational Projects.....	7
4.4	Maintenance Projects	8
4.5	Structural Projects	8
5	Conclusion	8
6	References.....	10
7	Appendix A.....	12

APPENDICES

Appendix A – EAP Sampling Report.....12

List of Tables

Table 3.1 Sources of data..... 2
Table 3.2 Designated uses for Marine Waters..... 3
Table 3.3 Potential pollutants from Table 2.4.4 from the MS4 permit and potential sources.....4

List of Acronyms

BMP.....Best Management Practices
DMR.....Discharge Monitoring Report
DO.....Dissolved Oxygen
EAP.....Early Action Project
EPA.....Environmental Protection Agency
MS4.....Municipal Separate Storm Sewer System
MSGP.....Multi-Sector General Permit
NPDES.....National Pollutant Discharge Elimination System
NAVSTA EVERETT.....Naval Station Everett
OWS.....Oil/water interceptors
PAH.....Polycyclic Aromatic Hydrocarbon
SAM.....Stormwater Action Monitoring
SIIP.....Stormwater Infrastructure Investment Plan

1 Introduction

This plan serves as the list of EAPs required by section 2.4.4 of the MS4 Permit and submitted with the first annual report for Naval Station Everett (NAVSTA Everett). The EAPs are required to be completed within the permit term by February 1, 2026.

2 Regulatory Authority

The MS4 permit section 2.4.4 requires a list of EAPs to be identified no later than the reporting deadline for year one of the permit, no later than March 31, 2022. Within section 2.4.4 requirements are established for EAPs and the Stormwater Infrastructure Investment Plan (SIIP) which is referred to as the plan and written plan.

Permittee must implement the EAPs identified during the first year of the permit. The Permittee may satisfy this requirement in connection with corrective action project(s) required by compliance with the Multi-Sector General Permit (MSGP), if appropriate. Due to a shortened timeframe of implementation for EAPs, the balance of EAPs may consist of operational or maintenance activities rather than projects that require design and construction stages or major capital improvements.

3 Data Evaluation

The goal of the EAPs is to prioritize reduction and elimination of pollutants of concern listed in Table 2.4.4 of the MS4 permit and complete actions to address the pollutants of concern. A data review was completed to determine potential pollutants of concern followed by the EAP sampling effort completed in September 2021. Following the EAP sampling effort, a report of the findings was completed and is included in Appendix A of this report.

3.1 Relevant Monitoring data

Monitoring data and recommendations from basin plans were reviewed from the following sources:

- Washington Department of Ecology;
- Puget Sound Stormwater Action Monitoring (SAM) program;
- Tribal, County, or other neighboring MS4 jurisdictions; and
- Basin Plan and/or the most recent Watershed Action Plans for the Puget Sound/Snohomish River.

Table 3.1 below summarizes sources of data reviewed to gather information regarding potential pollutants of concern, and other potential concerning pollutants, if applicable.

Source	Plan/Report Title	Link to site
SAM Program	Effectiveness Studies	https://ecology.wa.gov/Regulations-Permits/Reporting-requirements/Stormwater-monitoring/Stormwater-Action-Monitoring/SAM-effectiveness-studies
SAM Program	Status and Trends	https://ecology.wa.gov/Regulations-Permits/Reporting-requirements/Stormwater-monitoring/Stormwater-Action-Monitoring/SAM-status-and-trends
US Geological Survey	Puget Sound National Water Quality Assessment Program	https://www.usgs.gov/centers/wa-water/science/puget-sound-basin-nawqa?qt-science_center_objects=0#qt-science_center_objects
Snohomish County Surface Water Management	Snohomish Basin Protection Plan	https://snohomishcountywa.gov/Archive/ViewFile/Item/4402
Puget Sound Partnership	Watershed Recovery Chapter	https://www.psp.wa.gov/salmon-recovery-watersheds.php
Washington Department of Ecology	Western Washington NPDES Phase I Stormwater permit	https://apps.ecology.wa.gov/publications/documents/1503001.pdf

Table 3.1. Sources of data

Everett does not have a basin plan for the area surrounding NAVSTA Everett, it is considered as part of the combined sewer, as noted in Volume 4 of <https://everettwa.gov/DocumentCenter/View/12630/SWCP-Vol-4-Snohomish-River-Watershed-Plan-PDF>.

3.2 Land Use and Activity Data

NAVSTA Everett is considered an industrial area and Smokey Point has commercial areas where the commissary, exchange, large vehicle storage and Navy Lodge are located. Naval Support Complex Smokey Point does not have any industrial areas covered under the MSGP.

NAVSTA Everett is divided into four major drainage areas. A network of catch basins and storm sewer lines collect and convey stormwater to one of four oil/water interceptors (OWS), which then discharge to one of four outfalls, A, B, C and D. At a few locations, sheet flow discharges directly to receiving waters. The notable areas where stormwater is not collected and treated by an OWS are piers D and E. Besides structural best

management practices (BMPs), several non-structural BMPs are in place at NAVSTA Everett. Based upon the findings of the non-stormwater discharge investigation, no improper plumbing connections that would introduce wastewater into the storm sewer are believed to exist at NAVSTA Everett. Non-Stormwater Discharge Evaluations were conducted in 1995, 2006, and again in 2015.

3.3 Designated Uses and Impairments

3.3.1 Fresh Waters

At Naval Support Complex Smokey Point, Quilceda Creek is protected for Salmonid spawning, rearing and migration; primary contact recreation; water supply uses (domestic, industrial, agricultural, stock); and miscellaneous uses (wildlife habitat, harvesting, commerce/navigation, boating, aesthetics).

At NAVSTA Everett, the Snohomish River is protected for Salmonid spawning, rearing and migration; primary contact recreation; water supply uses (domestic, industrial, agricultural, stock) and miscellaneous uses (wildlife habitat, harvesting, commerce/navigation, boating, aesthetics).

3.3.2 Marine Waters

Table 3.2 summarizes the designated uses for marine water around Naval Station Everett.

Use Designations for Marine Waters	Aquatic Life Uses				Shellfish Harvest	Rec. Uses		Misc. Uses				
	Extraordinary	Excellent	Good	Fair		Primary Contact	Secondary Contact	Wildlife Habitat	Harvesting	Commerce/Navigation	Boating	Aesthetics
Puget Sound	X				X	X		X	X	X	X	X

Table 3.2 Designated uses for Marine Waters

3.3.2.1 Snohomish River Watershed

Port Gardner and Inner Harbor Everett are impaired for sediment, dissolved oxygen (DO), bacteria, ammonia and temperature. Ecology classifies the waters surrounding NAVSTA Everett as Category 2 (Waters of Concern) for fecal coliform and DO (Washington Department of Ecology, 2012). Water quality and sediments of East Waterway have historically been of concern primarily due to past industrial discharges.

3.3.2.2 Hayho Creek/Quilceda Creek

While there are no water quality issues listed for Hayho Creek, the two predominant water quality issues in Quilceda Creek are dissolved oxygen and bacteria. Fecal coliform, low dissolved oxygen, and elevated stream temperatures were identified in the West Fork Quilceda, Middle Fork, and mainstem Quilceda. High levels of nutrients were identified overall in the Quilceda watershed. Nutrient levels were often associated with algal production and contributed to low dissolved oxygen levels. Water samples from a multi-year monitoring site at the confluence of Hayho Creek with the mainstem had elevated

fecal coliform and low dissolved oxygen, while stream temperature, turbidity, and pH were typically in an acceptable range.

3.4 Naval Station Everett Monitoring Data

Historical monitoring data was evaluated from the MSGP and Installation Restoration Program efforts. This data was evaluated to determine analytes for analysis during the EAP sampling effort in September 2021. Table 3.3 below, lists the potential pollutants based on Table 2.4.4 from the MS4 permit and a summary of possible sources.

Pollutants of Concern	
Parameter	Possible Sources
Magnesium	Magnesium salts and compounds and natural sources. (Teravskis, 2017)
Zinc	Moss control products, building siding, parking lots, vehicle tire wear, chain-link fence, roofing material, vehicle brake wear (WDOE, 2017), galvanized metals, wood preservatives (City of Pacific Grove, n.d) and industrial sources.
Copper	Vehicle brake wear, roofing materials, parking lots, treatment lumber, building siding, vehicle exhaust (WDOE, 2017) and industrial sources.
Lead	Lead-based paints, leaded gasoline, mining, and soils contaminated with lead (Jones-Lee & Lee, 2000)
Pyrene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Bis(2-ethylhexyl) phthalate	Production of PVC and vinyl chloride resins (added to plastics to make them flexible) (EPA, 2000)
Fluoranthene	Polycyclic Aromatic Hydrocarbon (PAH) –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Cadmium	Vehicle use and wear, brake wear (McKenzie et al., 2009) and industrial sources.
Butyl benzyl phthalate	Commonly used plasticizer found in a variety of consumer products (Carlson, 2010), plasticized PVC, motor vehicle components, paints or other coatings, caulks and sealants (Dale & Trim, 2017).
Benzo(b,k)fluoranthene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Chrysene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Phenanthrene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Dichlobenil	Used as an herbicide. (NCAP, 1997)

Pollutants of Concern	
Parameter	Possible Sources
Benzo(g,h,i)perylene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Benzo(b)fluoranthene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Benzo(k)fluoranthene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Naphthalene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Benz(a)anthracene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Diethyl phthalate	Commonly used plasticizer found in a variety of consumer products (Carlson, 2010), plasticized PVC, motor vehicle components, paints or other coatings, caulks and sealants (Dale & Trim, 2017)
Pentachlorophenol	Used as an insecticide, fungicide, and slimicide (Pohanish, 2015) and in wood preservation (Cheremisinoff & Rosenfield, 2010).
Benzo(a)pyrene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Indeno(1,2,3-cd)pyrene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
2-Methylnaphthalene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Fluorene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Acenaphthene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Mercury	Atmospheric deposition (City of Pacific Grove, n.d)
Dibenzo(a,h)anthracene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-

Pollutants of Concern	
Parameter	Possible Sources
	based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
1-Methylnaphthalene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Anthracene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Acenaphthylene	PAH –non-point sources including leaking motor oil, tire particles, incomplete combustion of fuel within engines – especially diesel-based, and crumbling asphalt. Natural sources include forest fires. (Crane et al., 2010)
Di-N-Octyl Phthalate	Commonly used plasticizer found in a variety of consumer products (Carlson, 2010), plasticized PVC, motor vehicle components, paints or other coatings, caulks and sealants (Dale & Trim, 2017)
Dibenzofuran	Combustion process (EPA, 2016)

Table 3.3 Potential pollutants from Table 2.4.4 from the MS4 permit and potential sources.

Another source of information used to evaluate stormwater quality was the historic Discharge Monitoring Reports (DMRs) and monitoring efforts completed through the MSGP. Further identification of potential pollutants of concern were discussed with the Navy’s Installation Restoration team.

4 Early Action Projects

The projects listed in the following sections are anticipated actions to occur over the MS4 permit term. Operational changes within the Department of the Navy could alter the ability for any project listed below to occur. This includes the timeframe, scope, and overall ability for the project to occur.

4.1 Sampling Summary

In 2021 a regional effort to investigate potential pollutants of concern as identified in the MS4 permit, pollutants identified by Table 3.3 in Section 3 of this report, was planned and completed. Historical, current activities, and land use data was also considered during the evaluation of potential stormwater pollutants. This large sampling analysis is one of the first EAPs which sets the foundation for determining future projects and focus efforts for the SIIP.

The purpose of sampling was to determine the risk of potential pollutants at NAVSTA Everett and Smokey Point. If concerning levels of pollutants are identified further investigations will be completed to evaluate potential sources and opportunities for reduction or elimination.

Sampling points were identified on the installation to provide a best representative sampling. The sampling occurred in September 2021 during a rain event after the summer dry period. Appendix A contains the *Early Action Project Sampling Results Report* for full results from this sampling effort.

4.2 MSGP Corrective Actions

Corrective actions resulting from requirements of the MSGP are reported in the MSGP Annual Report which is due in January. These actions may include operational, maintenance, or structural changes and should be considered as EAPs required by the MS4 permit. Examples of MSGP corrective actions include more robust inspections to address housekeeping concerns, covering materials to protect from being weathered, and addressing maintenance on stormwater infrastructure. Corrective actions completed are documented in the Annual MSGP Report.

4.3 Operational Projects

A general operational change currently underway is the enhanced review of construction project designs and inclusion of stormwater management. Previously, designs would occasionally be reviewed by stormwater managers and all plans would be reviewed by the environmental office before construction started. The new process requires the inclusion of stormwater managers early on in the design phase in order to ensure improved stormwater management during the construction phase. Early involvement by Stormwater managers will also enhance overall stormwater compliance by ensuring the documented and programmed long term plans regarding stormwater treatment and flow control are discussed and adopted. This change requires many internal agencies cooperation, continuous revisions to the current process, and robust training efforts.

Currently, an 18 month contract is being executed to update maps of stormwater infrastructure and permanent stormwater facilities. This effort will aid in the completion of inspections and maintenance efforts by having an accurate list of stormwater infrastructure locations.

At NAVSTA Everett, a robust street sweeping effort is already underway. However, the pile where the collected street sweeping debris is kept until it is hauled offsite has been cause for concern. The location where the debris is stored is located outdoors and is covered by a tarp. To address potential pollution from the accumulated debris pile, a specialized sock has been placed around nearby storm drains and will be replaced per manufacturer recommendations. Additionally, monitoring of any stormwater flow is planned to evaluate potential pollutants from the pile. This operational change is being completed by the Naval Station Everett Public Works department. Monitoring efforts will be evaluated and if necessary, a structural solution may be required to address any potential pollution runoff.

At Smokey Point, pet waste management is being operationally enhanced. The Navy Lodge onsite allows pets and has a pet waste bag station for patrons with pets. Although pet waste management is not a requirement of the MS4 permit, additional signage and a waste station will be placed on the site to encourage pet owners to be more responsible in cleaning up after their pets. Additionally, pet owners will be asked to sign paperwork at check in acknowledging the requirement. This is also an opportunity to educate service

members and help them understand why pet waste management is an important part of pollution prevention and stormwater quality.

4.4 Maintenance Projects

At NAVSTA Everett the Alpha and Bravo Piers and South Warf have approximately 2,985 square feet in of trench drains. Currently, the trench drains are cleaned at an infrequent interval and sediment testing from the drains has shown elevated levels of copper and zinc. Previous stormwater sampling has proven that after the trench drains are cleaned, the copper and zinc levels return to a level below the MSGP benchmark. A more robust continuous maintenance program to address trench drain cleaning will be implemented to help keep copper and zinc levels reduced. Furthermore, per the MS4 Permit, catch basin inspection and cleaning will be completed at NAVSTA Everett and Smokey Point. This includes approximately 350 catch basins at NAVSTA Everett and 65 catch basins at Smokey Point Complex.

At Smokey Point, a pond maintenance study is underway in partnership with the Snohomish Conservation District. The study will evaluate the current status of the stormwater ponds at Smokey Point and provide recommendations for changes to improve water quality. Recommendations from the study will steer future pond maintenance to best prevent stormwater pollution and lessen water quality impacts on receiving waters.

Additionally, at both NAVSTA Everett and Smokey Point, utility vaults have been sampled in preparation for planned and unplanned maintenance activities. Maintenance staff completing utility vault work have been trained on the importance of stormwater management and the need for protecting water quality.

4.5 Structural Projects

Both copper and zinc are known concerns at NAVSTA Everett based on MSGP sampling data. To help address the high copper levels, oyster shells were installed at three locations inside the trench drain on Pier Bravo and the South Wharf based on the study completed by the SAM network (reference). Oysters shells placed in the trench drains in 2019 successfully aided in the reduction of zinc and copper in stormwater discharges for approximately six months. The oysters will be replaced or other options will be utilized to evaluate the effectiveness of different medias to reduce metals in stormwater discharges.

5 Conclusion

The EAP sampling effort in September 2021 was the start of determining which potential pollutants of concern need to be addressed. The results from the study will help drive structural projects in the future, as applicable, and shape the SIIP. Sample results flagged and highlighted in Appendix A will be further investigated. Results from the study may result in further EAPs. Additionally, corrective actions taken as a result of the MSGP should also be considered as EAPs and may be identified at a later date.

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7 Appendix A

Appendix C
MS4 Annual Report
Year 1

MS4 Early Action Projects Sampling Results February 2022



Naval Station Everett

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Appendix C
MS4 Annual Report
Year 1

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MS4 Annual Report
Year 1

MS4 Early Action Projects Sampling Results February 2022



Naval Station Everett

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MS4 Annual Report
Year 1

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Table of Contents

1	Introduction	1
2	Sampling Procedure.....	1
2.1	Sample Locations.....	1
2.2	Receiving Water Bodies.....	2
2.3	Sample Procedure.....	3
2.4	EPA Analytical Method	3
3	Results.....	3
3.1	Data Analysis Procedure	3
3.1.1	Regulatory Guidance	3
3.1.2	Data Analysis Method.....	3
3.2	Findings.....	3
3.2.1	Naval Station Everett	3
4	References.....	7
5	Appendix A.....	8

List of Tables

Table 2-1	EAP Sampling Locations	2
Table 2-2	Receiving Water Bodies	3
Table 3-1	Pollutants of Concern - NAVSTA Everett	6
Table 3-2	Pollutants of Concern - NSC Smokey Point.....	7

List of Appendices

Appendix A:	EAP Sampling Results.....	9
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List of Acronyms and Abbreviations

(A)	Acute
AOR	Area of Responsibility
EAP	Early Action Project
EPA	Environmental Protection Agency
(FW)	Freshwater
IC-ID	Illicit Connection and Illicit Discharge
ISGP	Industrial Sector General Permit
MSGP	Multi-Sector General Permit
MS4	Municipal Separate Storm Sewer Systems
N/A	Not Applicable
NAVFAC NW	Naval Facilities Engineering Command Northwest
NAVSTA	Naval Station
NSC	Naval Support Complex
SAPP	Sample and Analysis Project Plan
(SW)	Saltwater
TKN	Total Kjeldahl Nitrogen
ug/L	Microgram per liter
WAC	Washington Administrative Code

**Key terms used in this report defined on next page.*

Key Terms Definitions:

Acute Health Issue	Severe and sudden health issue in onset.
Analytes	A substance whose chemical constituents were identified and measured by a laboratory and referred to as contaminant of concern for parameters monitored under MS4 Clean Water Act (CWA) regulation or priority pollutant under EPA Water Quality Criteria.
Chronic Health Issue	Health issue develops and worsens over extended time.
Benchmark (MSGP)	Refers to benchmark thresholds issued under the MSGP.
Criteria (EPA)	Refers to EPA's Water Quality Criteria – Aquatic Life Criteria Table. For this report, Washington State Freshwater and Marine Water "criteria" are referred to as "standards" (see below).
Outfall (EPA)	A point source as defined by 40 CFR 122.2 at the point where a MS4 discharges to waters of the U.S. and does not include open conveyances connecting two municipal separate storm sewers, or

Appendix C
 MS4 Annual Report
 Year 1

	pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the U.S. and are used to convey waters of the U.S..
MS4 (EPA)	A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the U.S. (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works as defined at 40 CFR 122.2.
MSGP (EPA)	Authorizes the discharge of stormwater from industrial facilities.
Pollutant of Concern (EPA)	Any pollutant that has been identified as a cause of impairment in any waterbody to which the MS4 discharges as defined in the MS4 Permit Section 2.4, Table 2.4.4.
Standard (refers to WAC 173-201A water quality criteria)	WAC 173-201A, Washington State Water Quality "Standards" for Surface Water; refers to Freshwater and Marine Water criteria, which should not be confused with EPA Water Quality "Criteria". For freshwater water quality criteria broken down by type of habitats. For marine water quality criteria broken down into fair, good, excellent and extraordinary.

1 Introduction

The purpose of this report is to describe the Early Action Project (EAP) sample procedures and report the laboratory analytical results for Naval Station (NAVSTA) Everett. Nine Navy installations in the Pacific Northwest were included in this regional project and this report covers NAVSTA Everett and Naval Support Complex (NSC) Smokey Point. The purpose of the EAP sampling was to evaluate and identify the current state of stormwater discharges covered under the Municipal Separate Storm Sewer System (MS4) permit in order to identify and prioritize actions to promote storm water quality. Water quality results are compared to the 2021 Multi-Sector General Permit (MSGP) benchmarks, Washington Administrative Code (WAC) 173-201A Water Quality Standards for Surface Waters of the State of Washington, the Illicit Connection and Illicit Control (IC-ID) Field Screening and Source Tracing Guidance Manual (May 2020 Revision) recommended thresholds for further investigation, and Environmental Protection Agency (EPA) Recommended Water Quality Criteria. Once sample results were obtained from the respective labs, the data was analyzed in relationship to the Federal and State of Washington stormwater regulatory framework.

2 Sampling Procedure

This section lists sample locations and describes the sampling procedures for the EAP project. A list of downstream waterbodies is also included.

2.1 Sample Locations

The various Navy-owned installations in the area of responsibility (AOR) of Naval Facilities Engineering Systems Command Northwest (NAVFAC NW) were sampled to obtain a perspective of stormwater discharges. Installations included in this study are within Snohomish County which include NAVSTA Everett and NSC Smokey Point. Sample locations on each installation were specifically chosen to be representative of stormwater discharge quality. Table 2-1 is a lists of EAP sampling locations by installation.

Table 2-1. EAP Sampling Locations

	Installation	Sample Location	Description
Naval Station Everett	Naval Station Everett	Outfall A	Monitored under MSGP
		Outfall B	Monitored under MSGP
		Outfall C	Monitored under MSGP
		Outfall D	Monitored under MSGP
	Naval Support Complex Smokey Point	Large Pond	East of gas station
		Trench (Bridge)	From middle bridge
		Small Pond	
		Creek	Conjunction of trench

2.2 Receiving Water Bodies

Stormwater benchmarks in the MSGP, surface water quality standards in WAC 173-201A, recommended thresholds from the IC-ID manual, and other documents were used for the analysis and are dependent upon the downstream waterbodies. Benchmarks and standards will vary significantly depending if the outfall flows into freshwater or saltwater. Table 2.2 below is a list of receiving waterbodies by installation.

Although NAVSTA Everett has initial flows into the Snohomish River, the water has been deemed to be brackish. Therefore, saltwater benchmarks were prioritized during the analysis for NAVSTA Everett. For those installations with outfalls that flow into both freshwater and saltwater bodies, both benchmarks were compared.

Table 2-2. Receiving Water Bodies

	Installation	Water Body	Freshwater or Saltwater
Naval Station Everett	Naval Station Everett	Snohomish River → Port Garner and Possession Sound	Freshwater → Saltwater
	NSC Smokey Point	Hayho Creek → Quilceda Creek → Possession Sound	Freshwater → Saltwater

Appendix C
MS4 Annual Report
Year 1

2.3 Sample Procedure

Due to the extreme dry weather in the summer of 2021, samples were delayed until the first significant rainfall event near the end of the dry summer. Due to the timing of these sampling events, all analytes were expected to be above typical values. Additional samples will be collected in 2022 for any water quality results above Washington State surface water standards or the MSGP benchmarks.

The complete sampling procedure is defined in the Sampling and Analysis Project Plan (SAPP) for MS4 Early Action Projects. Included in the SAPP is the Quality Assurance Project Plan as well as the Standard Operating Procedures. Sampling was conducted by NAVFAC NW employees in September 2021. Appendix A contains information regarding the date of sampling and who the samples were collected by. Samples were packaged and shipped via FedEx to Pace Analytical, Spectra Laboratories, and Edge Analytical.

2.4 EPA Analytical Method

Samples were tested through EPA's standard methods using Washington State certified labs under the Department of Ecology. EPA's standard methods establish laboratory analytical methods for measuring and analyzing pollutants. Appendix A contains a list all the analytes tested and respective analytical method.

3 Results

This section defines the process of the data analysis and the findings from stormwater discharges for the two Navy installations. The findings mainly focus on any lab results that are above Washington State's surface water standards and the MSGP benchmarks.

3.1 Data Analysis Procedure

3.2 Findings

This section provides a brief description of laboratory water quality results by analyte compared to MSGP benchmarks, Washington State's surface water quality standards in WAC 173-201A and the IC-ID recommended thresholds. Not all the sampling locations fall within MSGP coverage areas; however, the MSGP was used as a means to evaluate the results from this sampling effort. For a complete list of analytes tested, and standard and benchmark values, refer to Appendix A. It is important to note that some metals were tested in their dissolved state as well as their total amount which determines how they compare to the benchmarks or standards as displayed in Appendix A.

3.2.1 NAVSTA Everett

Appendix C
MS4 Annual Report
Year 1

All four stormwater outfalls at NAVSTA Everett were included in the EAP sampling. All outfalls on NAVSTA Everett saw concentrations of total copper, dissolved copper, and fecal coliform above MSGP benchmarks and WAC 173-201A surface water standards, as identified in Table 3-8 below. Important to note that all samples were collected during the first qualifying rain event after a very dry summer and results were expected to be high due to the accumulation of pollutants such as metals over the course of the summer. The EPA, through the MSPG analytical reporting requirement, are aware that Outfall A is usually above the benchmark for copper. For Outfalls A, B and C, past monthly results for zinc were normally below the MSGP benchmark. Outfall B and C were also usually below the benchmark for copper as well. Past MSGP copper and zinc analytical results for Outfalls A, B and C can be found in the EPA's online NetDMR system. The additional monthly samples were assigned by the EPA in conjunction with National Marine Fisheries Services which stated the concentration of total copper should not be above 14 ug/L and 117 ug/L for total zinc. In addition to the copper and fecal coliform, outfall A and outfall B had concentrations of nitrate and total zinc above above MSGP benchmarks and WAC 173-201A surface water quality standards. Outfall B also displayed a concentration of dissolved zinc above WAC 173-201A surface water quality standards. It should be noted that during lab analysis, the total copper from outfall B failed either the serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference and invalidate the lab result. This result from the total copper is still included in Table 3-9 but noted of its invalidation.

Appendix C
MS4 Annual Report
Year 1

Table 3-1. Pollutants of Concern – NAVSTA Everett

Analyte	Units	Lab Result	MSGP Benchmark	WAC 173-201A Standard
Naval Station Everett – Outfall A				
Copper	ug/L	32.6	5.19 (FW) 4.8 (SW)	N/A
Copper, Dissolved	ug/L	21	N/A	4.8 (SW)
Zinc	ug/L	138	120 (FW) 90 (SW)	N/A
Nitrate	ug/L	2,640	680	N/A
Fecal Coliform	MPN/100 mL	35,000	N/A	100
Naval Station Everett – Outfall B				
Copper	ug/L	38.4*	5.19 (FW) 4.8 (SW)	N/A
Copper, Dissolved	ug/L	11.8	N/A	4.8 (SW)
Zinc	ug/L	229	120 (FW) 90 (SW)	N/A
Zinc, Dissolved	ug/L	223	N/A	90 (SW)
Nitrate	ug/L	1,370	680	N/A
Fecal Coliform	MPN/100 mL	1,300	N/A	100
Naval Station Everett – Outfall C				
Copper	ug/L	11.6	4.8	N/A
Copper, Dissolved	ug/L	6.24	N/A	4.8
Fecal Coliform	MPN/100 mL	1,300	N/A	100
Naval Station Everett – Outfall D				
Copper	ug/L	14.9	4.8	N/A
Copper, Dissolved	ug/L	9.48	N/A	4.8
Fecal Coliform	MPN/ 100 mL	7,900	N/A	100

*Failed the method required serial dilution test and/or subsequent post-spike criteria. Failure indicates matrix interference.

3.2.2 NSC Smokey Point

Appendix C
MS4 Annual Report
Year 1

Four different locations were sampled within the stormwater infrastructure located at NSC Smokey Point. Total zinc and dissolved zinc were above the MSGP benchmark and the WAC 173-201A surface water quality standards in the large pond, small pond, and at the creek. The recorded concentration of total zinc at the creek is at the MSGP freshwater benchmark and above the saltwater benchmark. Similarly, the total zinc value at the large pond is above the saltwater MSGP benchmark, but below the MSGP freshwater benchmark. Fecal coliform concentrations were above the WAC 173-201A standards at the trench and the small pond. The small pond also showed concentrations of total copper and dissolved copper above MSGP benchmarks and WAC 173-201A surface water quality standards.

Table 3-2. Pollutants of Concern – NSC Smokey Point

Analyte	Units	Lab Result	MSGP Benchmark	WAC 173-201A Standard
NAVSTA Everett – NSC Smokey Point – Large Pond				
Zinc	ug/L	92.1	120 (FW) 90 (SW)	N/A
Zinc, Dissolved	ug/L	90.8	N/A	90 (SW)
NAVSTA Everett – NSC Smokey Point – Trench				
Fecal Coliform	CFU/100 mL	250	N/A	100
NAVSTA Everett – NSC Smokey Point – Small Pond				
Copper	ug/L	11.5	5.19 (FW) 4.8 (SW)	N/A
Copper, Dissolved	ug/L	11.0	N/A	4.8 (SW)
Zinc	ug/L	106	120 (FW) 90 (SW)	N/A
Zinc, Dissolved	ug/L	100	N/A	90 (SW)
Fecal Coliform	MPN/100 mL	400	N/A	100
NAVSTA Everett – NSC Smokey Point – Creek				
Zinc	ug/L	120	120 (FW) 90 (SW)	N/A
Zinc, Dissolved	ug/L	122	N/A	90 (SW)

4 References

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All weblinks last accessed on: 28 January 2022.

Appendix C
MS4 Annual Report
Year 1

Appendix A

Appendix D
MS4 Annual Report
Year 1

NAVAL STATION EVERETT BEST MANAGEMENT PRACTICE INSPECTION CHECKLIST			
Pier/Wharf:	Survey Performed by (Name and Badge):		Phone:
Project		Date and Time	
Criteria No.	Criteria Evaluated	Guidelines	
		Number of Findings	SAT UNSAT NA
1	Trash and industrial debris cleaned up by end of shift. BMP C-2	0	
2	Side channels not obstructed with debris per visual inspections. BMP C-2	0	
3	Containments not leaking. BMP C-1	0	
4	Exterior pollutant-producing activities (e.g., sanding, grinding) conducted with local controls to prevent entrance into drainage system; e.g., containment, tarp, or vacuum attachments. BMP C-1	0	
5	Oil and hazardous substance (OHS) liquid containers stored with tight-fitting lids. Liquid containers, 55-gallons or more stored outside on spill pallet and properly labeled. BMP C-1	0	
6	Vehicles and equipment properly maintained. BMP C-1	0	
7	Spills, drips, and leaks controlled and cleaned up. BMP C-1	0	
8	Process waste not exposed to storm water (e.g., sandblast grit, material contaminated with petroleum products, metal shavings, zinc anodes, welding debris, lead, copper wire, bronze, and brass are covered and protected from storm water). Parts, material, and containers outside are covered to protect from weather. BMP C-1	0	
9	No unauthorized discharges into pier drains. NPDES Permit BMP C-1	0	
10	Solid-waste containers are covered to prevent storm water from entering and have plugs installed in drains. BMP N-2	0	
11	Metal prep areas are clean of all debris at end of shift. BMP C-2	0	

NAVAL STATION EVERETT

Name of Vault/ Location	date	Pass/ Fail MSGP metals	Comments
Electrical Vault Near Outfall A on Spruance Ave	12/4/2018	pass	
Electrical Vault on South Wharf	12/27/2018	failed	Aluminum, iron, copper and zinc
COMM J6-01 Vault (West) NSE gas Station	2/15/2019	pass	
COMM K6-02 Vault (West) NSE gas Station	2/15/2019	failed	iron and zinc
COMM 15-01	8/5/2021	failed	Copper and Zinc are above limit
Electric J6-01 E09A	8/5/2021	pass	
Electric J3-07	8/5/2021	failed	very high in copper
Electric J3-03	8/5/2021	pass	

Smokey Point

Name of Vault/ Location	date	Pass/ Fail MSGP metals	Comments
Water Vault Smokey Point Gas Station	2/15/2019	failed	zinc
Water Vault Smokey Point Grass Vault	2/15/2019	pass	



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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June 15, 2021

Nicole Iutzi-Kubista, EV1
NAVFAC Northwest
1101 Tautog Circle RM 204
Silverdale, WA 98315-1101
Sent by email only: [REDACTED]

RE: Navy on joining Stormwater Action Monitoring Program

Dear Nicole Iutzi-Kubista:

The Stormwater Action Monitoring (SAM) program is administered by the Washington State Department of Ecology (Ecology) on behalf of the municipal separate storm sewer system (MS4) permittees in Western Washington, including the Washington State Department of Transportation (WSDOT). The Stormwater Work Group (SWG) is a formal stakeholder committee that oversees Ecology's administration of SAM and identifies priorities for SAM studies. All SWG members represent caucus groups that meet to discuss upcoming and ongoing topics on SWG's agenda as well as broader stormwater management and science.

EPA's MS4 permits for Naval Base Kitsap (WAS026646), Naval Station Everett (WAS026620), and Naval Air Station Whidbey Island (WAS026611) provided the Navy with the option to participate in the SAM network as a way to satisfy the Navy's MS4 permit requirements for monitoring. Any MS4 Permittee can join SAM; the level of financial contribution is set at a fixed annual amount based on the population served by the MS4 for the Effectiveness Studies and Source Identification projects and the Status and Trends monitoring of receiving waters. Ecology will invoice the Navy annually in May during their permit term 2021 – 2025. The invoice total of \$15,318 covers all three permitted locations for both the Effectiveness Studies and Status and Trends Monitoring SAM program components for the period of August – August, starting in 2022. The first invoice will be pro-rated for 2021, covering February – August 2021, as the Navy is joining SAM mid-way through their permit year. On May 19th, 2021, the SWG approved this approach for Navy participation in SAM. Ecology writes an annual report that reflects on the prior year's accomplishments, describes studies completed that year, and provides an update for ongoing projects. We will send this annual report with the invoice each year.

Nicole Iutzi-Kubista

June 15, 2021

Page 2

Every two to three years SAM solicits proposals for new stormwater studies from the greater regional stormwater scientific and practitioner community. Successful proposals are funded by SAM and managed by Ecology. Proposals are reviewed and refined by SWG committees in a process organized by SAM staff. Project proponents present their revised proposals at a stakeholder workshop that is followed by MS4 permittee voting on the proposals to inform SWG approval of funding and timing of successful projects. The Navy's financial contribution to the SAM program provides the Navy the opportunity to vote on new projects for SAM funding in each round of project selection as a participating MS4 permittee; this voting is encouraged but it is not a requirement for participation in SAM. The only participation requirement is paying the annual invoice.

Ecology welcomes the Navy's participation in SAM. If you have any further questions please contact Brandi Lubliner, SAM Coordinator, [REDACTED]. The 2021 SAM invoice and the 2020 SAM Annual Report are enclosed. Learn more about SAM at ecology.wa.gov/SAM.

Sincerely,



Jeff Killelea, Manager
Program Development Services Section
Water Quality Program

Enclosures (2)

cc: Matt Jabloner, US Navy, [REDACTED]
Brandi Lubliner, Ecology, [REDACTED]