City of Port Angeles

2023 Annual Report

NPDES Phase II Municipal Stormwater Permit

Permit #: WAR045028
Permit Cycle: 2019-2024

Washington Department of Ecology
Electronic Submission Cover Letter

DEPARTMENT OF ECOLOGY
State of Washington

WQWebSubmittal - Submittal Submission Id: 1921552 - 3/29/2024 8:59:12 AM

Company Name	Signer Name	System Name
City of Port Angeles	Mike Healy	WQWebPortal

Attachments:

Document Name Or Description	Document Name
Submitted Copy of Record for City of Port Angeles	Copy of Record CityofPortAngeles Friday March 29 2024
	2023 Basin 7 Map - Results
	2023 Basin 7 Screening Summary
	2023 COPA Operations and Maintenance Facilities
	2023 County Fair
	2023 Dev Rev Trainings
	2023 Development Tracking
	2023 Earth Day
	2023 Home Show
	2023 IDDE Tracking
WAR045028_26a_03282024164719	2023 List of Stewardship Oppor_26a_03282024164719
	2023 PAFD IDDE Training
	2023 PAFD IDDE Training
	2023 Private Operations and Maintenance Facilities
	2023 PSSH Tire Campaign
WAR045028_21_03282024164706	2023 Public Outreach Tracking_21_03282024164706
WAR045028_21_03292024080413	2023 Public Outreach Tracking_21_03292024080413
WAR045028_92_03292024080132	2023 S4F Status_ongoing effort_92_03292024080132
WAR045028_92_03292024081314	2023 S4F Status_ongoing effort_92_03292024081314
	2023 SC Business Insp. List
WAR045028_78_03292024075853	2023 SC Inspections Performed_78_03292024075853
WAR045028_77_03292024075853	2023 SC_Summary of Actions_77_03292024075853
	2023 Source Control Annual Report Map
	2023 update SAM_2022_Annual_Report
WAR045028_25_03282024164706	2023 WSSOG Activities Report w_25_03282024164706

WAR045028_25_03292024080527	2023 WSSOG Activities Report w_25_03292024080527
	2023 WWUE Huxley Field Trip Tracking
	2023.06.08 - Matthew Moore - NPDES CSI
	BIBI email_3.27.2023
	COPA Basin Delineations
	COPA CESCLs
	COPA Corp Yard SWPPP
	COPA GIS consultant standards
WAR045028_30a_03282024165323	COPA Outfalls_30a_03282024165323
	COPA SMAP Webpage
	COPA Stormwater Utility map
	COPA SW Policies and Procedures
	COPA SW Utility Webpage
	COPA SW Utility Webpage
	COPA SWMP Webpage
	Cover_Letter_City_of_Port_Angeles
	Interlocal Agreement Between CoPA and Clallam Coun
	Kitsap County GROSS Final Report
	Outfalls_3.22.2024
	Outfalls_3.22.2024
	Port Angeles Watershed
	S8 Notification Letter_11.8.2019
	SAM.2023_Approved Invoice
	STEM Slides_Civil Engineering_5.1.2023
WAR045028_2_03282024163133	SWMP Plan 2024 update_2_03282024163133
	SWPCPG Agendas
ImportedIDDEsWAR045028-2023-ImportedIDDEs_03292024085024	WAR045028-2023-ImportedIDDEs_03292024085024
	WSSOG End of Year Reporting
	WWAPHII_Permit-Final

Attestation Agreed to at Signing:

I certify I personally signed and submitted to the Department of Ecology an Electronic Signature Agreement. I understand that use of my electronic signature account/password to submit this information is equal to my written signature. I have read and followed all the rules of use in my Electronic Signature Agreement. I believe no one but me has had access to my password and other account information.

I further certify: I had the opportunity to review the content or meaning of the submittal before signing it; and to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I intend to submit this information as part of the implementation, oversight, and enforcement of a federal environmental program. I am aware there are significant penalties for submitting false information, including possible fines and imprisonment.

For Ecology Use Only

5TbH0YrLpTYwz7UUb5iQfWcNdZ2ZtfCU9bVUmRjbfm07uKO8wYsxV7KAXymuyWTApozto5/iT
+1JrCXtw2TMZrrlfg8/2knkormiwXYFJVM=

DEPARTMENT OF ECOLOGY
State of Washington

Water Quality Program

Permit Submittal Electronic Certification

Permittee: PORT ANGELES CITY

Permit Number: WAR045028 **Site Address:** 321 E FIFTH ST
PORT ANGELES, WA 98362

Submittal Name: MS4 Annual Report Phase II Western

Version: 1 **Due Date:** 3/31/2024

Questionnaire

Number	Permit Section	Question	Answer
1	S5.A	Attach a copy of any annexations, incorporations or boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period per S9.D.6.	Not Applicable
2	S5.A	Attach updated annual Stormwater Management Program Plan (SWMP Plan). (S5.A.2)	SWMP Plan 2024 update_2_03282024163133
3	S5.A	Implemented an ongoing program to gather, track, and maintain information per S5.A.3, including costs or estimated costs of implementing the SWMP.	Yes
4	S5.A.5.b	Coordinated among departments within the jurisdiction to eliminate barriers to permit compliance. (S5.A.5.b)	Yes
5	S5.C.1.	Have you convened an interdisciplinary team to inform and assist in the development, progress, and influence of the comprehensive stormwater planning program? (S.5.c.1). August 1, 2020	Yes
14	S5.C.1.b	Did you submit a report as described in S5.C.1.b.i(b)? (Required to submit no later than January 1, 2023)	Yes
15	S5.C.1.c	Continue to design and implement local development-related codes, rules, standards, or other enforceable documents to minimize impervious surfaces, native vegetation loss, and stormwater runoff, where feasible? See S5.C.1.c.i. (Required annually)	Yes
16	S5.C.1.c	From the assessment described in S5.C.1.c.i (a), did you identify any administrative or regulatory barriers to implementation of LID Principles or LID BMPs? (Required annually)	No
20	S5.C.2	Did you choose to adopt one or more elements of a regional program? (S5.C.2)	Yes

20a	S5.C.2	If yes, list the elements, and the regional program.	WSSOG - build general awareness, effect behavior change via: targeted stormwater awareness advertisement campaign, interactive games, educational materials, practical handouts, collaborative research to influence and improve our local programs, etc.
21	S5.C.2	Attach a description of general awareness efforts conducted, including your target audiences and subject areas, per S5.C.2.a.i.	2023 Public Outreach Tracking_21_03292024080413
24	S5.C.2	Began implementing strategy outlined in S.5.C.2.a.ii(c) (S5.C.2.a.ii(d) – Required by April 1, 2021)	Yes
25	S5.C.2	Attach the report developed in accordance with S5.C.2.a.ii(e), which evaluated the changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy and any planned or recommended changes to the program in order to be more effective. (Required no later March 31, 2024)	2023 WSSOG Activities Report w_25_03292024080527
26	S5.C.2	Promoted stewardship opportunities (or partnered with others) to encourage resident participation in activities such as those described in S5.C.2.a.iii.	Yes
26a	S5.C.2	Attach a list of stewardship opportunities provided.	2023 List of Stewardship Oppor_26a_03282024164719
27	S5.C.3.	Describe in Comments field the opportunities created for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation, and updates of the Permittee's SWMP and the SMAP. (S5.C.3.a)	The stormwater informational webpage on the City's website contains a direct link to the updated SWMP Plan along with a link to a digital form where public input on the SWMP is encouraged. In addition, City staff are available to the public for direct communication regarding stormwater, as described in the SWMP Plan.
28	S5.C.3.	Posted the updated SWMP Plan and latest annual report on your website no later than May 31. (S5.C.3.b)	Yes
28a	S5.C.3.	List the website address in Comments field.	https://www.cityofpa.us/255/stormwater-utility
29	S5.C.4.	Maintained a map of the MS4 including the requirements listed in S5.C.4.a.i-vii?	Yes
30	S5.C.4.	Started mapping outfall size and material in accordance with S5.C.4.b.i? (Required no later than January 1, 2020)	Yes

30a	S5.C.4.	Attach a spreadsheet that lists the known outfalls' size and material(s).	COPA Outfalls_30a_03282024 165323
31	S5.C.4.	Completed mapping connections to private storm sewers in accordance with S5.C.4.b.ii? (Required no later than August 1, 2023)	Yes
33	S5.C.5	Informed public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste? (S5.C.5.b)	Yes
33a	S5.C.5	Actions taken to inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.	Maintained IDDE page on website. Implemented the City's IDDE program. Provided IDDE program information (content, hotline, website, etc.) at education and outreach events, on distributed outreach materials, and posted up in City Hall. The Pollution Prevention Assistance (PPA) program provided source control and IDDE education to the local businesses.
34	S5.C.5	Implemented an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges as described in S5.C.5.c.	Yes
35	S5.C.5	Implemented procedures for conducting illicit discharge investigations in accordance with S5.C.5.d.i.	Yes
35a	S5.C.5	Cite field screening methodology in Comments field.	The City's field screening methodology consists of: business inspections, stream and creek walks, and stormwater infrastructure inspections in basins selected for that year. Results of the field inspections are used to select monitoring nodes. Primary indicator testing is performed at monitoring locations. If thresholds are exceeded, the area upstream from the monitoring site is flagged for further investigation.
36	S5.C.5	Percentage of MS4 coverage area screened in the reporting year per S5.C.5.d.i. (Required to screen 12% on average each year.)	9.4

36a	S5.C.5	Cite field screening techniques used to determine percent of MS4 screened.	The City was divided up into eight (8) roughly equal screening basins by the number of catch basins with the right of way. Each year, one basin is selected and screened using the methodology described in 35a.
37	S5.C.5	Percentage of total MS4 screened from permit effective date through the end of the reporting year. (S5.C.5.d.i.)	57.7
38	S5.C.5	Describe how you publicized a hotline telephone number for public reporting of spills and other illicit discharges in the Comments field. (S5.C.5.d.ii)	Posted on the City website, advertised at public events, listed on public outreach materials, and displayed at City Hall.
39	S5.C.5	Implemented an ongoing illicit discharge training program for all municipal field staff per S5.C.5.d.iii.	Yes
40	S5.C.5	Implemented an ongoing program to characterize, trace, and eliminate illicit discharges into the MS4 per S5.C.5.e.	Yes
41	S5.C.5	Municipal illicit discharge detection staff are trained to conduct illicit discharge detection and elimination activities as described in S5.C.5.f.	Yes
42	S5.C.5	Attach a report with data describing the actions taken to characterize, trace, and eliminate each illicit discharge reported to, or investigated by, the Permittee as described in S5.C.5.g. The submittal must include all of the applicable information and must follow the instructions, timelines, and format described in Appendix 12.	WAR045028-2023-ImportedIDDEs_03292024085024
43	S5.C.6.	Implemented an ordinance or other enforceable mechanism to effectively address runoff from new development, redevelopment, and construction sites per the requirements of S5.C.6.b.i-iii.	Yes
45	S5.C.6.	Number of adjustments granted to the minimum requirements in Appendix 1. (S5.C.6.b.i. and Section 5 of Appendix 1)	0
46	S5.C.6.	Number of exceptions/variances granted to the minimum requirements in Appendix 1. (S5.C.6.b.i., and Section 6 of Appendix 1)	0
47	S5.C.6.	Reviewed Stormwater Site Plans for all proposed development activities that meet the thresholds adopted pursuant to S5.C.6.b.i. (S5.C.6.c.i)	Yes
47a	S5.C.6.	Number of site plans reviewed during the reporting period.	142
48	S5.C.6.	Inspected, prior to clearing and construction, permitted development sites per S5.C.6.c.ii, that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 – Determining Construction Site Sediment Damage Potential?	Yes

48a	S5.C.6.	If no, inspected, prior to clearing and construction, all construction sites meeting the minimum thresholds (S5.C.6.c.ii)?	Yes
49	S5.C.6.	Inspected permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls per S5.C.6.c.iii.	Yes
49a	S5.C.6.	Number of construction sites inspected per S5.C.6.c.iii.	19
49b	S5.C.6.	Inspected stormwater treatment and flow control BMPs/facilities and catch basins in new residential developments every 6 months per S5.C.6.c.iv?	Yes
50	S5.C.6.	Inspected all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. (S5.C.6.c.v)	Yes
51	S5.C.6.	Verified a maintenance plan is completed and responsibility for maintenance is assigned for projects prior to final approval and occupancy being granted. (S5.C.6.c.v)	Yes
52	S5.C.6.	Number of enforcement actions taken during the reporting period (based on construction phase inspections at new development and redevelopment projects). (S5.C.6.c.ii-iv) (S5.C.7.c.viii)	2
53	S5.C.6.	Achieved at least 80% of scheduled construction-related inspections. (S5.C.6.c.vi)	Yes
54	S5.C.6.	Made Ecology’s Notice of Intent for Construction Activity and Notice of Intent for Industrial Activity available to representatives of proposed new development and redevelopment? (S5.C.6.d)	Yes
55	S5.C.6.	All staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites including permitting, plan review, construction site inspections, and enforcement are trained to conduct these activities? (S5.C.6.e)	Yes
56	S5.C.7.	Implemented maintenance standards that are as protective, or more protective, of facility function than those specified in the Stormwater Management Manual for Western Washington or a Phase I program approved by Ecology per S5.C.7.a.?	Yes
58	S5.C.7.	Applied a maintenance standard for a facility or facilities which do not have maintenance standards specified in the Stormwater Management Manual for Western Washington? If so, note in the Comments field what kinds of facilities are covered by this alternative standard. (S5.C.7.a)	No
59	S5.C.7.	Verified that maintenance was performed per the schedule in S5.C.7.a.ii when an inspection identified an exceedance of the maintenance standard.	Yes

59a	S5.C.7.	Attach documentation of maintenance time frame exceedances that were beyond the Permittee's control.	Not Applicable
60	S5.C.7.	Implemented an ordinance or other enforceable mechanisms to verify long-term operation and maintenance of stormwater treatment and flow control BMPs/facilities regulated by the permittee per (S5.C.7.b.i (a))?	Yes
61	S5.C.7.	Annually inspected stormwater treatment and flow control BMPs/facilities regulated by the Permittee per S5.C.7.b.i(b)	Yes
61a	S5.C.7.	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.b.i (b)	Not Applicable
62	S5.C.7.	Achieved at least 80% of scheduled inspections to verify adequate long-term O&M. (S5.C.7.b.ii)	Yes
63	S5.C.7.	Annually inspected all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	Yes
63a	S5.C.7.	Number of known municipally owned or operated stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	193
63b	S5.C.7.	Number of facilities inspected during the reporting period.	190
63c	S5.C.7.	Number of facilities for which maintenance was performed during the reporting period.	133
64	S5.C.7.	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.c.i.	Not Applicable
65	S5.C.7.	Conducted spot checks and inspections (if necessary) of potentially damaged stormwater facilities after major storms as per S5.C.7.c.ii.	Yes
66	S5.C.7.	Inspected municipally owned or operated catch basins and inlets every two years or used an alternative approach? Cleaned as needed? (S.5.C.7.c.iii)	Yes
66a	S5.C.7.	Number of known catch basins?	2682
66b	S5.C.7.	Number of catch basins inspected during the reporting period?	2067
66c	S5.C.7.	Number of catch basins cleaned during the reporting period?	2067
67	S5.C.7.	Attach documentation of alternative catch basin cleaning approach, if used. (S5.C.7.c.iii.(a)-(c))	Not Applicable
68	S5.C.7.	Implemented practices, policies and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the Permittee, and road maintenance activities under the functional control of the Permittee. (S5.C.7.d)	Yes
70	S5.C.7.	Implemented an ongoing training program for Permittee employees whose primary construction, operations or maintenance job functions may impact stormwater quality. (S5.C.7.e)	Yes

71	S5.C.7.	Implemented a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under an NPDES permit that covers stormwater discharges associated with the activity. (S5.C.7.f)	Yes
74	S5.C.8	Established an inventory per S5.C.8.b.ii. (Required by August 1, 2022.)	Yes
74a	S5.C.8	Number of total sites identified for the inventory.	190
75	S5.C.8	Implemented an inspection program S5.C.8.b.iii (Required by January 1, 2023).	Yes
76	S5.C.8	Implemented a progressive enforcement policy per S5.C.8.b.iv (Required by January 1, 2023).	Yes
77	S5.C.8	Attach a summary of actions taken to implement the source control program per S5.C.8.b.iii and S5.C.8.b.iv.	2023 SC_Summary of Actions_77_03292024075853
78	S5.C.8	Attach a list of inspections, per S5.C.8.b.iii, organized by the business category, noting the amount of times each business was inspected, and if enforcement actions were taken.	2023 SC Inspections Performed_78_03292024075853
79	S5.C.8	Implemented an ongoing source control training program per S5.C.8.b.v?	Yes
80	S7	Complied with the Total Maximum Daily Load (TMDL)-specific requirements identified in Appendix 2. (S7.A)	Not Applicable
81	S7	For TMDLs listed in Appendix 2: Attach a summary of relevant SWMP and Appendix 2 activities to address the applicable TMDL parameter(s). (S7.A)	Not Applicable
82	S8	Submitted payment for cost-sharing for Stormwater Action Monitoring (SAM) status and trends monitoring no later than December 1, 2019 (S8.A.1); and no later than August 15 of each subsequent year? (S8.A.2.a.)	Yes
84	S8	Submitted payment for cost-sharing for SAM effectiveness and source identification studies no later than December 1, 2019 (S8.B.1); and no later than August 15 of each subsequent year (S8.B.2.a or S8.B.2.c)?	Yes
87	S8	If conducting stormwater discharge monitoring in accordance with S8.C.1, attach a data and analysis report per S8.C.1. and Appendix 9. (Due annually beginning March 31, 2021.)	Not Applicable
88	G3	Notified Ecology in accordance with G3 of any discharge into or from the Permittees MS4 which could constitute a threat to human health, welfare or the environment. (G3)	Not Applicable
89	G3	Took appropriate action to correct or minimize the threat to human health, welfare, and/or the environment per G3.A.	Not Applicable

90	Compliance with standards	Notified Ecology within 30 days of becoming aware that a discharge from the Permittee's MS4 caused or contributed to a known or likely violation of water quality standards in the receiving water. (S4.F.1)	Not Applicable
91	Compliance with standards	If requested, submitted an Adaptive Management Response report in accordance with S4.F.3.a.	Not Applicable
92	Compliance with standards	Attach a summary of the status of implementation of any actions taken pursuant to S4.F.3 and the status of any monitoring, assessment, or evaluation efforts conducted during the reporting period. (S4.F.3.d)	2023 S4F Status_ongoing effort_92_03292024081314
93	G20	Notified Ecology of the failure to comply with the permit terms and conditions within 30 days of becoming aware of the non-compliance. (G20)	Not Applicable
94	G20	Number of non-compliance notifications (G20) provided in reporting year. List permit conditions described in non-compliance notification(s) in Comments field.	0

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 information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Mike Healy

Signature

3/29/2024 8:59:11 AM

Date

			Phase II SW Permit Reference	Orange Accent 2 indicates follow-up item.	
Manager	Category	#	Question	COPA Response / Status	Notes
Ryan	General Obligations	1	Attach a copy of any annexations, incorporations or boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period per S9.D.6.	NA	
Ryan	General Obligations	2	Attach updated annual Stormwater Management Program Plan (SWMP Plan). (S5.A.2)	Report revised, ready for final review comments. Need to upload	Incorporate any comments from Jonathan Boehme and Vince
Ryan	General Obligations	3	Implemented an ongoing program to gather, track, and maintain information per S5.A.3, including costs or estimated costs of implementing the SWMP.	Yes	
Ryan	General Obligations	4	Coordinated among departments within the jurisdiction to eliminate barriers to permit compliance. (S5.A.5.b)	Yes	interdepartmental coordination during permit review process
Ryan	Stormwater Planning	5	Have you convened an interdisciplinary team to inform and assist in the development, progress, and influence of the comprehensive stormwater planning program? (S.5.c.1). August 1, 2020	Yes	SWPCPG (Stormwater Permit Coordination and Planning Group). See "SWPCPG Agendas.pdf".
Ryan	Stormwater Planning	14	Did you submit a report as described in S5.C.1.b.i(b)? (Required to submit no later than January 1, 2023)	Yes	\\Fs02.copa.cityofpa.us\docs\PWKS\Stormwater\00 NPDES SW Permit Admin\NPDES Annual Reports\2023\Final\4. SW Planning\Long Range Planning Report.pdf already submitted as required
Ryan	Stormwater Planning	15	Continue to design and implement local development-related codes, rules, standards, or other enforceable documents to minimize impervious surfaces, native vegetation loss, and stormwater runoff, where feasible? See S5.C.1.c.i. (Required annually)	Yes	Low-Impact Development Code related requirements
Ryan	Stormwater Planning	16	From the assessment described in S5.C.1.c.i(a), did you identify any administrative or regulatory barriers to implementation of LID Principles or LID BMPs? (Required annually)	No	no barriers to implementation
Ryan	Stormwater Planning	16a	If yes, describe the barrier(s) and the measures taken to address them. (S5.C.1.c.i(a))	NA	
Ryan	Public Education	20	Did you choose to adopt one or more elements of a regional program? (S5.C.2)	Yes	
Ryan	Public Education	20a	If yes, list the elements, and the regional program.		WSSOG - Build general awareness, effect behavior change via: targeted stormwater awareness advertisement campaign, interactive games, educational materials, practical handouts, collaborative research to influence and improve our local programs, etc. PSSH - Tire Campaign information, WSSOG and Kitsap County - Outreach and Engagement Report and Implementation Plan, WSSOG - End of Year Reporting, Home Show - Schedule & Plant Selection Poster, County Fair - SWAG tracking sheet & Outreach tracking sheet & Exit Survey, College Tour WWU - Stewardship, Earth Day - News Flash CoPA
Ryan	Public Education	21	Attach a description of general awareness efforts conducted, including your target audiences and subject areas, per S5.C.2.a.i.	Ready to upload. N:\PWKS\Stormwater\00 NPDES SW Permit Admin\NPDES Annual Reports\2023\Final\5. Education & Outreach	see "2023 Public Outreach Tracking.pdf", "2023 WSSOG Activities Report with Appendices.pdf", "Kitsap County GROSS Final Report.pdf"
Ryan	Public Education	24	Began implementing strategy outlined in S.5.C.2.a.ii(c) (S5.C.2.a.ii(d) – Required by April 1, 2021)	Yes	WSSOG

Ryan	Public Education	25	Attach the report developed in accordance with S5.C.2.a.ii(e), which evaluated the changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy and any planned or recommended changes to the program in order to be more effective. (Required no later March 31, 2024)	Ready to upload	From the West Sound Stormwater Outreach Group 2023 Summary of Activities Appendix E: Natural Yard Care Campaign Evaluation Report
Ryan	Public Education	26	Promoted stewardship opportunities (or partnered with others) to encourage resident participation in activities such as those described in S5.C.2.a.iii.	Yes	Streamkeepers of Clallam County
Ryan	Public Education	26a	Attach a list of stewardship opportunities provided.	Ready to upload. N:\PWKS\Stormwater\00 NPDES SW Permit Admin\NPDES Annual Reports\2023\Final\5. Education & Outreach	See "List of Stewardship Opportunities_2023.pdf"
Ryan	Public Involvement	27	Describe in Comments field the opportunities created for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation, and updates of the Permittee's SWMP and the SMAP. (S5.C.3.a)	The stormwater informational webpage on the City's website contains a direct link to the updated SWMP Plan along with a link to a digital form where public input on the SWMP is encouraged. In addition, City staff are available to the public for direct communication regarding stormwater, as described in the SWMP Plan.	
Ryan	Public Involvement	28	Posted the updated SWMP Plan and latest annual report on your website no later than May 31. (S5.C.3.b)	Yes	Every year
Ryan	Public Involvement	28a	List the website address in Comments field.	https://www.cityofpa.us/255/Stormwater-Utility	City Web page
Matthew	MS4 Mapping	29	Maintained a map of the MS4 including the requirements listed in S5.C.4.a.i-vii?	Yes	See attachment "COPA Stormwater Utility map.pdf"
Matthew	MS4 Mapping	30	Started mapping outfall size and material in accordance with S5.C.4.b.i? (Required no later than January 1, 2020)	Yes	See attachment "COPA Outfalls.pdf"
Matthew	MS4 Mapping	30a	Attach a spreadsheet that lists the known outfalls' size and material(s).	Ready to upload. N:\PWKS\Stormwater\00 NPDES SW Permit Admin\NPDES Annual Reports\2023\Final\7. MS4 Mapping & Documentation\	See attachment "COPA Outfalls.pdf"
Matthew	MS4 Mapping	31	Completed mapping connections to private storm sewers in accordance with S5.C.4.b.ii? (Required no later than August 1, 2023)	Yes	See attachment "COPA Stormwater Utility map.pdf"
Matthew	IDDE	33	Informed public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste? (S5.C.5.b)	Yes	
Matthew	IDDE	33a	Actions taken to inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.	Maintained IDDE page on website. Implemented the City's IDDE program. Provided IDDE program information (content, hotline, website, etc.) at education and outreach events, on distributed outreach materials, and posted up in City Hall. The Pollution Prevention Assistance (PPA) program provided source control and IDDE education to the local businesses.	
Matthew	IDDE	34	Implemented an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges as described in S5.C.5.c.	Yes	City has already adopted ordinance - see PAMC 13.63.130
Matthew	IDDE	35	Implemented procedures for conducting illicit discharge investigations in accordance with S5.C.5.d.i.	Yes	See attachment "Appendix C_IDDE Response Policy_PW-0610.pdf"
Matthew	IDDE	35a	Cite field screening methodology in Comments field.	The City's field screening methodology consists of: business inspections, stream and creek walks, and stormwater infrastructure inspections in basins selected for that year. Results of the field inspections are used to select monitoring nodes. Primary indicator testing is performed at monitoring locations. If thresholds are exceeded, the area upstream from the monitoring site is flagged for further investigation.	See attachment "2023 Basin 7 Screening Summary.pdf"
Matthew	IDDE	36	Percentage of MS4 coverage area screened in the reporting year per S5.C.5.d.i. (Required to screen 12% on average each year.)	9.4%	See attachment "2023 Basin 7 Screening Summary.pdf"

Matthew	IDDE	36a	Cite field screening techniques used to determine percent of MS4 screened.	The City was divided up into eight (8) roughly equal screening basins by the number of catch basins within the right of way. Each year, one basin is selected and screened using the methodology described in 35a.	See attachment "2023 Basin 7 Screening Summary.pdf"
Matthew	IDDE	37	Percentage of total MS4 screened from permit effective date through the end of the reporting year. (S5.C.5.d.i.)	57.7%	See attachment "2023 Basin 7 Screening Summary.pdf"
Matthew	IDDE	38	Describe how you publicized a hotline telephone number for public reporting of spills and other illicit discharges in the Comments field. (S5.C.5.d.ii)	Posted on the City website, advertised at public outreach events, listed on public outreach materials, and displayed in City Hall.	COPA Website Webpage https://www.cityofpa.us/262/Reporting-Spills
Matthew	IDDE	39	Implemented an ongoing illicit discharge training program for all municipal field staff per S5.C.5.d.iii.	Yes	
Matthew	IDDE	40	Implemented an ongoing program to characterize, trace, and eliminate illicit discharges into the MS4 per S5.C.5.e.	Yes	See "Appendix C_IDDE Response Policy_PW-0610.pdf"
Matthew	IDDE	41	Municipal illicit discharge detection staff are trained to conduct illicit discharge detection and elimination activities as described in S5.C.5.f.	Yes	Found and included.
Matthew	IDDE	42	Attach a report with data describing the actions taken to characterize, trace, and eliminate each illicit discharge reported to, or investigated by, the Permittee as described in S5.C.5.g. The submittal must include all of the applicable information and must follow the instructions, timelines, and format described in Appendix 12.	Ready to upload. N:\PWKS\Stormwater\00 NPDES SW Permit Admin\NPDES Annual Reports\2023\Final\8. IDDE	See attachment "2023 IDDE Tracking.pdf" upload .pdf and .xml version
Matthew	Runoff Controls	43	Implemented an ordinance or other enforceable mechanism to effectively address runoff from new development, redevelopment, and construction sites per the requirements of S5.C.6.b.i-iii.	Yes	City has already adopted ordinance - see PAMC 13.63.190
Matthew	Runoff Controls	45	Number of adjustments granted to the minimum requirements in Appendix 1. (S5.C.6.b.i. and Section 5 of Appendix 1)	0	
Matthew	Runoff Controls	46	Number of exceptions/variances granted to the minimum requirements in Appendix 1. (S5.C.6.b.i., and Section 6 of Appendix 1)	0	
Matthew	Runoff Controls	47	Reviewed Stormwater Site Plans for all proposed development activities that meet the thresholds adopted pursuant to S5.C.6.b.i. (S5.C.6.c.i)	Yes	See attachment "2023 DevelopmentTracking.pdf"
Matthew	Runoff Controls	47a	Number of site plans reviewed during the reporting period.	142	See attachment "2023 DevelopmentTracking.pdf"
Matthew	Runoff Controls	48	Inspected, prior to clearing and construction, permitted development sites per S5.C.6.c.ii, that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 – Determining Construction Site Sediment Damage Potential?	Yes	See attachment "2023 DevelopmentTracking.pdf"
Matthew	Runoff Controls	48a	If no, inspected, prior to clearing and construction, all construction sites meeting the minimum thresholds (S5.C.6.c.ii)?	yes	yes or no answer, routing answer was N/A
Matthew	Runoff Controls	49	Inspected permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls per S5.C.6.c.iii.	Yes	
Matthew	Runoff Controls	49a	Number of construction sites inspected per S5.C.6.c.iii.	19	See attachment "2023 DevelopmentTracking.pdf"
Matthew	Runoff Controls	49b	Inspected stormwater treatment and flow control BMPs/facilities and catch basins in new residential developments every 6 months per S5.C.6.c.iv?	Yes	See attachment "2023 DevelopmentTracking.pdf"
Matthew	Runoff Controls	50	Inspected all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. (S5.C.6.c.v)	Yes	See attachment "2023 DevelopmentTracking.pdf"

Matthew	Runoff Controls	51	Verified a maintenance plan is completed and responsibility for maintenance is assigned for projects prior to final approval and occupancy being granted. (S5.C.6.c.v)	Yes	
Matthew	Runoff Controls	52	Number of enforcement actions taken during the reporting period (based on construction phase inspections at new development and redevelopment projects). (S5.C.6.c.ii-iv)(S5.C.7.c.viii)	2	
Matthew	Runoff Controls	53	Achieved at least 80% of scheduled construction-related inspections. (S5.C.6.c.vi)	Yes	See attachment "2023 Inspection Documentation Tracking.pdf"
Matthew	Runoff Controls	54	Made Ecology's Notice of Intent for Construction Activity and Notice of Intent for Industrial Activity available to representatives of proposed new development and redevelopment? (S5.C.6.d)	Yes	Emailed Jessica Straits to have these added to the Stormwater Permits webpage since I could not easily find them.
Matthew	Runoff Controls	55	All staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites including permitting, plan review, construction site inspections, and enforcement are trained to conduct these activities? (S5.C.6.e)	Yes	
Matthew	O & M	56	Implemented maintenance standards that are as protective, or more protective, of facility function than those specified in the Stormwater Management Manual for Western Washington or a Phase I program approved by Ecology per S5.C.7.a.?	Yes	
Matthew	O & M	58	Applied a maintenance standard for a facility or facilities which do not have maintenance standards specified in the Stormwater Management Manual for Western Washington? If so, note in the Comments field what kinds of facilities are covered by this alternative standard. (S5.C.7.a)	No	
Matthew	O & M	58a	Note what kinds of facilities are covered by this alternative standard. (S5.C.7.a)		no 58Aa question online, N/A
Matthew	O & M	59	Verified that maintenance was performed per the schedule in S5.C.7.a.ii when an inspection identified an exceedance of the maintenance standard.	Yes	See attachment "2023 COPA Operations and Maintenance Facilities.pdf"
Matthew	O & M	59a	Attach documentation of maintenance time frame exceedances that were beyond the Permittee's control.	N/A	None to report.
Matthew	O & M	60	Implemented an ordinance or other enforceable mechanisms to verify long-term operation and maintenance of stormwater treatment and flow control BMPs/facilities regulated by the permittee per (S5.C.7.b.i (a))?	Yes	City has already adopted ordinance - see PAMC 13.63.270
Matthew	O & M	61	Annually inspected stormwater treatment and flow control BMPs/facilities regulated by the Permittee per S5.C.7.b.i(b)	Yes	See attachment "2023 Annual Private Facility Inspections.pdf"
Matthew	O & M	61a	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.b.i (b)	N/A	Considering using with implementation of new software.
Matthew	O & M	62	Achieved at least 80% of scheduled inspections to verify adequate long-term O&M. (S5.C.7.b.ii)	Yes	See attachement "2023 Annual Private Facility Inspections.pdf"
Matthew	O & M	63	Annually inspected all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	Yes	See attachment "2023 COPA Stormwater Facilities Annual Inspections.pdf"
Matthew	O & M	63a	Number of known municipally owned or operated stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	193	See attachement "2023 COPA Stormwater Facilities Annual Inspections.pdf"
Matthew	O & M	63b	Number of facilities inspected during the reporting period.	190	See attachement "2023 COPA Stormwater Facilities Annual Inspections.pdf"
Matthew	O & M	63c	Number of facilities for which maintenance was performed during the reporting period.	133	See attachement "2023 COPA Stormwater Facilities Annual Inspections.pdf"
Matthew	O & M	64	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.c.i.	N/A	

Matthew	O & M	65	Conducted spot checks and inspections (if necessary) of potentially damaged stormwater facilities after major storms as per S5.C.7.c.ii.	Yes	See attachment "2023 COPA Stormwater Facilities Annual Inspections.pdf"
Matthew	O & M	66	Inspected municipally owned or operated catch basins and inlets every two years or used an alternative approach? Cleaned as needed? (S.5.C.7.c.iii)	Yes	See attachment "2023 COPA Stormwater Facilities Annual Inspections.pdf"
Matthew	O & M	66a	Number of known catch basins?	2682	See attachment "2023 COPA Stormwater Facilities Annual Inspections.pdf"
Matthew	O & M	66b	Number of catch basins inspected during the reporting period?	2067	See attachement "2023 COPA Stormwater Facilities Annual Inspections.pdf"
Matthew	O & M	66c	Number of catch basins cleaned during the reporting period?	2067	See attachment "2023 COPA Stormwater Facilities Annual Inspections.pdf"
Matthew	O & M	67	Attach documentation of alternative catch basin cleaning approach, if used. (S5.C.7.c.iii.(a)-(c))	N/A	
Matthew	O & M	68	Implemented practices, policies and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the Permittee, and road maintenance activities under the functional control of the Permittee. (S5.C.7.d)	Yes	See attachment "COPA SW Policies and Procedures.pdf".
Matthew	O & M	70	Implemented an ongoing training program for Permittee employees whose primary construction, operations or maintenance job functions may impact stormwater quality. (S5.C.7.e)	Yes	
Matthew	O & M	71	Implemented a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under an NPDES permit that covers stormwater discharges associated with the activity. (S5.C.7.f)	Yes	See attachment "COPA Corp Yard SWPPP.pdf"
Ryan	Source Control	74	Established an inventory per S5.C.8.b.ii. (Required by August 1, 2022.)	Yes	Business Inspection List, PAMC 13.63.410
Ryan	Source Control	74a	Number of total sites identified for the inventory.	190	Per the Business Inspection List
Ryan	Source Control	75	Implemented an inspection program S5.C.8.b.iii (Required by January 1, 2023).	Yes	PAMC 13.63
Ryan	Source Control	76	Implemented a progressive enforcement policy per S5.C.8.b.iv (Required by January 1, 2023).	Yes	PAMC 13.63.275
Ryan	Source Control	77	Attach a summary of actions taken to implement the source control program per S5.C.8.b.iii and S5.C.8.b.iv.	Ready to upload. N:\PWKS\Stormwater\00 NPDES SW Permit Admin\NPDES Annual Reports\2023\Final\11. Source Control	See "2023 SC_Summary of Actions.pdf"
Ryan	Source Control	78	Attach a list of inspections, per S5.C.8.b.iii, organized by the business category, noting the amount of times each business was inspected, and if enforcement actions were taken.	Ready to upload. N:\PWKS\Stormwater\00 NPDES SW Permit Admin\NPDES Annual Reports\2023\Final\11. Source Control	See "2023 SC Inspections Performed.pdf"
Ryan	Source Control	79	Implemented an ongoing source control training program per S5.C.8.b.v?	Yes	
Ryan	TMDL	80	Complied with the Total Maximum Daily Load (TMDL)-specific requirements identified in Appendix 2. (S7.A)	N/A	
Ryan	TMDL	80a	List any requirements that were not met.	N/A	No 80a question online
Ryan	TMDL	81	For TMDLs listed in Appendix 2: Attach a summary of relevant SWMP and Appendix 2 activities to address the applicable TMDL parameter(s). (S7.A)	N/A	
Ryan	Monitoring and Assessment	82	Submitted payment for cost-sharing for Stormwater Action Monitoring (SAM) status and trends monitoring no later than December 1, 2019 (S8.A.1); and no later than August 15 of each subsequent year? (S8.A.2.a.)	Yes	Final\13. Monitoring & Assessment\SAM.2023_Approved Invoice.pdf

Ryan	Monitoring and Assessment	84	Submitted payment for cost-sharing for SAM effectiveness and source identification studies no later than December 1, 2019 (S8.B.1); and no later than August 15 of each subsequent year (S8.B.2.a or S8.B.2.c)?	Yes	Final\13. Monitoring & Assessment\SAM.2023_Approved Invoice.pdf
Ryan	Monitoring and Assessment	87	If conducting stormwater discharge monitoring in accordance with S8.C.1, attach a data and analysis report per S8.C.1. and Appendix 9. (Due annually beginning March 31, 2021.)	N/A	
Ryan	General Obligations 2	88	Notified Ecology in accordance with G3 of any discharge into or from the Permittees MS4 which could constitute a threat to human health, welfare or the environment. (G3)	N/A	
Ryan	General Obligations 2	89	Took appropriate action to correct or minimize the threat to human health, welfare, and/or the environment per G3.A.	N/A	
Ryan	General Obligations 2	90	Notified Ecology within 30 days of becoming aware that a discharge from the Permittee's MS4 caused or contributed to a known or likely violation of water quality standards in the receiving water. (S4.F.1)	N/A	
Ryan	General Obligations 2	91	If requested, submitted an Adaptive Management Response report in accordance with S4.F.3.a.	N/A	
Ryan	General Obligations 2	92	Attach a summary of the status of implementation of any actions taken pursuant to S4.F.3 and the status of any monitoring, assessment, or evaluation efforts conducted during the reporting period. (S4.F.3.d)	Ready to upload. N:\PWKS\Stormwater\00 NPDES SW Permit Admin\NPDES Annual Reports\2023\Final\14. S4 Compliance\Streamkeepers	See "2023 S4F Status_ongoing efforts_StreamKeepers.pdf"
Ryan	General Obligations 2	93	Notified Ecology of the failure to comply with the permit terms and conditions within 30 days of becoming aware of the non-compliance. (G20)	N/A	
Ryan	General Obligations 2	94	Number of non-compliance notifications (G20) provided in reporting year. List permit conditions described in non-compliance notification(s) in Comments field.	0	
Ryan	General Obligations 2	94a	List permit conditions described in non-compliance notification(s).	N/A	No 94a question online

This is a copy of the City's Stormwater Management Program (SWMP) Plan. It defines what the City plans to do to reduce adverse stormwater runoff impacts on downstream receiving waterbodies.

We would like your input on methods to improve the quality of our stormwater and the environment.

Please let us know if you have any comments, ideas, or concerns! You can provide feedback directly to City Hall at 321 East Fifth Street, attention Stormwater Engineer. You can also call the stormwater hotline at 360-417-4830, or send an email to stormwater@cityofpa.us.

City of Port Angeles

Stormwater Management Program Plan

Revised: March 27, 2024

As required by the

Western Washington Phase II Municipal Stormwater Permit
State of Washington – Department of Ecology

Permit Number: WAR045028
Permit Cycle: 2019-2024

Table of Contents

Background and Intent 5

1) Stormwater Planning 6

a) Stormwater Planning Team 6
b) Long-range Plan Coordination Report 6
c) LID Code-related Requirements 7
i) LID Barrier Assessment 7
d) Stormwater Management Action Planning (SMAP) 7
i) Phase I: Receiving Water Assessment 7
ii) Phase II: Receiving Water Prioritization 8
iii) Phase III: SMAP Development 8

2) Public Education and Outreach 9

a) General Awareness 9
b) Behavior Change 12
c) Stewardship 13
d) Recordkeeping 14

3) Public Involvement and Participation 14

a) Public Involvement in SWMP 14
b) Availability of Information to the Public 15

4) MS4 Mapping and Documentation 15

a) Municipal Separate Storm Sewer System (MS4) Map 16
i) Location of Known Outfalls, Receiving Waters and Structural BMPs 16
ii) New Connections to the MS4 16
iii) Areas Not Discharging to Surface Waters 16
b) Availability of Information 17

5) Illicit Discharge Detection and Elimination (IDDE) 17

a) IDDE Policy and Procedures 17
b) IDDE Education 18
c) Illicit Discharge Ordinance 18
d) Illicit Discharge Detection 18
i) Field Screening and Potential Sources 18
ii) Hotline for Public Reporting of Discharges and Spills 20
iii) IDDE Staff Training 20
e) Illicit Discharge Response 20
i) Nature of Discharge 20
ii) Source Tracing 21
iii) Discharge Elimination 21
iv) Permit Compliance Timeframes 21
f) Recordkeeping 22

6) Controlling Runoff from New Development, Redevelopment, and Construction Sites 22
a) Stormwater Ordinance Regulating Development 22
i) Minimum Requirements, Technical Thresholds, and Definitions 23
ii) Legal Authority to Inspect Private Facilities 23
ii) LID Required 23
iii) Erosivity Waiver 23
b) Permitting 23
i) Review of Stormwater Site Plans 24
ii) Erosivity Waiver 24
iii) Notice of Intent 24
c) Inspections 24
i) Pre-Construction Inspections 24
ii) During Construction Inspections 25
iii) Post-Construction Inspections 25
iv) Inspection Compliance 25
v) Enforcement Strategy 25
d) Staff Training 25
e) Recordkeeping 25
7) Operations and Maintenance 26
a) Maintenance Standards 26
b) Permitted Stormwater Facilities 26
i) Operations and Maintenance Ordinance 26
ii) Maintenance Standards 27
iii) Annual Inspections 27
iv) Compliance & Recordkeeping 27
c) City Owned Stormwater Facilities 27
i) Treatment and Flow Control Inspections 27
ii) Spot Checks 28
iii) Catch Basin Inspections 28
iv) Compliance 28
d) Stormwater Impact Reduction from Public Lands 28
e) Training Program 29
f) Stormwater Pollution Prevention Plans 29
g) Recordkeeping 31
8) Source Control Program for Existing Development 31
a) Program Goals 32
b) Program Components and Milestones 32
i) Ordinance to Apply Best Management Practices (BMPs) 32
ii) Inventory of Sites 33
iii) Inspection Program 33
iv) Progressive Enforcement Policy 33
c) Staff Training 34
Stormwater NPDES and Capital Needs Assessment 34

Documents Referenced 35
SWMP Appendix A : Inter-Departmental Coordination Mechanism Policy 36
SWMP Appendix B : Public Outreach Plan Activity Matrix 37
SWMP Appendix C : Illicit Discharge Detection and Elimination (IDDE) Response Policy 38

List of Tables

Table 1: Status of Stormwater Pollution Prevention Plans for City Facilities..... 29
Table 2: Existing Individual Stormwater and Stormwater-Related Permits..... 30

Appendices

Appendix A: Public Outreach Plan Activity Matrix
Appendix B: Illicit Discharge Detection and Elimination (IDDE) Response Policy
Appendix C: Inter-Departmental Coordinating Mechanisms

BACKGROUND AND INTENT

The City of Port Angeles (City) was issued a Western Washington Phase II Municipal Stormwater Permit (Permit) on January 17, 2007. The Permit was issued by the State of Washington's Department of Ecology (Ecology) in compliance with the State of Washington Water Pollution Control Law (Chapter 90.48 Revised Code of Washington) and the Federal Water Pollution Control Act (Title 33 United States Code, Section 1251 et seq). The Permit was renewed on August 1, 2013 for a five-year term (2013-2018), however, Ecology extended the permit an additional year into 2019. On August 1, 2019, Ecology updated and renewed the permit for another five-year term (2019-2024). The Permit authorizes the City to discharge from the municipal separate storm sewer system (MS4) to surface waters and ground waters of the state.

A Stormwater Management Program (SWMP) was developed by the City to meet the specific requirements of Special Condition S5 of the Permit: "Stormwater Management Program for Cities, Towns, and Counties." The SWMP Plan is a written set of planned actions and activities designed to reduce the discharge of pollutants to the maximum extent practicable and to protect water quality.

The organization of the City's SWMP reflects the eight core components required by Special Condition S5 under the active Permit; the corresponding permit sections are provided in parentheses:

1. Stormwater Planning (S5.C.1)
2. Public Education and Outreach (S5.C.2)
3. Public Involvement and Participation (S5.C.3)
4. MS4 Mapping and Documentation (S5.C.4)
5. Illicit Discharge Detection and Elimination (S5.C.5)
6. Controlling Runoff from New Development, Redevelopment, and Construction Sites (S5.C.6)
7. Operation and Maintenance (S5.C.7)
8. Source Control Program for Existing Development (S5.C.8)

The City's SWMP Plan is updated and submitted to the Department of Ecology annually, as required. A digital copy of the SWMP Plan is available on the City's stormwater web page. Updates to the Plan for each calendar year are posted by March 31st, as required by the Permit

Many of the activities described in the SWMP are planned activities, and their inclusion in this document does not guarantee that they will be implemented as described. An annual report of actual activities performed is submitted annually to Ecology.

The public is encouraged to participate in the ongoing development and improvement of the SWMP. To provide input, contact the Department of Public Works and Utilities with questions, comments, or suggestions at:

Address: 321 East Fifth St., Port Angeles, WA 98362

Phone:	(360) 417-4830 (Stormwater Hotline) (360) 417-4745 (Illicit Discharge Hotline) *Report a Spill* (360) 417-4811 (City Stormwater Engineer)
Email:	stormwater@cityofpa.us illicitdischarge@cityofpa.us *Report a Spill*
Website:	https://www.cityofpa.us/376/Stormwater-Management-Program

6) Stormwater Planning

The City has implemented a Stormwater Planning Program designed to inform and assist in the development of policies and strategies as water quality management tools to protect receiving waters. During the current permit cycle, this program will be further developed and executed within the allowable timeframes to meet the requirements of the 2019-2024 Permit.

a) Stormwater Planning Team

Within the City, inter-departmental communication and coordination regarding stormwater management (i.e. code changes, permit compliance, low-impact development standards, illicit discharges, pollution prevention, education and outreach, permitting, tracking, etc.) has been well-established, as documented by the City's Inter-Departmental Coordination Mechanism Policy. The City's Stormwater Permit Coordination Group (SWPCG) was expanded upon in 2020 to specifically include a "Planning" component that is dedicated to informing and assisting in the development, progress, and influence of the City's overall Stormwater Planning Program. The Group's written policy was updated in July 2020, included here-in in Appendix A, and was renamed the "Stormwater Permit Coordination and Planning Group" (SWPCPG). Semi-regular meetings are held to discuss ongoing and future stormwater management items across select departments and divisions within the City.

b) Long-range Plan Coordination Report

During this permit Cycle, the City reviewed and evaluated how stormwater management needs and protection/improvement of receiving water health are (or are not) informing the planning update processes and influencing policies and implementation strategies.

This effort was manifested in two reports to Ecology describing how the water quality and watershed protection policies, strategies, codes, and other measures intended to protect and improve local receiving water health through planning, or taking into account stormwater management needs or limitations; under the previous permit cycle and, again, under the current permit cycle.

Included in the City's 2020 annual report to Ecology (due on or before March 31, 2021), the City has responded to the series of Stormwater Planning Annual Report questions describing how anticipated stormwater impacts on water quality were addressed, if at all, during the 2013-2019 permit term in updates to the

Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation.

These same questions were applied to the current permit cycle and used to generate a Long-range Plan Coordination Report to Ecology, submitted January 1st, 2023.

c) LID Code-related Requirements

The City will continue to require Low-impact Development (LID) Principles and LID BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed. The intent being to make LID the preferred and commonly-used approach to site development. The local development-related codes, rules, standards, or other enforceable documents will be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations, where feasible.

i) LID Barrier Assessment

Annually, the City will assess and document any newly identified administrative or regulatory barriers to implementation of LID Principles or LID BMPs since local codes were updated in accordance with Ecology's 2013 Permit, and the measures developed to address the barriers. If applicable, the assessment will describe mechanisms adopted to encourage or require implementation of LID principles or LID BMPs.

d) Stormwater Management Action Planning (SMAP)

During this permit cycle, the City developed a comprehensive stormwater planning approach that is focused on addressing impacts from the cumulative development in a watershed rather than on single site or subdivision impact. The purpose of this effort to determine:

- How the City can most strategically address existing stormwater problems, and
- How the City can meet future population and density targets while also protecting and improving conditions in receiving water.

The resulting SMAP strategically identified approaches to accommodate future growth and development while preventing water quality degradation and/or improving conditions in receiving waters harmed by past development. Here is a link to the SMAP webpage for more information and to obtain copies of the progress reports: https://www.cityofpa.us/1140/Stormwater-Management-Action-Plan.

i) Phase I: Receiving Water Assessment

In order to develop and implement a strategic plan of action, the City first identified receiving waters that are most likely to receive a benefit. To achieve this, the City documented and assessed existing information related to our local receiving waters.

A tabulated watershed inventory that includes a brief description of the relative conditions of the receiving waters and the contributing areas has been consolidated, per permit requirements, and was be submitted to Ecology by March 31st, 2022. The submittal included a map of the delineated basins that references back to the watershed inventory table and identifies which receiving waters have a relatively low stormwater management influence and will not be included in the next step; prioritization.

ii) Phase II: Receiving Water Prioritization

Informed by the assessment of receiving water conditions, and other local and regional information, the City developed and implemented a prioritization method and process to determine which receiving waters will receive the most benefit from implementation of stormwater facility retrofits, tailored implementation of SWMP actions, and other land/development management actions. The retrofits and actions were designed to:

- Conserve, protect, or restore receiving waters through stormwater and land management strategies that act as water quality management tools,
- reduce pollutant loading, and
- address hydrologic impacts from existing development as well as planned for and expected future buildout conditions.

This prioritized and ranked list of receiving waters was documented in a report and submitted to Ecology prior to June 30, 2022, along with the process used to identify high priority receiving waters. Additionally, the ranking process included the identification of a high priority catchment area (the Valley Creek Basin) for focus of the Stormwater Management Action Plan (SMAP Phase III).

iii) Phase III: SMAP Development

In this step, the City developed an SMAP for at least one high-priority catchment area that:

- Identified specific stormwater management actions to protect water quality in the selected receiving water (Valley Creek Basin), and
- Determined an appropriate schedule and budget source(s) for implementing the activities and projects identified.

As required by the Permit, this SMAP was completed by March 31st, 2023 and will included the following:

1. A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations.
2. Land management/development strategies and/or actions identified for water quality management.
3. Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within section S5 of the Permit, including:

a. IDDE field screening,
b. Prioritization of Source Control inspections,
c. O&M inspections or enhanced maintenance, or
d. Public Education and Outreach behavior change programs.

Identified actions will support other specifically identified stormwater management strategies and actions for the basin overall, or for the catchment area in particular.

4. If applicable, identification of changes needed to local long-range plans, to address SMAP priorities.
5. A proposed implementation schedule and budget sources for:
   a. Short-term actions (accomplished within 6 years)
   b. Long-term actions (accomplished within 7-20 years)
6. A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.

7) PUBLIC EDUCATION AND OUTREACH

The City's public education and outreach program has been developed consistent with the original Permit goal: "to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts." The program's foundational goals are to:

- build general awareness within the community about methods to address and reduce impacts from stormwater runoff,
- effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts,
- create stewardship opportunities that encourages community engagement in addressing the impacts from stormwater runoff.

The City is a member of the West Sound Stormwater Outreach Group (WSSOG); a regional group facilitated by Kitsap County that consolidates resources, knowledge, and experience in an effort to achieve a robust, engaging, and consistent education and outreach program. Regionally developed strategies and materials are tailored to meet the City's needs and implemented locally.

a) GENERAL AWARENESS

At a minimum, the City will annually select one target audience from the list below and implement an education and outreach program designed to provide general awareness regarding stormwater issues and solutions. The content of the program will be relevant to the target audience selected and will be implemented on an ongoing or strategic schedule. The target audiences included in the permit and relevant subject areas to be covered are detailed below.

General Public or Businesses

Including overburdened communities, or school age children and including home-based or mobile businesses, respectively.

Subject areas:

- General impacts of stormwater on surface waters, including impacts from impervious surfaces.
- Low impact development (LID) principles and LID BMPs.

Land Development Professionals
Engineers, contractors, developers, or land use planners.

Subject areas:

- Technical standards for stormwater site and erosion control plans.
- LID principles and LID BMPs.
- Stormwater treatment and flow control BMPs/facilities

The following is a list of means and methods the City may employ in their annual targeted education and outreach program:

- **Stormwater website**: the City's stormwater website contains information on general stormwater impacts, impervious surfaces, and opportunities for the public to help improve stormwater quality within the watershed. The webpage may be found at https://www.cityofpa.us/255/Stormwater-Utility. The website will be updated as more information becomes available. Specific updates are planned to include a list of frequently asked questions, a list of upcoming stormwater-related events, additional links to other websites, and copies of educational materials developed under this program.
- **Presentations / Meetings**: Annually, the City may hold virtual and/or in-person public meetings to discuss the stormwater management program plan, stormwater management requirements, permitting, stormwater templates, ordinances, LID, etc. In these meetings we may discuss local water quality, the effects of impervious surfaces on stream health, and stormwater pollutants generated by home and automobile owners. Meetings may be held with local interest groups such as Streamkeepers, EcoNet, and the North Peninsula Builders Association.
- **Informational handouts:** Take-home fliers and brochures and may be made available to the public at facilities such as Port Angeles City Hall (customer service and billing desk, Public Works and Utilities reception area), Clallam County Courthouse, Port Angeles Public Library, City Pier (Arthur D. Feiro Marine Life Center), Peninsula College, and others. The informational brochures are designed to address the education goals listed above. As new brochures and other informational materials are developed, electronic copies will be made available through the City's stormwater webpage.
- **Media advertisements**: The City may periodically place stormwater-related information in the local newspaper (Peninsula Daily News), on paid cable and satellite, locally targeted internet advertising platforms, and at local movie

theatres. This information will be designed to address the education goals listed above and will be timed to reflect the greater impact during the wet winter season. Electronic copies of media advertisements may be made available through the City's stormwater webpage.

- **Utility bill mailers**: One month of the year, typically October, educational mailers are sent out with the monthly utility bills, thereby reaching the City's utility customers. The mailers will be developed to create a progressive flow of general stormwater related information with practical tips for home and business owners to help improve water quality. Copies of mailers may also be made available on the City's stormwater website and as handouts. The 2023 utility bill mailer are likely to feature topics such as: LID techniques, stormwater code updates, stormwater programmatic changes, BMPs, pet waste management, vehicle washing, natural yard care, and the new source control inspection program.
- **Local event participation**: Educational materials (posters, brochures/handouts, maps, etc) are commonly distributed at existing local and regional events that attract members of the target audiences. At such events, City representatives are made available to answer questions and provide information. Typical events include: Clallam County Fair, Clallam County Home and Lifestyle Show, Earth Day at the Pier, and others. Event-specific materials are developed and distributed as appropriate. Announcements of upcoming events and copies of materials used at events are typically available on the City's stormwater website. While restricted during the global Covid-19 pandemic, public outreach activities were mostly able to resume normally in 2022 and are expected to continue in 2023.

A matrix has been prepared to show planned activities for the current year and their relationship to the target audiences. This matrix is attached as Appendix B to this document. Updates of actual education and outreach activities performed will be provided with the Annual Report for the year.

In addition to the means and methods listed above (whose primary purpose is to provide stormwater education and meet permit requirements), throughout a typical year, the City also indirectly provides education outreach, such as:

- **Pollution prevention site visits**: The City receives grant funding through the State Department of Ecology to support a Pollution Prevention Specialist position. This person schedules site visit appointments at businesses within the City. The purpose will be to educate them about stormwater pollution and their connection to the local water ways, to educate them about the impacts of illicit discharges and how to report them, to help them implement BMPs on use and storage of hazardous materials, to fill out the Department of Ecology's Source Control Checklist and to report that information to Ecology and the City. Under the current permit cycle, Source Control is now a permit condition and starting in Jan. 2023, this program will become an active

component to the City's overall stormwater management program. See Section 8 for more details.

- **Illicit discharge information for the general public**: General information regarding illicit discharges to stormwater is provided to the public in an ongoing manner under the City's IDDE program. Information includes a description of illicit discharges, applicable laws, environmental effects, preventative measures, reporting measures, and links to other sources of information. A "Stormwater Pollution Hotline" is available for public reporting of illicit discharges (360-417-4745). See Section 5 for more details.
- **Direct mail:** Mailers designed to address specific stormwater education goals or stormwater ordinance updates may be sent directly to a specific target audience or City wide (i.e. car washes, golf courses, LID code changes, etc.). The audience will be selected based on classification in directories such as telephone books, web searches, or utility information.
- **BMP and LID incentives programs:** the City will continue to implement a stormwater rebate program that will offer financial incentives to small development projects who implement certain stormwater LID BMPs, on their properties. This program will be advertised on the City website and at local public events. The City has also implemented a rain garden rebate program for existing homes and businesses to further encourage LID. The rain garden rebate reimburses an approved applicant the cost of up to $1000 for the material required. Program details can be found on the City's Stormwater webpage: https://www.cityofpa.us/256/Rain-Gardens.
- **Stormwater Management Manual for Western Washington:** a copy of the most recent version of the Department of Ecology's manual is available at the City's Public Works and Utilities Department's Engineering Services Office so that designers can access the manual without purchasing or printing it. Staff are available by appointment to assist with the use of the manual.
- **Workshops or one-on-one meetings with developers:** The city stormwater engineer meets regularly with developers and engineers to help them interpret the City stormwater regulations, and to recommend low impact development techniques as generally lower cost stormwater solutions. New in 2021; via Microsoft Bookings and from the City's website, interested parties can now directly schedule a virtual meeting with Public Works Staff to discuss all aspects of development, including stormwater management or concerns.

b) BEHAVIOR CHANGE

At a minimum, the City will annually select one target audience and one Best Management Practice (BMP) from the list below and implement an education and outreach program designed to effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.

Target Audiences

Residents, landscapers, property managers/owners, developers, school age children, or businesses (including home-based or mobile businesses).

Best Management Practices (BMPs):

- Use and storage of: pesticides, fertilizers, and/or other household
- chemicals.
- Use and storage of: automotive chemicals, hazardous cleaning supplies, carwash soaps, and/or other hazardous materials.
- Prevention of illicit discharges.
- Yard care techniques protective of water quality.
- Carpet cleaning.
- Repair and maintenance BMPs for: vehicles, equipment, and/or home/buildings.
- Pet waste management and disposal.
- LID Principles and LID BMPs.
- Stormwater facility maintenance, including LID facilities.
- Dumpster and trash compactor maintenance.
- Litter and debris prevention.
- Sediment and erosion control.
- (Audience specific) Source control BMPs (refer to S5.C.8).
- (Audience specific) Locally-important, municipal stormwater-related subject area.

As required by the permit, behavior change effectiveness studies will be performed at the time intervals specified. The City anticipates continuing to meet behavior change and program evaluation requirements in collaboration with the regional West Sound Stormwater Outreach Group (WSSOG), facilitated by Kitsap County. The City's inter-local Agreement with Kitsap County was re-signed at the beginning of the year through Dec. 2022. The focus over the last few years has been Natural Yard Care (NYC) and continued to be in 2023 and early 2024.

Tailoring of the program to meet the City's needs may be necessary to ensure the content is applicable to Port Angeles. Results from the effectiveness study will be used to optimize the strategy and schedule of our existing education and outreach program. Social marketing practices and methods will be incorporated, and a program evaluation plan will be developed and implemented to monitor ongoing performance. Progress reports regarding the program evaluation results and improvements will be submitted to Ecology at specified intervals.

c) STEWARDSHIP

Empowering and encouraging local citizens to take ownership in their community is known to have long-term positive impacts that can be felt for generations to come. The permit requires the City provide and advertise stewardship opportunities and/or partner with existing organizations (including nonpermittees) to encourage residents to participate in activities or events planned and organized

within the community, such as: stream teams, storm drain marking, volunteer monitoring, riparian plantings, and education activities. To meet this permit requirement, the City intends to continue its partnership with Streamkeepers of Clallam County; a citizen-based watershed monitoring program that provides volunteer opportunities and project assistance in the effort to protect and restore the local watersheds in Clallam County. However, new ideas for new partnerships and ways to support local stewardship opportunities are always welcome and can be submitted to the City's Stormwater Engineer.

d) RECORDKEEPING

The City will track and maintain records of all public education and outreach activities conducted. An electronic database of this information is maintained by the City's Public Works and Utilities Department. The database contains the following entries, where applicable:

- Name of outreach activity/distribution/event
- Date(s)
- Location(s)
- City personnel involved
- Target audience(s)
- Contact information for other group(s)
- Subject area(s)
- Attendance/distribution (actual or approximate)
- Educational materials used (flyers, handouts, slide shows, posters, etc)
- Notes/other

The public education and outreach database is available from the City upon request. An updated version will be included with each annual report. Copies of all material used during public education and outreach activities will be maintained, as well as photos, descriptions of feedback, lessons learned, and other information.

8) PUBLIC INVOLVEMENT AND PARTICIPATION

The SWMP will include opportunities for public involvement and participation to ensure that the program addresses the goals and expectations of the public as well as the requirements of the Permit. Public comments will be tracked and responded to as appropriate.

a) PUBLIC INVOLVEMENT IN SWMP

The City seeks public involvement and participation in developing and managing stormwater within the community. The permit describes ongoing opportunities for participation may be provided through advisory councils, public hearings, watershed committees, developing rate-structures, or other similar activities. Ways to engage and include overburdened communities, as defined in the permit, will be considered

when providing a means for involvement. Currently, common ways the public have opportunities for participation are:

- Direct contact with City staff: An email address, phone number, and mailing address will be provided on all City stormwater information distributed. The public will be encouraged to contact City staff at any time with questions or concerns.
- Web page: The City's stormwater web page, https://www.cityofpa.us/255/Stormwater-Utility, includes an updated copy of the SWMP Plan, encourages public involvement, elicits and facilitates feedback, and gives contact information.
- Public hearings: All City policy decisions will follow standard City procedure and will be brought before City Council through the public hearing process. This includes rate changes, new or revised ordinances, and other official policy decisions. The public are notified, as required, and will have a chance to comment during the hearings.
- Engineering counter handout: The SWMP Plan is available at City Hall in the Public Works and Utilities (PW&U) reception area.
- Stormwater workshops: The City stormwater engineer may hold public information sessions on the stormwater management program to local professionals, the public, and stakeholder groups such as Streamkeepers, EcoNet, and North Peninsula Builders Association.

All opportunities for public involvement and comments received will be tracked on a spreadsheet maintained by the Department of Public Works and Utilities. The City will consider comments as they are received and will follow up with the public as appropriate.

b) Availability of Information to the Public

The most recent annual report to Ecology, the SWMP Plan, and other submittals required by the Permit are made available to the public on the City's stormwater webpage. The documents are also be available to the public at the Department of Public Works and Utilities (321 East Fifth St, Port Angeles), upon request. Staff will be available by appointment to discuss the documents with any interested parties.

9) MS4 Mapping and Documentation

Accountability of a municipality's existing and developing stormwater network is necessary to build upon the past, maintain what's existing, and plan for the future. In the late 90's and early 2000's, the City began collecting field stormwater infrastructure data and recording it electronically using data management and spatial mapping software. Today, the City's inventoried and mapped stormwater system consists of approximately:

- 65 miles of stormwater conveyance
- 2,600 catch basins

- 170 outfalls
- 190 treatment and flow control facilities

Maintaining accountability and updating the mapping system is an ongoing collaborative effort that relies heavily on communication and established information processing pathways.

a) Municipal Separate Storm Sewer System (MS4) Map

The City's stormwater system is mapped electronically in the City's Geographic Information System (GIS). The data contained in the map is updated and corrected continuously as information is gathered in the field or as new development occurs. Updates are made based on field sketches, design plans, as-built plans, aerial photography, and/or other sources of information that become available. This information is available graphically to all interested parties via ArcGIS Online: https://pawa.maps.arcgis.com/home/index.html.

The stormwater GIS layers contain information on storm drain manholes, catch basins, outfalls, pipes, ditches, culverts, detention ponds, treatment facilities, and drainage basins. Other layers within the City's overall GIS dataset contain information relevant to stormwater as well, for example: land use, land cover, zoning, impervious surfaces, topography, natural hydrology, and combined sewers. Aerial photography is also available, with the most recent flyover being performed in 2019.

i) Location of Known Outfalls, Receiving Waters and Structural BMPs

The locations of all known outfalls, receiving waters, and structural BMPs owned, operated and/or maintained by the City have been mapped in the GIS. Additional information regarding tributary conveyances (pipes, ditches, etc), associated drainage areas, and land use will be developed as part of the program's ongoing refinement process. During the course of normal business, Stormwater Operations staff are in the process of collecting and recording more detailed information specifically regarding outfalls such as material type, diameter, condition, etc.

ii) New Connections to the MS4

The City continuously updates the stormwater GIS with all new connections or infrastructure permitted or otherwise authorized by the City. New connections are mapped from development plans, project plans, field reports, and/or other sources as appropriate.

iii) Areas Not Discharging to Surface Waters

Most of the areas served by the City-owned MS4 discharge into surface waters, however there are four west side retention basins which provide an unmeasured level of infiltration: Lincoln Park Pond, Big Boy Pond, M & 10th St. Wetland, and the 10th and N St. Quarry). All of these areas have overflow structures that allow stormwater to discharge to surface waters. Also, the City has some surface water

catch basins which drain to the City's wastewater plant. These basins have been mapped.

b) Availability of Information

The City's stormwater mapping with associated infrastructure information is available to anyone at any time on the City's website or via the following web address:

https://pawa.maps.arcgis.com/apps/webappviewer/index.html?id=201b67adeee447f89d720a9fbb9569f9

Additionally, City staff are available by appointment to provide assistance with navigating the GIS mapping database and in providing more-detailed project specific information, if available.

Upon request, and to the extent appropriate, the City is able to provide mapping information to federally recognized Indian Tribes, municipalities, and other Permittees, however, depending on the extent of the request, the City may recover reasonable costs associated with fulfilling these mapping information requests.

Upon request, the City can provide available stormwater maps to Ecology. The City can provide the required mapping information in electronic format that meets or exceeds Ecology's GIS mapping standards, with the exception of metadata, which the City does not have available in electronic format at this time.

10) Illicit Discharge Detection and Elimination (IDDE)

An illicit discharge is any direct or indirect discharge into the City's stormwater system that is not comprised entirely of stormwater, with some exceptions explicitly described in the Phase II permit and reiterated in municipal code. This section of the stormwater management program is designed to prevent, detect, characterize, trace, and eliminate illicit discharges to the City's municipal separate storm sewer system (MS4).

a) IDDE Policy and Procedures

In 2010, the City developed a written IDDE Response Policy and Procedure Manual for the Department of Public Works and Utilities. This manual details the City's standard operating procedures for reporting, responding, and correcting or removing illicit connections, spills, or other illicit discharges, whether suspected or confirmed. The most recent comprehensive update to the City's IDDE policy occurred in Dec. 2014, however, a re-evaluation and update is currently underway and is expected to be finalized within the year. The goal of the update is to ensure the City's policy is consistent with current techniques, methods, and standards and increase the document's overall usability. A copy of this policy is included as Appendix C to this document. In compliance with the Permit, implementation of this Policy will continue through the 2019-2024 permit cycle. Each element is discussed in the following sections.

b) IDDE Education

The City will primarily utilize its established Education and Outreach Program, as described in Section 2, to proactively disseminate information about illicit discharges, associated hazards, and improper disposal of waste. Additional education opportunities are taken under the City's Source Control Program (Section 8) and, reactively, during IDDE investigations.

c) Illicit Discharge Ordinance

The City developed a comprehensive stormwater ordinance including an illicit discharge provision for the MS4 (PAMC 13.63). The ordinance was written to satisfy the criteria listed in the original Permit, including: illegal discharges, allowable discharges, categories of discharge identified as significant sources of pollution to waters of the State, escalating enforcement procedures, and enforcement strategies. The ordinance was passed by the City Council on June 16th, 2009. Additional permit driven updates to the stormwater code were enacted on December 20th, 2016 and July 5th, 2022.

d) Illicit Discharge Detection

Within the City's IDDE program, mechanisms for the detection and identification of non-stormwater discharges and illicit connections have been established and are being implemented.

i) Field Screening and Potential Sources

The City's established field screening methodology is described in full detail in the City's IDDE Response Policy, attached in Appendix C, and in the City's IDDE screening strategy that is updated annually and submitted to Ecology as part of the annual report.

Prioritization of receiving waterbodies was completed on February 12, 2010. Prioritization is based on the Department of Ecology's 303d list, as well as the significance of the waterbody for potential salmon recovery.

<u>303(d) listed waterbodies</u>

- Peabody Creek
- Tumwater Creek
- Port Angeles Harbor
- Dry Creek
- Valley Creek
- Ennis / White Creek

<u>Creeks with high salmon recovery potential</u>

- Ennis / White Creek system

<u>Proposed highest priority waterbodies for visual inspection:</u>

- Peabody Creek

- Tumwater Creek
- Ennis / White Creek system

Starting in 2014, the City was broken up into 8 annual screening basins based on equal distribution of stormwater infrastructure. This enabled the City to begin annually screening, on average, 12.5% of its MS4 system for illicit connections and discharges. When a basin contains or borders a creek, a field assessment of the creek from its outfall to the basin limit is performed as part of the screening program. Field assessments of the Peabody, Tumwater, Valley, Mill, Dry, White, and Ennis Creeks have been completed at least once within City limits. Field assessment activities include visual inspection during dry weather and field screening for illicit discharges in accordance with the City's "Illicit Discharge Detection and Elimination (IDDE) Response Policy". IDDE Basin 7, the Lauridsen Boulevard Basin, was screened in 2023, achieving 100% of the City being screened since 2014. In 2024, IDDE Basin 8, the West/Airport Basin is scheduled to be screened.

Screening of these basins is accomplished through the use of existing City inspection programs. Primary stormwater catch basins within the priority screening basin is visually inspected during its years screening. Existing programs and tasks are also leveraged to fulfill this requirement including Business Inspections, Manhole Inspections, Outfall Inspections, Stormwater BMP Inspections, and creek walks.

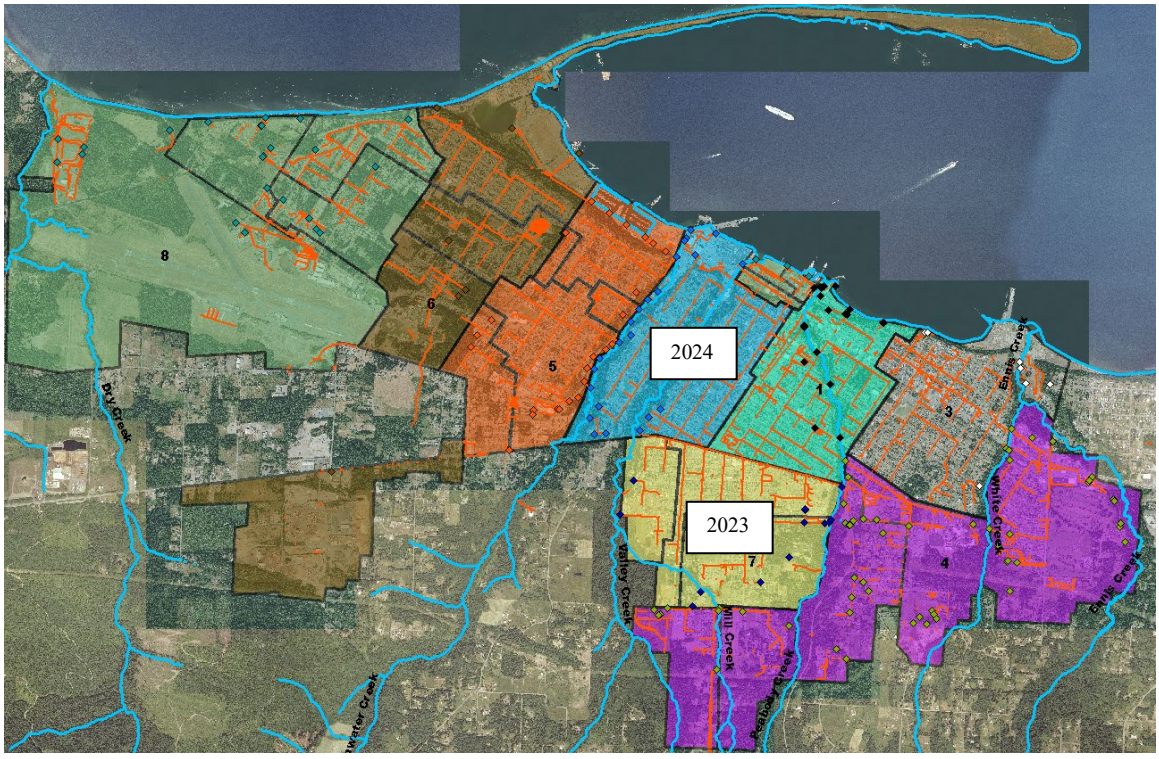


Figure 1. IDDE Screening Strategy: Screening basin boundary map and schedule.

ii) Hotline for Public Reporting of Discharges and Spills

The City's Illicit Discharge Hotline (360-417-4745) is available for public reporting of discharges and spills. Outside of traditional working hours, this number is forwarded to the Public Works On-Call number for after-hours response. The hotline number will be published with all stormwater information and is available on the City's stormwater website. The public will also be able to report discharges, spills, or other concerns via the City's storm water webpage, utilizing an online form, where information on the spill and photos can be submitted. Direct reporting via email is also available: illicitdischarge@cityofpa.us. Both the hotline and email are forwarded directly to City staff to ensure a timely response.

iii) IDDE Staff Training

Municipal staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, improper disposal, and illicit connections are specifically trained to conduct these activities. Follow-up training will be provided as needed to address changes in procedures, techniques, or requirements. The City documents and maintain records of training provided and staff trained.

Municipal field staff, which, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge or illicit connection to the storm sewer system are provided on-going annual or biennial IDDE trainings, depending on need and availability. This training is intended to educate staff members in the basics of the City's policy, IDDE identification, and the proper procedures for reporting to response teams. New employees receive this training during their probationary period to ensure all staff are trained to understand the basics and importance of IDDE notification and response.

e) Illicit Discharge Response

Following IDDE detection or notification, the City's response plan includes characterization, threat assessment, source tracing, discharge elimination or disconnection, spill clean-up, and reporting.

i) Nature of Discharge

Any illicit discharges discovered by or reported to the City will be characterized using the City's IDDE Response Policy in terms of potential public or environmental threat. The City will investigate any complaints, reports, or monitoring information that indicates a potential illicit discharge, spill, or illegal dumping within seven days. Problems and violations determined to be emergencies or otherwise judged to be urgent or severe will be investigated immediately.

ii) Source Tracing

The City will trace the source of illicit discharges using one or more of the following means and methods:

- Visual observation
- Tracing upstream from manhole to manhole
- Dye testing
- Sewer inspection camera
- Water sampling and analysis
- Site inspections of potential sources

Additional tracing methods will be employed as available and applicable. The results of the tracing investigation will be entered onto the appropriate data base and used for follow-up activities. A drainage contaminate survey was performed on Peabody Creek with a goal of detecting and eliminating illicit connections contributing to high levels of fecal coliform. An inter-local agreement with Streamkeepers of Clallam County facilitates ongoing sampling of priority areas identified in the contaminate survey alongside routine sampling of Peabody, Tumwater, and Valley Creeks.

iii) Discharge Elimination

Once identified, sources of illicit discharges and illicit connections will be eliminated using all allowable means made available by municipal code. If necessary, escalating enforcement and legal actions will be used if discharge elimination/disconnection cannot be achieved voluntarily and within allowable frames.

iv) Permit Compliance Timeframes

Regarding IDDE response, Permit compliance is achieved by meeting the following timelines:

- Immediately respond to all illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment, consistent with General Condition G3.
- Investigate (or refer to the appropriate agency with the authority to act) within 7 days, on average, any complaints, reports, or monitoring information that indicates a potential illicit discharge.
- Initiate an investigation within 21 days of any report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection.
- Upon confirmation of an illicit connection, use the compliance strategy in a documented effort to eliminate the illicit connection within 6 months. All known illicit connections to the MS4 shall be eliminated.

f) RECORDKEEPING

The City will track the following information, as required by the 2019-2024 Permit:

1. Jurisdiction name and permit number
2. Date incident discovered or reported to you
3. Date of beginning your response
4. Date of end of your response
5. How was the incident discovered or reported to you?
6. Discharge to MS4?
7. Incident Location
8. Pollutants Identified
9. Source or Cause
10. Source tracing approach(es) used
11. Correction/elimination methods used
12. Field notes, explanations, and/or other comments

More details regarding the information tracked is described in Appendix 12 of the Permit.

In years past, reporting of illicit discharges were tracked using the form developed by the Center for Watershed Protection and incorporated into the City's IDDE Policy. To include all the recently required information listed above, the existing form may need to be updated or the City may begin using Ecology's WQWebIDDE form. Electronic and paper copies of all records, including follow up reports and actions, will be maintained at the Public Works and Utilities office. A summary of this information will be included in the City's Annual Report to Ecology.

11) CONTROLLING RUNOFF FROM NEW DEVELOPMENT, REDEVELOPMENT, AND CONSTRUCTION SITES

The City has developed and will continue to implement and enforce a program to reduce pollutants in stormwater runoff from new development and redevelopment construction projects, in accordance with Appendix 1 of the Permit. The program applies to both private and public development, including transportation projects.

a) STORMWATER ORDINANCE REGULATING DEVELOPMENT

The City developed and adopted an ordinance that addresses runoff from new development, redevelopment, and construction site activities at sites 2,000 sq-ft and greater. The ordinance adopts most of the Department of Ecology's most-recent Stormwater Management Manual for Western Washington and the Low Impact Development Technical Guidance Manual. For more details, review Port Angeles Municipal Code, Section 13.63.

In conjunction with the Stormwater Ordinance, the City has developed and implemented a permitting program to reduce pollutants in stormwater runoff from new development, redevelopment, and construction site activities. The program is being applied to development or re-development projects with greater than or equal to

7,000 sq. feet of land disturbance or projects that install 2,000 sq. feet of new or replaced hard surface. The program applies to both private and public development, including transportation projects. The program is enforced through the City Ordinance described above as well as through the City's development standards (The City of Port Angeles Urban Services Standards and Guidelines, USSG).

i) Minimum Requirements, Technical Thresholds, and Definitions

The minimum requirements, technical thresholds, and definitions in Appendix 1 of the permit have been in-effect in Port Angeles since 2009. As required by the previous Permit, the lowered stormwater management thresholds were adopted and enforced January 1st, 2017.

To ensure the City's program satisfies the State's requirements under Chapter 90.48 RCW regarding water quality protection and reducing discharge of pollutants, the City utilizes Ecology's Stormwater Management Manual for Western Washington (SWMMWW) for:

- Site planning requirements
- BMP selection criteria
- BMP design criteria
- BMP infeasibility criteria
- LID competing needs criteria
- BMP limitations

The City has utilized the SWMMWW since 2009 to meet these permit requirements.

ii) Legal Authority to Inspect Private Facilities

The City's stormwater ordinance includes provisions providing City inspectors legal authority to inspect private stormwater facilities that discharge into the City's MS4.

ii) LID Required

As of December 31, 2016 the City updated its development codes to require LID where feasible, as determined by the SWMMWW criteria.

iii) Erosivity Waiver

The City does not allow developers to apply the Erosivity Waiver in Appendix 1, Minimum Requirement #2 of the permit. Therefore, the City does not plan to include enforcement sanctions for construction sites that provide notice of intent to apply the waiver but do not meet the requirements.

b) Permitting

The City has developed a permitting process with plan review, inspection, and enforcement capability as described herein. The permitting process is applied to both private and public projects that consist of greater than or equal to 7,000 sq. feet of

land disturbance or projects that install 2,000 sq. feet of new or replaced hard surface. Permitting is administered by qualified personnel.

i) Review of Stormwater Site Plans

The City reviews stormwater site plans as part of the permitting process. Plans are reviewed for compliance with the stormwater ordinance (PAMC 13.63) and the City's Urban Services Standards and Guidelines (USSG), which implement the ordinance. The review includes the minimum requirements, technical thresholds, and definitions in Appendix 1 of the Permit. The City works with developers to ensure that stormwater site plans meet the criteria established by both Ecology and the City.

ii) Erosivity Waiver

At this time, the City does not allow developers to apply the Erosivity Waiver in Appendix 1, Minimum Requirement #2 of the Permit. Therefore, the City will perform review and inspection tasks for all construction sites as described above.

iii) Notice of Intent

When applicable and during permitting, the City directs applicants also triggering Ecology's Construction Stormwater General Permit (CSWGP) and Industrial Stormwater General Permit (ISWGP) thresholds to submit a Notice of Intent (NOI) with Ecology. The City's stormwater website also directs owners of construction sites and industrial facilities to the Ecology websites where they can find additional information and electronic copies of the notices of intent. In instances where a development project is covered by both local and State permits, the City continues to enforce local ordinances.

c) Inspections

Construction related inspections required by the City's Phase II Permit include pre-construction, during construction, and post construction site visits, where applicable. Follow-up inspections may be warranted if a project does not meet minimum standards or is in violation of their permit requirements. Additionally, the City may perform inspections of treatment or flow control facilities during installation and connection to the City's MS4.

i) Pre-Construction Inspections

During site plan review, City staff uses the definitions and requirements in Appendix 7 of the Permit (Identifying Construction Site Sediment Transport Potential) to determine which sites have a high potential for sediment transport. These high priority sites are inspected by qualified personnel prior to permitting and before commencement of land disturbing activities.

ii) During Construction Inspections

Qualified City staff inspect all permitted development sites during construction that exceed the land disturbance and hard surface thresholds described above to verify proper installation and maintenance of required erosion and sediment controls. Escalation of enforcement is described in Ordinance and is implemented when necessary.

Typically, the City inspects new residential developments at least once every six-months for maintenance needs and compliance with development standards, until 90% of the lots are constructed or when construction has stopped and the site is fully stabilized.

iii) Post-Construction Inspections

Qualified City staff inspect all permitted development sites upon completion of construction and prior to final approval or occupancy. The purpose of the inspection is to ensure proper installation of permanent stormwater controls such as stormwater facilities and structural BMPs. City staff also verifies that a maintenance agreement and plan is completed for all treatment and flow control facilities and that responsibility for maintenance is clearly assigned. Enforcement is used as necessary.

iv) Inspection Compliance

The City maintains permit compliance by the presence and records of an established inspection program designed to inspect all sites and achieving at least 80% of scheduled inspections.

v) Enforcement Strategy

The City has developed an enforcement strategy to respond to cases of non-compliance. This enforcement strategy is included in the City's Stormwater Ordinance PAMC 13.63.

d) Staff Training

Staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training is provided as needed to address changes in procedures, techniques or staffing. The City documents and maintains records of the training provided and the staff trained.

e) Recordkeeping

The City keeps and maintains permitting records as required by Ecology's permit and State laws. This includes inspection reports, warning letters, notices of violations, and other enforcement actions. Records of maintenance inspections and maintenance activities are also maintained.

12) Operations and Maintenance

The City has developed and implemented a program to regulate and conduct maintenance activities to prevent or reduce stormwater impacts. The program elements are described below.

a) Maintenance Standards

The City has adopted Ecology's Stormwater Management Manual for Western Washington (SWMMWW), including maintenance standards. The City uses Ecology's maintenance standards to determine if and when maintenance is required. It is important to note that the maintenance standard is always not a measure of the facility's required condition between inspections and an exceedance of the maintenance standard between inspections and/or maintenance is not a permit violation.

When an inspection identifies an exceedance of a maintenance standard, maintenance shall be performed within the following timeframes:

- Within 1 year for typical maintenance facilities, except catch basins.
- Within 6 months for catch basins
- Within 2 years for maintenance that requires capital construction of less than $25,000.

These timeframes may be exceeded if there are circumstances that are beyond the City's control. Such circumstances may include, but not be limited to, denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each such exceedance of the required timeframes, the City will document the extenuating circumstances.

b) Permitted Stormwater Facilities

The City has developed and implemented a program to verify adequate long-term operation and maintenance of privately-owned stormwater facilities and BMPs that are regulated pursuant to the City's permitting process.

i) Operations and Maintenance Ordinance

The City developed and enacted a comprehensive stormwater ordinance which requires projects installing treatment or detention facilities to record an O&M agreement and manual that clearly identifies the party responsible for ongoing inspection and maintenance, details maintenance standards per Ecology's SWMMWW, and acknowledges the City's annual inspection requirements and enforcement procedures.

ii) Maintenance Standards

The City has adopted Ecology's Stormwater Management Manual for Western Washington (SWMMWW).

iii) Annual Inspections

The City performs annual inspections of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted by the Permittee, including those permitted in accordance with requirements adopted pursuant to the 2007-2019 Ecology municipal stormwater permits, unless there are maintenance records to justify a different frequency.

Reduction of the inspection frequency will be based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the City may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with Permit requirements.

iv) Compliance & Recordkeeping

Permit compliance is determined by the presence and records of an established inspection program designed to inspect all facilities, and achieving at least 80% of required inspections.

The City maintains records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities are also maintained.

c) City Owned Stormwater Facilities

The City has developed and implemented a program to inspect and maintain all municipally owned and operated stormwater facilities to ensure functionality and prevent or reduce stormwater impacts. This program is implemented by the City's Public Works Operations Department.

In addition to Ecology's permit requirements, the City also has an existing large diameter culvert inspection program. The major culverts that conduct the City creeks under roads are visually inspected in the late summer every two to three years. Maintenance deficiencies are corrected before the wet winter season begins.

i) Treatment and Flow Control Inspections

The City performs annual inspections of all municipally owned or operated permanent stormwater treatment and flow control facilities. The City will take appropriate maintenance actions in accordance with Ecology's maintenance standards described in the SWMMWW.

The City may reduce the inspection frequency based on inspection records of double the length of time of the proposed inspection frequency, or upon written and certified statements based on actual inspection and maintenance experience.

ii) Spot Checks

The City performs "spot checks" of potentially damaged permanent treatment and flow control facilities (other than catch basins) after major storm events (greater than 24-hour storm event with a 10-year or greater recurrence interval). If the spot checks indicated widespread damage and/or maintenance needs, the City will inspect all stormwater treatment and flow control facilities that may be affected. Repairs and other maintenance actions will be taken based on inspection results and in accordance with the City's maintenance standards.

iii) Catch Basin Inspections

On a two-year interval, the City inspects all catch basins and inlets owned and/or operated by the City. Catch basins and inlets are cleaned based on inspection results and in accordance with Ecology's SWMMWW maintenance standards. Decant water is disposed of in accordance with Appendix 6 of the Permit – *Street Waste Disposal*.

iv) Compliance

Compliance is determined by the presence of an established inspection program achieving at least 95% of permit required inspections.

d) Stormwater Impact Reduction from Public Lands

The City has implemented practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City, and road maintenance activities under the City's functional control.

The City is in the process of updating the practices, policies, and procedures documentation to align with Ecology's 2019 SWMMWW guidelines.

Lands owned or maintained by a municipality typically include, but are not limited to: streets, parking lots, roads, highways, buildings, parks, open space, road rights-of-way, maintenance yards, and stormwater treatment and flow control BMPs/facilities.

The following activities have been addressed:

- Pipe cleaning
- Cleaning of culverts that convey stormwater in ditch systems
- Ditch maintenance
- Street cleaning
- Road repair and resurfacing, including pavement grinding
- Snow and ice control
- Utility installation
- Pavement striping maintenance
- Maintaining roadside areas, including vegetation management

- Dust control
- Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts
- Sediment and erosion control
- Landscape maintenance and vegetation disposal
- Trash and pet waste management
- Building exterior cleaning and maintenance

e) TRAINING PROGRAM

The City has implemented an on-going operations and maintenance training program for employees whose construction, operations, or maintenance job functions may impact stormwater quality. The training addresses the importance of protecting water quality, the requirements of the permit, operation and maintenance standards, inspection procedures, selecting appropriate BMPs, ways to perform job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns, including potential illicit discharges. Follow-up training will be provided as needed to address changes in procedures, techniques, or requirements. Training is documented and training records include dates, activities or course descriptions, and names and positions of staff in attendance.

f) STORMWATER POLLUTION PREVENTION PLANS

The City has developed and implemented a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards and material storage facilities that it owns and/or operates. The City's applicable facilities and current status of SWPPPs or similar documents for each are summarized in the following table. While not all of the documents listed are specifically SWPPPs, they all have relevance to the prevention, containment, and handling of substances that could result in the pollution of municipal stormwater. The City has SWPPPs for all facilities required.

Table 1: Status of Stormwater Pollution Prevention Plans for City Facilities

Facility Name	**Facility Use**	**Document**	**Status**
Sanitary and Storm Sewer Collection System	Collection of sanitary and combined sewerage	"Illicit Discharge Detection and Elimination (IDDE) Response Policy"	Most Recent Revision: December 2014
Corp Yard	Maintenance, equipment & materials storage for water, wastewater, & streets utilities	"City of Port Angeles Maintenance Facility Stormwater Pollution Prevention Plan"	Updated December 2022

Port Angeles Wastewater Treatment Plant	Wastewater treatment plant (secondary treatment)	"City of Port Angeles Wastewater Treatment Plant SWPPP"	December, 2001
Regional Transfer Station	Solid waste transfer station (previously a landfill)	"Port Angeles Transfer Station/ Landfill Stormwater Pollution Prevention Plan"	Updated July 2018
Electric Utility Handling & Warehouse Building	Electric transformer storage and handling	"Spill Prevention Control and Countermeasure Plan"	Updated November 2022
CSO Facilities	Combined sewer collection, storage, and conveyance, and discharge	"Amendment to the 2006 CSO Facilities Reduction Plan"	Updated August 2012

Several of these facilities are regulated by their own environmental permits. See Table 2 below for a listing of individual stormwater or other related permits.

Table 2: Existing Individual Stormwater and Stormwater-Related Permits

Facility Name	**Type of Permit**	**Permit Number**
Regional Transfer Station	NPDES General Permit for Stormwater Discharges Associated with Industrial Activities	WAR005613
City of Port Angeles Municipal Solid Waste Facility	Solid Waste Handling Facility Permit	SLW98-0001
Port Angeles Wastewater Treatment Plant/CSO Facilities	NPDES Waste Discharge Permit	WA0023973

In addition, there are approximately twenty non-City-owned facilities in Port Angeles that are regulated by NPDES General Industrial Stormwater Discharge Permits. Because these facilities are regulated directly by the Department of Ecology, their individual stormwater collection infrastructure is not considered part of the municipal stormwater system, although in some cases they discharge into the MS4.

g) RECORDKEEPING

The City maintains records of inspections, maintenance, and repair activities performed in accordance with this section of the SWMP.

13) SOURCE CONTROL PROGRAM FOR EXISTING DEVELOPMENT

The City has developed a Source Control (SC) Program that is designed to prevent and reduce pollutants in runoff from businesses that discharge to the City's MS4, as required by the 2019-2024 Permit. While this is a new permit requirement, the City has had an established pollution prevention presence in the community that was able to be built upon.

Since 2012, the City of Port Angeles has been a member of the Pollution Prevention Assistance (PPA) Partnership, formerly called Local Source Control, which is a grant funded program designed to help small businesses reduce and manage potential wastes to protect water, soil, and air quality. Under Washington State's Hazardous Waste and Toxics Reduction Program, Ecology is able to fund local jurisdictions on a biennium basis to provide free, one-on-one technical assistance to small businesses regarding waste management, pollution prevention, and stormwater-related issues.

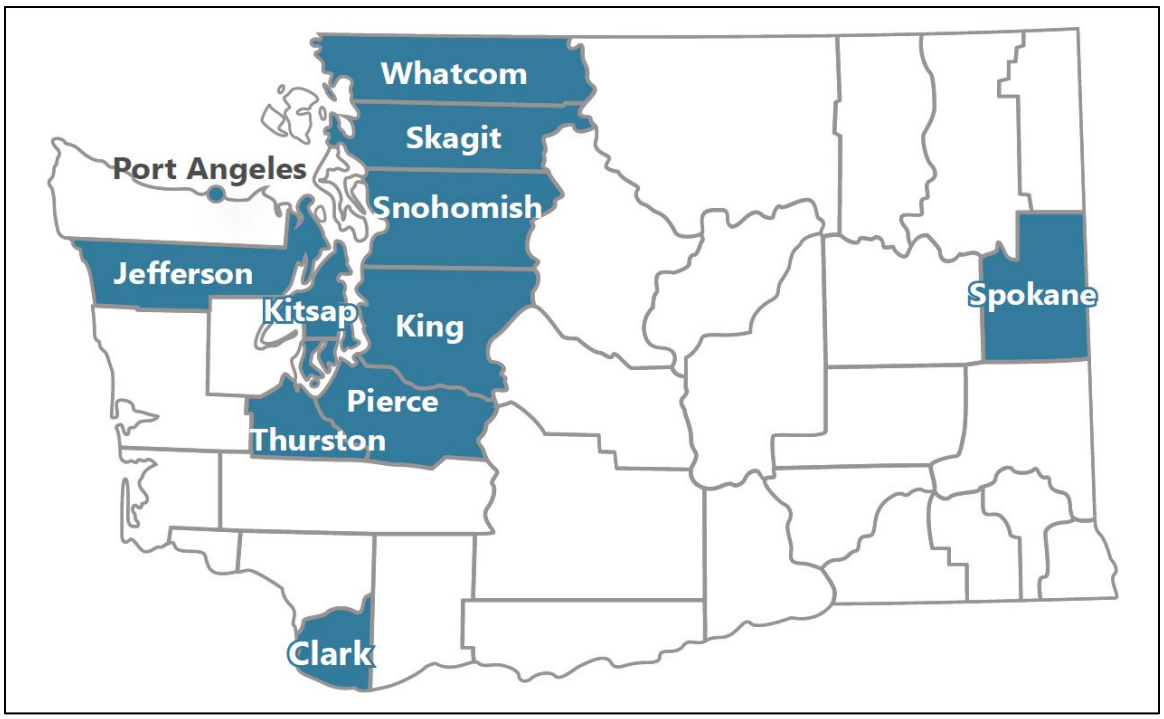


Figure 2. Pollution Prevention Assistance partners for 2017-2019 biennium.

The City intends to continue its partnership with Ecology's PPA program as a means to supplement the City's Source Control Program with valuable knowledge, expertise, and funding. Local businesses that qualify and participate in the PPA program that are also

subject to Source Control inspections are able to have their SC inspection fees reimbursed by PPA through the City's grant agreement.

a) Program Goals

With the intent to prevent and reduce pollutants in runoff from areas that discharge into the City's MS4, the Source Control Program includes:

1. Application of operational source control BMPs, and if necessary, structural source control BMPs or treatment BMPs/facilities, or both, to pollution generating sources associated with existing land uses and activities.
2. Inspections of pollutant generating sources at publicly and privately owned institutional, commercial, and industrial sites to enforce implementation of required BMPs to control pollution discharging into the MS4.
3. Application and enforcement of local ordinances at sites, identified pursuant to the Permit, including sites with discharges authorized by a separate NPDES permit.
4. Practices to reduce polluted runoff from the application of pesticides, herbicides, and fertilizers from the sites identified in the inventory.

b) Program Components and Milestones

The program's minimum performance measures, as defined by the Permit, are:

i) Ordinance to Apply Best Management Practices (BMPs)

The City adopted ordinances requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities. These ordinances were adopted July 5th, 2022.

The City applies the BMP standards described in the SWMMWW. In cases where the manual(s) lack guidance for a specific source of pollutants, the City will work with the owner/operator to implement or adapt BMPs based on the best professional judgement of the City.

Applicable operational source control BMPs are required for all pollutant generating sources. Structural source control BMPs, or treatment BMPs/facilities, or both, will be required for pollutant generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water, groundwater, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided that formal enforcement authority is available to the City and is used as determined necessary by the City, in accordance the Permit.

ii) Inventory of Sites

The City has established an inventory that identifies publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4. This inventory was compiled by August 1, 2022 and includes:

1. Businesses and/or sites identified based on the presence of activities that are pollutant generating.
2. Other pollutant generating sources, based on complaint response, such as: home-based businesses and multi-family sites.

iii) Inspection Program

The City has developed an inspection program for sites identified in the inventory. The inspection program was initiated January 1st, 2023, and entails the following components:

1. All identified sites with a business address were provided information about activities that may generate pollutants and the source control requirements applicable to those activities. This information was provided to all sites on the business list by direct mail with posted links back to the program's webpage and to a webform to collect information about the business.
2. The City will annually complete the number of inspections equal to 20% of the businesses and/or sites listed in their source control inventory to assess BMP effectiveness and compliance with source control requirements. The City may count follow-up compliance inspections at the same site toward the 20% inspection rate. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period. Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin.
3. The City will inspect 100% of sites identified through credible complaints.
4. The City may count inspections conducted based on complaints, or when the property owner denies entry, to the 20% inspection rate.

iv) Progressive Enforcement Policy

Ordinance supporting the SC program and defining the program's progressive enforcement policy was codified on July 5th, 2022. Implementation of this policy coincided with the initiation of inspections on January 1st, 2023. This policy requires sites to comply with stormwater requirements within a reasonable time period, as specified below:

1. If the City determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the City will take

appropriate follow-up action(s), which may include phone calls, reminder letters, emails, or follow-up inspections.

2. When the City determines that a site has failed to adequately implement BMPs after a follow-up inspection(s), the City will take enforcement action as established through authority in its municipal codes or ordinances, or through the judicial system.
3. The City will maintain records, including documentation of each site visit, inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating an effort to bring sites into compliance. The City will also maintain records of sites that are not inspected because the property owner denies entry.
4. The City may refer non-emergency violations of local ordinances to Ecology, provided, the City also makes a documented effort of progressive enforcement. At a minimum, the City's enforcement effort will include documentation of inspections and warning letters or notices of violation.

c) Staff Training

The City provides training to staff who are responsible for implementing the source control program to conduct these activities. The ongoing training program covers the legal authority for source control, source control BMPs and their proper application, inspection protocols, lessons learned, typical cases, and enforcement procedures. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staff. The City documents and maintains records of the training provided and the staff trained.

Stormwater NPDES and Capital Needs Assessment

The City retained Herrera Environmental Consultants to complete a comprehensive study of the Stormwater Utility. This project utilized Ecology grant funding to develop a functional resourcing and financial analysis of the staffing, equipment and funding mechanisms necessary to meet the requirements outlined in the NPDES Phase II Municipal Stormwater Permit. Additionally, the analysis included a capital facilities program (CFP) component defining a range of funding support options for CFP projects. The analysis assessed the gap between current resources and the resources necessary to meet operating costs and capital costs under the current (2013-2018) Phase II Permit regulatory requirements. In 2012, the City's stormwater rate was $6 per month for each equivalent residential unit (ERU). This analysis showed a funding gap and resulted in sequential stormwater rate increases to cover necessary expenses:

-Effective January 2022. $17.01 per month for each ERU

This revenue is not sufficient to implement all projects in the 6-year Capital Facilities Plan. The City plans to evaluate the Stormwater Utility revenues and obligations again in 2024 and to seek public input.

14) DOCUMENTS REFERENCED

"City of Port Angeles Maintenance Facility SWPPP" City of Port Angeles, 2022

"Amendment to the 2006 CSO facilities Reduction Plan" City of Port Angeles, June 2007

"Illicit Discharge Detection and Elimination – A Guidance Manual for Program Development and Technical Assessments" Center for Watershed Protection, October 2004

"Port Angeles Transfer Station/ Landfill Stormwater Pollution Prevention Plan" City of Port Angeles, July 2018

"Spill Prevention Control and Countermeasure Plan" (Electric Utility) City of Port Angeles, November 2003, Updated November 2022.

"Western Washington Phase II Municipal Stormwater Permit" State of Washington Department of Ecology, Effective August 1, 2019.

"Stormwater Management Manual for Western Washington" Washington State Department of Ecology 2019

"City of Port Angeles Municipal Code Title 13.63, Stormwater Ordinance" last modified in July 2022

"City of Port Angeles Urban Service Standards and Guidelines" last modified in 2017

"Stormwater NPDES and Capital Needs Assessment" Prepared for City of Port Angeles December 2012

SWMP Appendix A : Inter-Departmental Coordination Mechanism Policy

City of Port Angeles
NPDES Phase II Municipal Stormwater Permit
Inter-Departmental Coordination Mechanisms and Stormwater Planning Team

Background

The Western Washington Phase II Municipal Stormwater Permit (NPDES permit or "Permit") is a federal permit, facilitated by the Washington State Department of Ecology (Ecology or ECY), issued to municipalities which allows municipal separate storm sewer systems (MS4) to discharge to waters of the state. The City of Port Angeles initially received coverage by the Permit in 2007. The NPDES (National Pollutant Discharge Elimination System) Permit includes broad ranging requirements which require collaboration and implementation by various departments within the City, including Public Works, Parks & Recreation, Community & Economic Development (CED), Fire, and Police.

It was a condition of the 2013 – 2018 NPDES permit (Section S5.A.5.b) and a condition of the 2019 – 2024 Permit (Section S5.A.b) that each jurisdiction develop a coordination mechanism to identify departmental responsibilities to eliminate barriers to compliance with the terms of the permit. Furthermore, it is a condition of the 2019-2024 Permit (Section S5.C.1.a) that the City develop a Stormwater Planning Program and convene an inter-disciplinary team to inform and assist in the development, progress, and influence of this program. These operating guidelines have been created to provide clarification of departmental roles and responsibilities for the purposes of complying with the Permit requirements and intent.

Section 1. Name

The name of this group shall be known as the "Stormwater Permit Coordination and Planning Group (SWPCPG)".

Section 2. Purpose

The effective management of existing stormwater infrastructure and strategic stormwater planning has an important role to play in reversing the ongoing degradation of local wetlands, streams, harbor, and Strait of Juan de Fuca. The purpose of this group is to ensure the fulfillment of the conditions of the City's NPDES Permit by removing internal barriers to permit implementation and by requiring and empowering City departments to cooperate, coordinate, and plan in accordance with the City's Stormwater Management Program (SWMP). The SWPCPG serves as the coordinating body.

Section 3. Mission

The NPDES permit is a broad ranging federal stormwater permit which requires citywide compliance, and as such, shall be viewed as a citywide permit. The mission of the SWPCPG is to provide a coordinated, efficient and effective response to all Permit conditions. Each city

department is subject to implementing compliance activities when applicable to that department. Each department has an important contribution to make in improving the quantity or quality of stormwater discharged under the Permit.

Section 4. Duration
The SWPCPG shall continue indefinitely in order to preserve momentum and effectively manage the work required for Permit compliance.

Section 5. Membership
Management and implementation of the stormwater Permit is the responsibility of the jurisdiction as a whole, however, the core membership of the SWPCPG consists of representatives from the following departments: Public Works Operations and Engineering, Community and Economic Development, Parks & Recreation, Fire, and Police. The City's Stormwater Engineer is the City's Permit Coordinator and therefore has been designated coordinator of the SWPCPG. Representatives from other departments may be requested to attend meeting and provide input on occasion. Additionally, representatives from private consulting firm(s) retained by the City for Permit implementation support or long-term planning support may be invited to attend or facilitate coordination of the SWPCPG meetings.

On behalf of the Public Works Department, the Permit Coordinator shall lead the group, in coordinating compliance with the NPDES permit. All departments responsible for complying with any portion of the NPDES permit shall work cooperatively with the lead department, responding and providing information in a timely manner, including accurate tracking and reporting data.

Each department, division, section, or workgroup engaging in any activities or programs that the Permit Coordinator determines may be subject to or could support compliance with the municipal permit is expected to comply with municipal permit requirements. Other City workgroups or departments may be added to the core group should current needs or future requirements call for expanded responsibility.

A. Coordination framework and expectations:

1. The Permit Coordinator shall be responsible for coordinating the City's municipal permit compliance activities.
2. Each departmental representative shall be familiar with all municipal permit requirements, particularly those applicable to their department or workgroup.
3. Each departmental representative may propose options for funding and staffing to meet municipal permit requirements.
4. Each departmental representative shall communicate regularly with department management on the status of applicable compliance activities.
5. The Permit Coordinator, in collaboration with departmental representatives, shall prepare and provide submittals to Ecology to comply with municipal permit requirements. Submittals include, but are not limited to, annual reports,

stormwater management program (SWMP) plans, compliance reports and other submittals as required by Ecology.

6. Upon request from the Permit Coordinator, departmental representatives or other staff shall provide information regarding department-specific compliance activities in a timely manner. The Permit Coordinator shall indicate the timeline for any request and may extend the timeline at the request of the department representative if there is flexibility to do so.
7. The Permit Coordinator shall communicate as necessary with departmental representatives and other management about municipal permit requirements, the SWMP, and the status of the City's compliance.

Any Permit Coordinator responsibilities listed herein may be delegated to appropriate staff, but the Permit Coordinator shall retain accountability to the City Engineer.

Signature authority for all documents related to the municipal permit that require an official signature shall reside with the Public Works Director, as delegated in a letter from the City Manager to Ecology on September 10, 2013.

B. Non-compliance:

All city departments are responsible for working with the NPDES Permit Coordinator to resolve instances of permit noncompliance, including:

1. Notifying the NPDES Permit Coordinator as soon as they become aware of any instance of non-compliance; and
2. Identifying steps and a timeline for resolving issues of non-compliance that will be identified in, S4.F, G3, or G20 notifications to Ecology.

Section 6. Meetings

Meetings shall be facilitated by the City Engineer or the Permit Coordinator. Meetings shall be open to any/all staff that need permit information or to share challenges to permit implementation. Meeting frequency, time, and location shall be set by the City Engineer or Permit Coordinator based on the need to meet in order to respond to policy, procedures or barriers to implementation.

Section 7. Attendance Policy

Attendance at the meetings is important to continue being an informed SWPCPG member and to provide useful input into the process. Meeting attendance is expected of SWPCPG members or a designee. If unable to attend a meeting, it is the member's responsibility to inform themselves on issues discussed in those meetings. All meetings will be advertised to core group members, however, depending on content, some meetings may be geared towards a particular department with other departments being listed as "optional" on the meeting invite.

Section 8. Departmental Responsibilities

It is the responsibility of each department head to assign duties and responsibilities to the pertinent members of their staff, as well as ensure they are being implemented correctly. In the event of personnel changes, it is each department head's responsibility to ensure SWPCPG membership, information, and responsibilities are passed on to the designated replacement.

A. Public Works

The Public Works Department is responsible for the majority of the Permit compliance efforts including Sections:

S5.C.1 Stormwater Planning
S5.C.2 Public Education and Outreach
S5.C.3 Public Involvement and Participation
S5.C.4 MS4 Mapping and Documentation
S5.C.5 Illicit Discharge Detection and Elimination
S5.C.6 Controlling Runoff from New Development, Redevelopment, and Construction Sites (for both public and private projects)
S5.C.7 Operations and Maintenance, and
S5.C.8 Source Control Program for Existing Development.

These responsibilities include, but are not limited to:

Engineering Division

1. NPDES Permit coordination.
2. Program development appropriate/applicable to the department.
3. Annual reporting.
4. Development and submittal of the Stormwater Management Program (SWMP) Plan.
5. Serving as point of contact for the Department of Ecology regarding issues of the Permit.
6. Submitting S4.F, G3, and G20 noncompliance notifications.
7. Updating codes, policies, plans and standards applicable to the Public Works Department for permit compliance.
8. Private stormwater facility maintenance verification.
9. Enforcement of maintenance or water quality violations.
10. Conducting, tracking, and reporting development review in compliance with adopted standards and policies.
11. Tracking, reporting and justifying any deviations (e.g. variances, exceptions etc.) from adopted stormwater development review standards.
12. Inspection of development sites.
13. Collection of final stormwater system record drawings for new development/ redevelopment and distribution of them to designated GIS and Public Works staff.
14. Updating stormwater system maps for both public and private facilities. Forwarding updates to GIS for incorporation and maintenance of the mapping

system.

15. Collection and processing of maintenance covenants and operations and maintenance manuals for new development/redevelopment.

Operations Division

16. Inspection and maintenance of municipal stormwater components and facilities.
17. Illicit discharge/illicit connection detection and elimination.
18. Operations and maintenance procedures are in place and followed to reduce stormwater impacts to all lands owned and maintained by the City in accordance with the Ecology Stormwater Management Manual for Western Washington.

C. Community & Economic Development

CED is responsible for implementation of and compliance with portions of Section S5.C.1 Stormwater Planning and Section S5.C.6 of the NPDES Permit entitled "Controlling Runoff from New Development, Redevelopment and Construction Sites". These responsibilities include, but are not limited to:

1. Updating codes, policies, plans, programs, procedures, and standards appropriate/applicable to CED for permit compliance.
2. Processing permit applications and collecting required documents for all building permits, including required stormwater reports and plans.
3. Inspection of building sites for erosion and sediment controls as required by Ecology Stormwater Management Manual for Western Washington

C. Parks & Recreation

Parks is responsible for implementation of and compliance with portions of S5.C.5 Illicit Discharge Detection and Elimination and S5.C.7 Operations and Maintenance. These responsibilities include, but are not limited to:

1. Updating codes, policies, plans, programs, procedures, and standards appropriate/applicable to Parks for permit compliance.
2. Operations and maintenance procedures are in place and followed to reduce stormwater impacts to all lands owned and maintained by the City in accordance with the Ecology Stormwater Management Manual for Western Washington.
3. Report observations of illicit discharges to the Permit Coordinator or other designee.

D. Police and Fire

The Police and Fire Departments have permit responsibilities under S5.C.5 Illicit Discharge Detection and Elimination. As field personnel, it is their responsibility to report observations of illicit discharges to the Permit Coordinator or other designee. Such events include but are not limited to discharge of water or foam to the MS4 during a firefighting event or report of vehicle fluid spill and clean-up operations during

response to a vehicular accident within City limits. They may also be called upon to assist in enforcement activities during an illicit discharge event.

Section 9. Permit Coordinator's Role

The Permit Coordinator's role is to assure the integrity and fulfillment of the Permit. The Coordinator's role includes, but is not limited to:

1. Coordinate NPDES Permit compliance efforts for the City, including collecting tracking and reporting data from the different departments, as well as preparing and submitting annual reports and updates to the Stormwater Management Program Plan to the Department of Ecology.
2. Assist the different City departments in identifying and understanding their individual responsibilities for complying with the pertinent sections of the Permit.
3. Provide permit compliance guidance to individual departments who are developing or updating their departmental programs or procedures which are necessary to comply with Permit requirements.
4. Develop and implement programs and activities associated with the Public Works Department.
5. Work with individual departments to assist in resolving issues of non-compliance, as well as drafting and submitting S4.F, G3, or G20 Non-Compliance Notification letters to Ecology.
6. Coordinate required illicit discharge detection and reporting training for all municipal field staff. Assist in other training activities where applicable.
7. Ensure policies are followed.
8. Manage communication and information exchange among the SWPCPG. Determine meeting topics and agendas. Facilitate the meetings or arrange for an alternate to facilitate meetings. If necessary and appropriate, provide meeting materials to SWPCPG in advance and arrange for meeting notes to be taken.
9. Update this document, as needed.

SWMP Appendix B : Public Outreach Plan Activity Matrix

2024 Planned Activities / Events	Location(s)	City Personnel	Target Audience	Contact Information (other groups)	Subject Area(s)
Clallam County Home & Lifestyle Show (March)	Port Angeles High School	Ryan Jeffries	Developers, contractors, home owners, landscapers, general public	Rjeffries@cityofpa.us	Pollution Prevention: landscaping, automotive care, pet waste, Natural Yard Care
Earth Day (April)	City Pier, Port Angeles	Matthew Moore, Ryan Jeffries, TBD	General public	Rjeffries@cityofpa.us	Focusing on updates to the SWMP, the SMAP, and other programatic updates.
Clallam County Fair (August)	Fairgrounds, Port Angeles	Matthew Moore, Ryan Jeffries, TBD	General public	Rjeffries@cityofpa.us	Focusing on pet waste awareness, natural yardcare, & programatic updates.
Utility Bill Mailer (October)	NA	Matthew Moore, Ryan Jeffries	General Public	Rjeffries@cityofpa.us	LID, Pollution Prevention Hotline, programatic updates.
Pollution Prevention Assistance Partnership (Ongoing)	Site visits within the City	Howard Carlseen, Ryan Jeffries	Local Businesses	Rjeffries@cityofpa.us	IDDE, Pollution Prevention, Source Control
Local Cinemas (Sept.)	Deer Park Theatre, Port Angeles	Ryan Jeffries	General public	Rjeffries@cityofpa.us	Pollution Prevention
Internet Adverts (Sept.)	Port Angeles	Ryan Jeffries	General Public	Rjeffries@cityofpa.us	Pollution Prevention: landscaping, automotive care, pet waste, Natural Yard Care
Natural Yard Care: Behavior Change Analysis via WSSOG (April)	Kitsap Co., Port Angeles	Ryan Jeffries	Landscapers, Home Gardeners	Rjeffries@cityofpa.us	Natural Yard Care - free webinars taught by WSU Master Gardeners w/ local coupons at Airport Garden Center
Storm Drain Art Project	Francis St. Park	Ryan Jeffries	General Public, Local artists	Rjeffries@cityofpa.us	Visual connection between stormwater inlets and the receiving waterbody.

SWMP Appendix C : Illicit Discharge Detection and Elimination (IDDE) Response Policy

ILLICIT DISCHARGE DETECTION and ELIMINATION (IDDE) RESPONSE
PW- 0610

1.0 PURPOSE:

1.1 To establish a uniform procedure for IDDE response within the City of Port Angeles.

2.0 ORGANIZATIONS and SPECIFIC POSITIONS AFFECTED:

2.1 Public Works & Utilities Department staff
2.2 Key response personnel in order of response to pollution report:

1.	Stormwater Lead Worker		Cell: 461-5174
2.	Streets Superintendent	Office: 417-4825	Cell: 912-1960
3.	Assistant Stormwater Engineer	Office: 417-4820	
4.	Stormwater Engineer	Office: 417-4811	Cell: 912-5140
5.	Source Control Coordinator	Office: 417-4693	Cell: 477-3456
6.	Deputy Director of Public Works	Office: 417-4802	Cell: 912-0260

3.0 POLICY:

3.1 This policy will implement an ongoing program to detect and address non-stormwater discharges, including spills, and illicit connections into the City's municipal separate storm sewer system. It shall be followed throughout the Public Works and Utilities organization. The Stormwater Engineer is the authorized department representative for the implementation of this program and the maintenance of this policy.

4.0 SAFETY ASPECTS:

4.1 Follow all safety measures as promulgated in the Public Works and Utilities Department Accident Prevention Plan.
4.2 Do not enter private property without permission (If the property owner is unwilling to allow access, and access is necessary for the investigation, contact the legal department or stormwater engineer for assistance).

5.0 DEFINITIONS:

5.1 Illicit discharge: any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.
5.2 Small non-hazardous spills: Under 5 gallons of oil based products, paints or automotive fluids.
5.3 Large non-hazardous spills: Over 5 gallons of oil based products, paints or automotive fluids.
5.4 Hazardous or very large spills: Spills over 20 gallons of any chemical, flammable, or unknown substance. * Gasoline is very flammable. Treat a gasoline spill of over five gallons as a hazardous spill.

5.5 A discharge which could constitute a threat to human health, welfare, or the environment: Large non-hazardous spills, hazardous or very large spills, or discharges exceeding thresholds in Section 7.3(3),

5.5 Dangerous system: A flooded stream system or a flooded large diameter culvert or manhole.

6.0 EQUIPMENT FOR RESPONSE PERSONNEL:

Required Equipment:

- Appropriate PPE (e.g., nitrile gloves, glasses, reflective vests, etc.)
- This SOP
- Hand Sanitizer

Other Equipment As Needed:

- System map
- Spill trailer or spill kit
- Sterile sample bottles

7.0 PROCEDURES:

7.1 Illicit Discharge Contact Methods

a. The official number for the public or City staff to report suspected illicit discharges is:

Public Works Emergency and Afterhours Phone Number	360-417-4745

b. Illicit discharges can also be reported by email using the following address:

illicit-discharge@cityofpa.us

c. Discharge reporting numbers and email addresses shall be posted on the City website.

d. During normal working hours, the PWU clerical staff will receive calls and emails. For each call or email a CityWorks Service Request will be created and populated and forwarded to the key response personnel. . PWU clerical staff will be responsible for maintaining the official record of all such contacts. The report of an illicit discharge will also be directly made to one of the following staff personnel in the order listed:

- Stormwater Leadworker
- Streets Superintendent
- Deputy Director of Operations
- Stormwater Engineer
- Source Control Coordinator

In addition, email reports shall be automatically distributed to all of the personnel

listed above.

e. After normal working hours, the PWU on-call staff member will be responsible for handling the call, filling out the Illicit Discharge Contact Form (Appendix 8.1), doing the initial visual inspection of the incident, making initial containment if appropriate, and notifying management and requesting additional support when necessary. All recorded information shall be forwarded to the personnel listed in paragraph (d) no later than 08:00 A.M. the following workday.

f. Illicit discharges or spills observed by City field personnel during the course of work should be immediately reported to their direct supervisor. In addition, City field personnel shall report the incident using one of the methods listed above to ensure that the key stormwater personnel are notified.

7.2 Priority Area Identification and Reconnaissance

a. The Stormwater Engineer, shall be responsible for conducting a process for locating priority areas likely to have illicit discharges and/ or source control violations. This shall include at a minimum evaluating land uses and associated business/industrial activities present; areas where complaints have been registered in the past; and areas with storage of large quantities of materials that could result in spills.

b. The lead organization for illicit discharge identification and field reconnaissance response shall be Operations Division, with the primary role for managing it being the Streets Section Superintendent. The Engineering Division shall provide technical support where appropriate. The responsibilities include:

(1) At a minimum, visually inspect all priority outfalls in the yearly Field Screening basin during dry weather conditions. Priority outfalls will be as designated by the Stormwater Engineer after consultation with the Streets Division Superintendent. Annually inspect and document the condition, sediment loading, blockages, and any other abnormal conditions for all priority culverts/outfalls.

(2) In addition, during dry weather, conduct stream reconnaissance for the purposes of verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges. Stream reconnaissance will be conducted on one of the City's six stream systems or shoreline annually within the Port Angeles City limits.

(3) Flows suspected of containing illicit discharges due to the presence of odors, colors or sheens shall be tested. Testing will be done either in the field by trained personnel or by the COPA WW Lab. Test parameters include but are not limited to ammonia, surfactants, flouride, fecal coliform, pH, , turbidity, and temperature, . Testing will be performed by the lab within four hours of sample delivery, or by 10:00 am the next day, if the sample is delivered to the lab after 2:00 pm on any business day or on a weekend. Screening for illicit connections shall be conducted using: Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004.

(4) The results of the inspections and testing shall be documented and maintained on the Spill (Illicit Discharge Characterization) Field Sheet in Appendix 8.5 and input into the City's maintenance tracking software and GIS system to allow tracking of outfall locations, inspection dates, chemical tests conducted, and follow-up procedures implemented to correct any detected illicit discharge. The physical condition of the outfall shall also be noted during the inspections. Illicit discharge data will be used in the preparation of the annual report for the permit.

c. Results from the program shall be compiled and analyzed by the Stormwater Engineer, who may request additional requirements be done to achieve the overall objectives of this element.

7.3 Illicit Discharge Response, Characterization, and Tracing

a. The lead organization for illicit discharge response shall be Operations Division, with the primary role for managing being the Streets Division Superintendent. The Engineering Division shall provide technical support where appropriate.

b. If the material is unknown, chemical or hazardous in nature contact the fire department.

c. Containment. The qualified onsite responding personnel shall immediately assess a spill and determine if it is containable, recoverable, or neither. Attempt to contain and recover the material to the maximum extent practical using the procedure below, if feasible, safe to do so and the appropriate equipment is available. Block the nearby storm drains, so that the area impacted is minimized. If the appropriate equipment is not available, the material is unknown, chemical, or hazardous, wait for properly trained personnel to contain the materials.

<u>Small non-hazardous spills</u>

- Use a rag, damp cloth, or absorbent materials for general cleanup of liquids
- Use brooms of shovels for the general cleanup of dry materials
- If water is used, it must be collected and properly disposed of. The wash water cannot be allowed to enter the storm drain
- Dispose of any waste materials properly
- Clean or properly dispose of any equipment used to clean the spill

<u>Large non-hazardous spills</u>

- Use absorbent materials for general clean up of liquids
- Use brooms, shovels or street sweepers for the general cleanup of dry materials
- If water is used, it must be collected and properly disposed of. The wash water cannot be allowed to enter the storm drain
- Clean or dispose of any equipment used to clean up the spill properly

d. F<u>or hazardous or very large spills, chemical spills, or spills of unknown materials immediately contact the Fire Department, followed by the Streets Division Superintendent or Deputy Director of Operations.</u>

e. Illicit discharges indicated by the presence of odors, colors or sheens shall be tested. Testing will be done either in the field by trained personnel or by the COPA WW Lab.. Test parameters include but are not limited to ammonia, surfactants, flouride, fecal coliform, pH, turbidity, and temperature. Screening for illicit connections shall be conducted consistent with the Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments, Center for Watershed Protection, October 2004. The following additional guidance pertains:

(1) The spill or illicit discharge will be characterized by the key response personnel, by the stormwater field crew or by on call staff if the discharge occurs after hours. The discharge will be characterized using Appendix 8.4 (Spill Characterization Field Sheet), visual observation and field testing as an unlikely, potential, suspect or obvious discharge. Characterization (or referral to the appropriate agency) shall occur within 7 days of any complaints, reports or monitoring information that indicates a potential illicit discharge, or shall occur immediately on the next business day for discharges deemed to be emergencies, urgent or severe.

(2) Take a sample of the material in a sterile collection bottle and take the sample to the COPA WW lab for analysis.

(3) The sample results should be compared to the following thresholds to determine if further IDDE investigation is necessary:

Indicator	Threshold	Comments
pH	<5 or > 10	Good indicator for industrial discharge
Ammonia	>5 mg/L	Good indicator of sanitary sewage, main ingredient in fertilizers
Detergents/ Surfactants	>1 mg/L	Excellent indicator of wash water
Fecal Coliform	>2000 CFU/100mL (Dry Weather) or >5000 CFU/100mL (Wet Weather)	Human sources include failing septics, wastewater leaks or cross-connections. Animal sources include pets, livestock, and wildlife.

f. Verifying and tracing the discharge shall be considered the initiation of the investigation and shall be performed within 21 days of a discharge characterization, unless tracing requires entry into a dangerous system, as defined in 5.5. If a dangerous system exists, verifying and tracing shall be performed when low flow conditions in the stormwater or stream system resume. The Stormwater Engineer shall determine when a dangerous system exists and shall document the delay and set the date to resume the investigation. In all cases, initial investigation shall be performed within 9 months of the discharge characterization. If the tracing

confirms an illicit connection, the connection shall be removed using the City's enforcement authority within 6 months.

Procedures for tracing the source of an illicit discharge include visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures. The equipment and methods described in "Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments", Chapter 13 shall be used to trace the spill or illicit discharge to its source. The following additional guidance pertains:

(1) Review information collected when illicit discharge was initially identified (Spill Characterization Field Sheet).

(2) Consider storm drainage basin and land uses.

(3) Revisit outfall to verify reported discharge is still present.

(4) Contact COPA lab for determination of probable source.

(5) Survey the general area / surrounding properties to identify potential sources of the illicit discharge.

(6) Investigate illicit discharges using visual inspections of upstream points.

(7) Utilize M&O resources and equipment as required (traffic control, video truck, additional staff).

(8) Document investigation results for NPDES Permit compliance.

(9) If source cannot be found, add the location to a future inspection program.

g. Results shall be documented and reported to the Deputy Director of Operations and the Stormwater Engineer.
h. The Stormwater Engineer shall be responsible for administering the City's response to violations and ensuring consistency with City ordinances. All violation letters to property owners will be signed by the City Engineer level or higher. Technical assistance for eliminating the discharge; follow-up inspections; and escalating enforcement and legal actions if the discharge is not eliminated will be coordinated by the Stormwater Engineer.
i. The IDDE Incident Closure From will be completed by the personnel responsible for investigating the specific IDDE. This form is to be reviewed by the Stormwater Engineer. When the form is completed by operations personnel it shall be signed by the Deputy Director of Operations unless a violation letter has been issued, whereby the City Engineer shall sign. When the form is completed by engineering personnel it shall be signed by the City Engineer.

7.4 Regulatory Reporting Requirements

a. With in 24 hours all spills/ discharges which could constitute a threat to human health, welfare, or the environment shall be reported to Ecology regional office (Appendix 8.1).

b. Immediately report spills or discharges which might cause bacterial contamination of marine waters such as discharges resulting from broken sewer line to Ecology regional office, and Department of Health, Shellfish Program. (Appendix 8.1).

c.. Immediately report discharges of any size oil or other hazardous substance to Ecology and Washington Emergency Management Division (Appendix 8.1).

d. Reportable spills/illicit discharges shall be reported to the appropriate regulatory agencies by the following personnel in the order listed:

- Stormwater Leadworker
- Streets Superintendent
- Deputy Director of Operations
- Stormwater Engineer
- Source Control Coordinator

Reporting requirements are detailed in Appendix 8.1. If none of the personnel listed above can be reached, contact your supervisor for guidance. The Pollution Investigation Checklist shall be followed and returned to the Stormwater Engineer no later than 08:00 A.M. the following workday. If there is any doubt as to whether a spill is reportable, contact the appropriate regulatory agency for clarification.

7.5 Field Screening

Each year field screening will be performed on average of 12% of the MS4. Percent of MS4 will be measured based on the combination of the number of catch basins and geographic area within City limits. Detection, response and elimination methods will be used as outlined in this policy.

7.6 Public Education

The Stormwater Engineer shall conduct a program to inform City employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. Acceptable methods to accomplish this provision include direct training, contract training, brochures, internet, mailers, etc.

The Source Control Coordinator will conduct site visits to target businesses to educate them on the proper requirements for stormwater discharges.

7.7 IDDE Assessment

The Stormwater Engineer shall be responsible for program evaluation and assessment, including tracking the number and type of illicit discharges, including spills identified; inspections made; and any feedback received from public education efforts. A summary of this information shall be included in the City's annual report.

7.8 Training for City Staff

The Streets Division Superintendent will be responsible for arranging for or conducting training requirements for the Streets and Stormwater workforce as well as on-call personnel.

The Stormwater Engineer will be responsible for arranging for or conducting

training for the Engineering Division staff and clerical staff for requirements needed to implement the policy contained herein. The following topics will be covered where appropriate:

TOPIC	TARGET AUDIENCE
Proper chain of contact for initial spill reporting	Clerical staff / on-call staff
Properly filling out the Spill Characterization Field Sheet and Pollution Investigation Checklist.	Field crews / on-call staff
Spill containment and response	Field crews / on-call staff
Simulated spill drill response, containment, and cleanup.	Stormwater Engineer, field crews, on-call staff, clerical staff
IDDE Characterization and Tracing	Stormwater Engineer, Streets Superintendent, Stormwater Leadworker, Deputy Director of Operations, Field Staff, On Call Staff
Requirements in this SOP	Stormwater Engineer, Streets Division, on-call staff, Clerical Staff

8.0 APPENDIX:

8.1 Combined Contact & Pollution Investigation Checklist
8.2 Public Works & Utilities Emergency Call List for Spill/ Pollution Incidents
8.3 Spill Response (Discharge Type) Chart
8.4 Spill Characterization Field Sheet and Identification Figures
8.5 Stormwater Sampling Checklist 8.6 IDDE Incident Closure Form

APPENDIX 8.1

COMBINED CONTACT & POLLUTION INVESTIGATION CHECKLIST

This checklist is to be used as an aid in preparing your report and included with the report when forwarded to the Public Works and Utilities Department.

SPILL INVESTIGATION

1. Date and time notification received or spill discovered _____
2. Name of City employee that discovered/reported the spill _____
3. If spill reported by public, name of staff reported to: _____
   By: _____
   (Reporting Citizen's Name) (Address) (Phone #)
4. Call to Key Response Personnel received by _____
   (This is the key response person who will report to the incident)
5. Notification of Authorities: (See PW 0808_04 Emergency Call List)
   Required when a discharge or spill could constitute a threat to human health, welfare, or the environment.

Oil Spill	Phone No.	Name	Date	Time
(Petroleum or Hazardous Materials)				
WS Emergency Management Division (24hrs)-**Immediate**	1-800-258-5990	_____		
National Response Center-**Immediate**	1-800-424-8802	_____		
Ecology Regional Office-SW-**24 Hrs**	360-407-6300	_____		
City of PA Stormwater Eng.-**24 Hrs**	360-460-3456	_____		

Bacterial-				
WWTP or Collections System Failure				
Ecology Regional Office-SW-**Immediate**	360-407-6300	_____		
WS DOH Shelfish Protection-**Immediate**	360-236-3330	_____		
(If no answer)	360-786-4183	_____		
Clallam County Enviro Health-**24 Hrs**	360-417-2415	_____		
City of PA Stormwater Eng.-**24 Hrs**	360-460-3456	_____		

ERTS # _____

6. Spill/ Discharge Scene:
   a) Location/Address_____
   b) Time of arrival _____
7. Type and Amount of pollutant and discharge _____
8. In the judgment of the qualified onsite personnel, is the spill Containable? Recoverable? Or Neither? (Circle)

Initial Containment Measures _____

_____

9. Ultimate discharge:
   a) Date/Time discharge terminated_____
   b) Date/Time cleanup commenced _____
   c) Final Cleanup measures _____
   d) Date/Time cleanup completed _____
10. Additional remarks (as necessary) _____

_____

_____

Signature _____ Title _____

APPENDIX 8.2
PUBLIC WORKS & UTILITIES
EMERGENCY CALL LIST

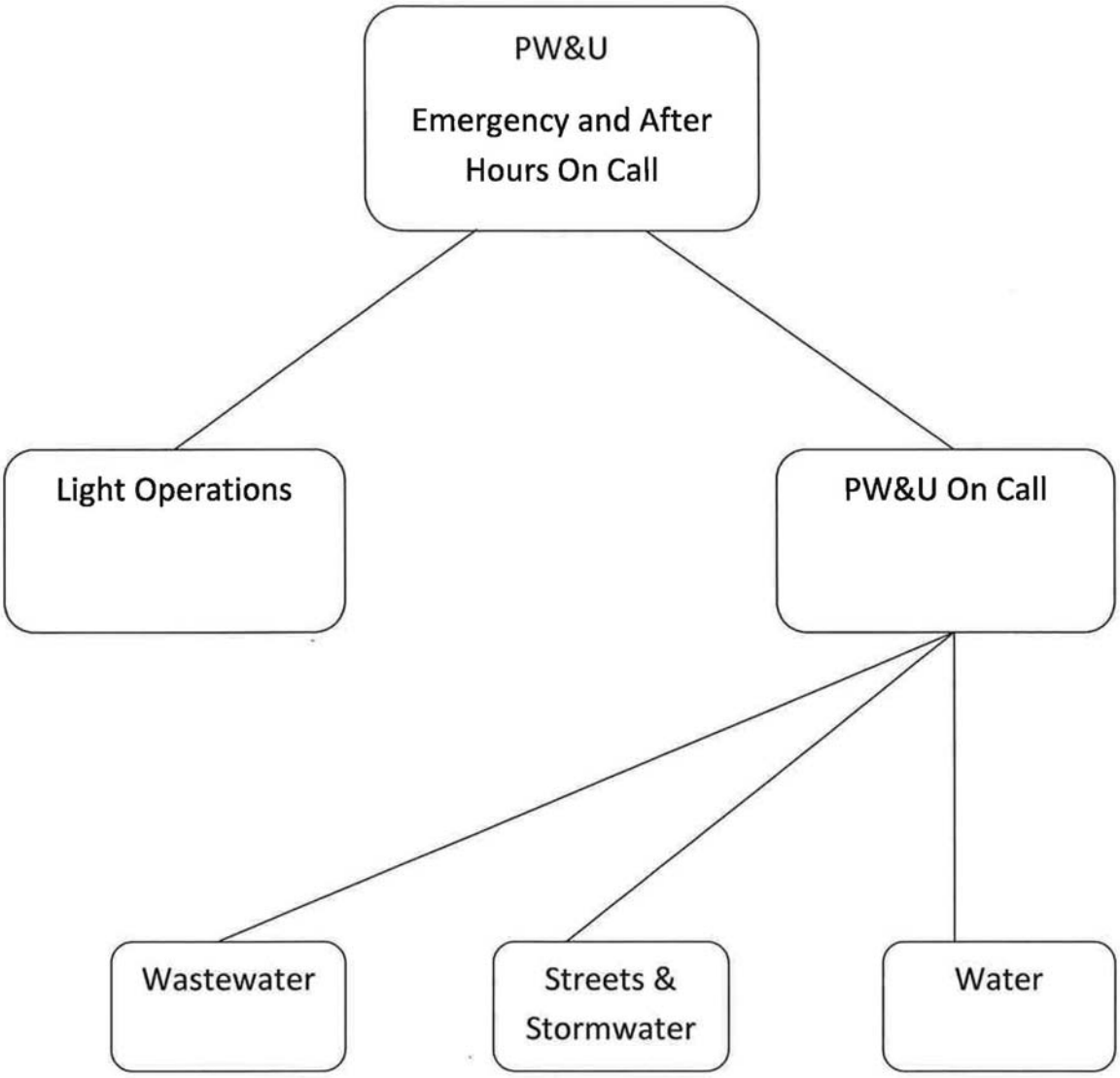
FOR POLLUTION INCIDENTS

The following phone/checklist is for the investigation and notification of the proper agencies of a pollution incident. By providing the applicable information, an accurate, orderly investigation and record will be assured. This checklist is to be used as an aid in preparing a final report and shall be included with the report when forwarded to the Public Works & Utilities Director.

City of Port Angeles	Contact Person	Phone Nos.
Street/Stormwater Division	1) Cody Romero	Work: 360-417-4825 Cell: 360- 912-0260
	2) Greg Haskins	Work: 360-565-3854 Cell: 360-461-5174
	3) Jad Groves	Work: 360-417-4823
	4) Street/Stormwater On-Call	Cell: 360-461-9261
Stormwater Engineer	Ryan Jeffries	Work: 417-4811 Cell: 460-3456
Wastewater Collection	1) Jeff Groves	Work: 360-417-4855
	2) Rick Hartley	Work: 360-417-4891
Wastewater Treatment Plant	1) Tyler White	Work: 360-417-4690 Cell: 360-461-7022
	2) Nathan Gaul	Work: 360-417-4695
	3) WWTP on-call	Cell: 360-461-0111
Deputy Director of Operations	Eric Wheatly	Work: 360-417-4802 Cell: 360-912-0260
Fire Department	1) Joel McKeen	Work: 360-417-4652 Dispatch: 360-417-4797

Agency	Contact Person	Phone Nos.
WS Department of Ecology Water Quality, SW Regional Office. *Notification shall be provided not later than 24 hours from the time the Permittee becomes aware of the circumstances. If this information is provided orally, a written submission covering these points shall be provided within five (5) days of the time the Permittee becomes aware of the circumstances, unless the Department waives or extends this requirement on a case-by-case basis.*	24 Hour Spill Reporting	360-407-6300
WS Department of Health Shellfish/Marine Division	Dept. of Health Shellfish Program – Appropriate Person: Mark Toy	360-236-3306 Page: 360-786-4183 (After hours only)
Clallam County Department of Health	Andy Brastad	360-417-2415 Fax: 417-2313
Feiro Marine Lab (Water intake at mouth of Peabody Creek)		360-417-6254
Lower Elwha Klallam Tribe	Matt Beirne	360-457-4012 ext 12
Port of Port Angeles	Randy Brackett 24 Hours	360-417-3446 360-457-1909

APPENDIX 8.3


PW&U
Emergency and After Hours On Call
Light Operations
PW&U On Call
Wastewater
Streets & Stormwater
Water

APPENDIX 8.4 - SPILL (ILLICIT DISCHARGE) CHARACTERIZATION FIELD SHEET

Section 1: Background Data

Subwatershed:		Outfall ID:	
Incident Date / Today's Date:		Time (Military):	
Investigators:		Form Completed by:	
Temperature (°F):	Rainfall (in.): Last 24 hours: Last 48 hours:		
Latitude:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s:	

Land Use in Drainage Area (Check all that apply):

- ☐ Industrial
- ☐ Ultra-Urban Residential
- ☐ Suburban Residential
- ☐ Commercial
- ☐ Open Space
- ☐ Institutional
- ☐ Other:_____
- ☐ Known Industries: _____

Notes (e.g., origin of outfall, suspected violator information, if known):

Section 2: Outfall Description – Skip this section if spill occurs in the public right of way or on private property

LOCATION	MATERIAL	SHAPE		DIMENSION (IN.)	SUBMERGED
☐ **Closed Pipe**	☐ RCP ☐ CMP ☐ PVC ☐ HDPE ☐ Steel ☐ Other: _____	☐ Circular ☐ Elliptical ☐ Box ☐ Other: _____	☐ Single ☐ Double ☐ Triple ☐ Other: _____	Diameter/Dimensions: _____	**In Water:** ☐ No ☐ Partially ☐ Fully **With Sediment:** ☐ No ☐ Partially ☐ Fully
☐ **Open drainage**	☐ Concrete ☐ Earthen ☐ Rip-rap ☐ Other: _____	☐ Trapezoid ☐ Parabolic ☐ Other: _____		Depth: _____ Top Width: _____ Bottom Width: _____	
☐ **In-Stream**	**(applicable when collecting samples)**				
Flow Present?	☐ Yes	☐ No	***If No, Skip to Section 5***		
Flow Description (If Present)	☐ Trickle	☐ Moderate	☐ Substantial		

Section 3: Quantitative Characterization - Skip this section if spill occurs in the public right of way or on private property

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		**RESULT**	**UNIT**	**EQUIPMENT**
☐ Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐ Flow #2	Flow depth		In	Tape Measure
	Flow width	_____' _____"	Ft, In	Tape Measure
	Measured length	_____' _____"	Ft, In	Tape Measure
	Time of travel		S	Stop Watch
Temperature – field measure			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			Mg/L	Test strip – or lab

Section 4: Physical Indicators for Flowing Spills or Illicit Discharges Only
Are physical indicators present in the flow? ☐ Yes ☐ No (*If No, Skip to Section 5*)

INDICATOR	CHECK if Present	DESCRIPTION	RELATIVE SEVERITY INDEX (1-3)		
Odor	☐	☐ Sewage ☐ Rancid/Sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	☐ 1 – Faint	☐ 2 – Easily detected	☐ 3 – Noticeable from a distance
Color	☐	☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other:	☐ 1 – Faint colors in sample bottle	☐ 2 – Clearly visible in sample bottle	☐ 3 – Clearly visible in outfall flow
Turbidity	☐	See Severity	☐ 1 – Slight cloudiness	☐ 2 - Cloudy	☐ 3 - Opaque
Floatables – Does Not Include Trash!	☐	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	☐ 1 – Few/slight; origin not obvious	☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen)	☐ 3 – Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Spills or Illicit Discharges
Are physical indicators that are not related to flow present? ☐ Yes ☐ No (*If No, Skip to Section 6*)

INDICATOR	CHECK if Present	DESCRIPTION	COMMENTS
Outfall Damage	☐	☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion	
Deposits/Stains	☐	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	
Abnormal Vegetation	☐	☐ Excessive ☐ Inhibited	
Poor pool quality	☐	☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other:	
Pipe benthic growth	☐	☐ Brown ☐ Orange ☐ Green ☐ Other:	

Section 6: Overall Spill or Illicit Discharge Characterization

☐ Unlikely	☐ Potential (presence of two or more indicators)	☐ Suspect (one of more indicators with a severity of 3)	☐ Obvious

Section 7: Data Collection –Two samples must be taken for lab analysis. Test parameters are in 7.2 b 3 and 7.3 e

1. Sample for the lab?	☐ Yes	☐ No		
2. Collected from:	☐ Flow	☐ Pool		
3. Intermittent flow trap set?	☐ Yes	☐ No	If Yes, type: ☐ OBM	☐ Caulk dam

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?



Figure 8.4.1: Characterizing Submersion and Flow

Spill Characterization Field Sheet Section 2

If discharge is discovered in a pipe or open drainage ditch, fill in this section using Figure 8.4.1 above to determine the level of flow and submergence. If the discharge is discovered on the pavement or in a curb and gutter, skip to the bottom of Section 2 and determine if flow is present or not.

Spill Characterization Field Sheet Section 3

Use this section if the discharge is coming from a pipe or ditch. If you have the Horiba water quality meter, test for temperature and pH and record the results. Ammonia is one of the parameters that will be tested by the City lab.

Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS				
PARAMETER		**RESULT**	**UNIT**	**EQUIPMENT**
☐Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
☐Flow #2	Flow depth		In	Tape measure
	Flow width	____' ____"	Ft, In	Tape measure
	Measured length	____' ____"	Ft, In	Tape measure
	Time of travel		S	Stop watch
Temperature			°F	Thermometer
pH			pH Units	Test strip/Probe
Ammonia			mg/L	Test strip

Figure 8.4.2: Section 3 of the ORI Field Sheet

Spill Characterization Field Sheet Section 4

Odor

Section 4 asks for a description of any odors that emanate from the outfall and an associated severity score. Since noses have different sensitivities, the entire field crew should reach consensus about whether an odor is present and how severe it is. A severity score of one means that the odor is faint or the crew cannot agree on its presence or origin. A score of two indicates a moderate odor within the pipe. A score of three is assigned if the odor is so strong that the crew smells it a considerable distance away from the outfall.

Tip

Make sure the origin of the odor is the outfall. Sometimes shrubs, trash or carrion, or even the spray paint used to mark the outfall can confuse the noses of field crews.

Color

The color of the discharge, which can be clear, slightly tinted, or intense is recorded next. Color can be quantitatively analyzed in the lab, but the spill characterization field sheet only asks for a visual assessment of the discharge color and its intensity. The best way to measure color is to collect the discharge in a clear sample bottle and hold it up to the light (Figure 8.4.3).

Field crews should also look for downstream plumes of color that appear to be associated with the outfall. Figure 8.4.4 illustrates the spectrum of colors that may be encountered during a spill investigation, and offers insight on how to rank the relative intensity or strength of discharge color. Color often helps identify industrial discharges.

Turbidity

The spill characterization field sheet asks for a visual estimate of the turbidity of the discharge, which is a measure of the cloudiness of the water. Like color, turbidity is best observed in a clear sample bottle, and can be quantitatively measured using field probes. Crews should also look for turbidity in the plunge pool below the outfall, and note any downstream turbidity plumes that appear to be related to the outfall. Field crews can sometimes confuse turbidity with color, which are related but are not the same. Remember, turbidity is a measure of how easily light can penetrate through the sample bottle, whereas color is defined by the tint or intensity of the color observed. Figure 8.4.4 provides some examples of how to distinguish turbidity from color, and how to rank its relative severity. Also, under high intensity or long duration rainfall, Port Angeles streams will be turbid from natural processes upstream. If turbid water is encountered in the stream, investigate waters upstream to determine the source.



Figure 8.4.3: Using a sample bottle to estimate color and turbidity



Color: Brown; Severity: 2
Turbidity Severity: 2



Color: Blue-green; Severity: 3
Turbidity Severity: 2



Highly Turbid Discharge
Color: Brown; Severity: 3
Turbidity Severity: 3



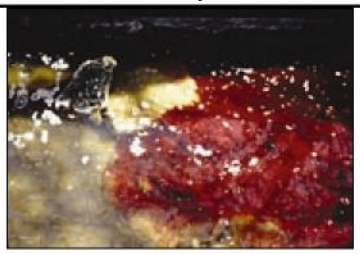
Sewage Discharge
Color: 3
Turbidity: 3



Paint
Color: White; Severity: 3
Turbidity: 3



Industrial Discharge
Color: Green; Severity: 3
Turbidity Severity: 3



Blood
Color: Red; Severity: 3
Turbidity Severity: None



Failing Septic System:
Turbidity Severity: 3



Turbidity in Downstream Plume
Turbidity Severity: 2
(also confirm with sample bottle)



High Turbidity in Pool
Turbidity Severity: 2
(Confirm with sample bottle)



Iron Floc
Color: Reddish Orange; Severity: 3
(Often associated with a natural source)



Slight Turbidity
Turbidity: 1
(Difficult to interpret this observation; May be natural or an illicit discharge)

Construction Site Discharge
Turbidity Severity: 3



Discharge of Rinse from Floor Sanding
(Found during wet weather)
Turbidity Severity: 3

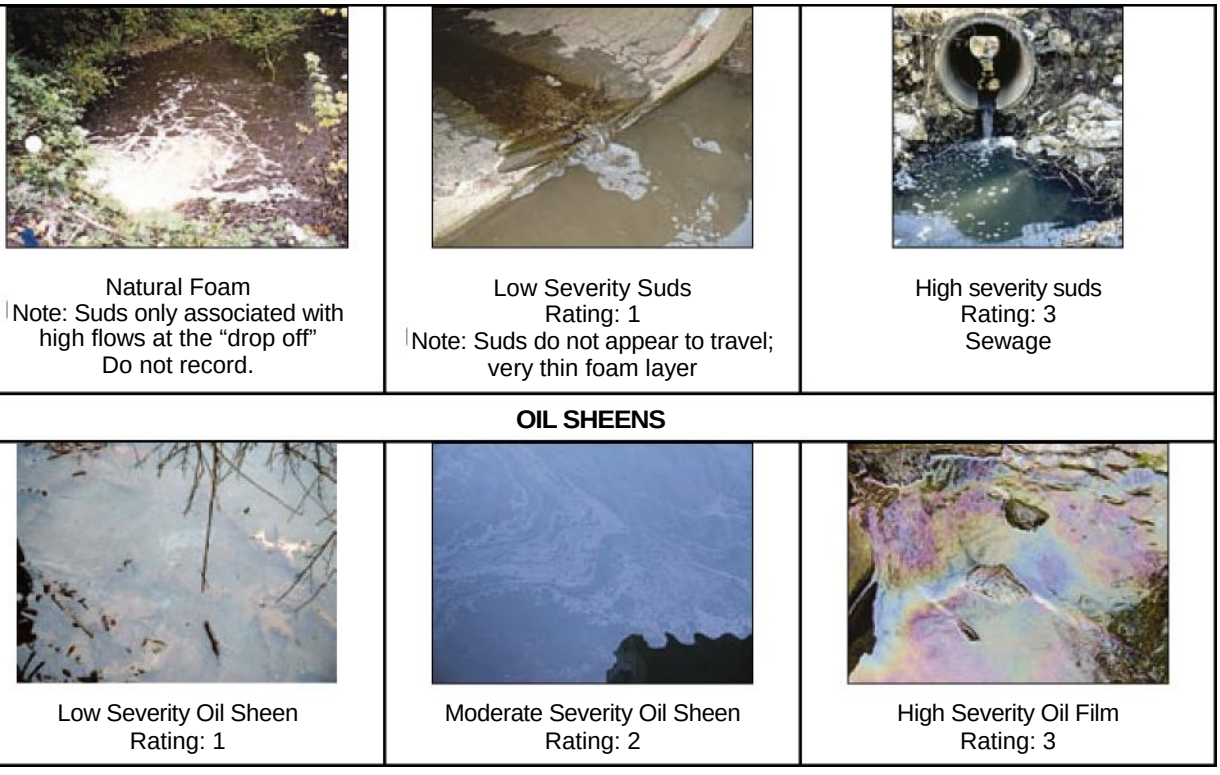
Figure 8.4.4: Interpreting Color and Turbidity

Floatables

The last sensory indicator is the presence of any floatable materials in the discharge or the plunge pool below. Sewage, oil sheen, and suds are all examples of floatable indicators; trash and debris are generally not in the context of the Outfall Reconnaissance Inventory (ORI). The presence of floatable materials is determined visually, and some guidelines for ranking their severity are provided in Figure 8.4.5, and described below.

If you think the floatable is sewage, you should automatically assign it a severity score of three since no other source looks quite like it. Surface oil sheens are ranked based on their thickness and coverage. In some cases, surface sheens may not be related to oil discharges, but instead are created by in-stream processes, such as shown in Figure 8.4.6. A thick or swirling sheen associated with a petroleum-like odor may be diagnostic of an oil discharge.

Suds are rated based on their foaminess and staying power. A severity score of three is designated for thick foam that travels many feet before breaking up. Suds that break up quickly may simply reflect water turbulence, and do not necessarily have an illicit origin. Indeed, some streams have naturally occurring foams due to the decay of organic matter. On the other hand, suds that are accompanied by a strong organic or sewage-like odor may indicate a sanitary sewer leak or connection. If the suds have a fragrant odor, they may indicate a sanitary sewer leak or connection. If the suds have a fragrant odor, they may indicate the presence of laundry water or similar wash waters.



SUDS

Figure 8.4.5: Determining the Severity of Floatables

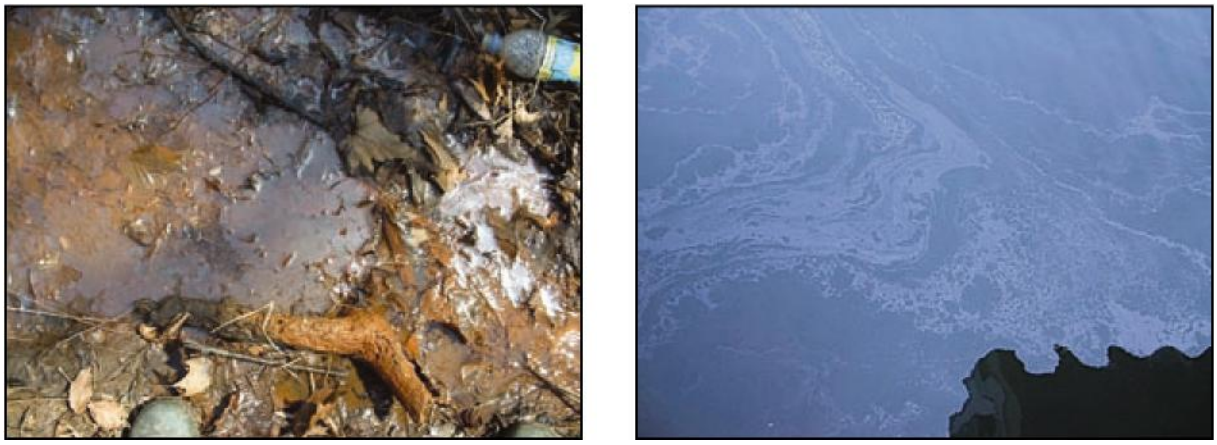


Figure 8.4.6: Synthetic versus Natural Sheen (a) Sheen from bacteria such as iron floc forms a sheet-like film that cracks if disturbed (b) Synthetic oil forms a swirling pattern

Sample Collection Field Sheet Section 5

Section 5 of the ORI field sheet examines physical indicators found at both flowing and non-flowing outfalls that can reveal the impact of past discharges. Physical indicators include outfall damage, outfall deposits or stains, abnormal vegetation growth, poor pool quality and benthic growth on pipe surfaces. Common examples of physical indicators are shown in Figures 8.4.7 and 8.4.8. Many of these physical conditions can indicate that an intermittent or transitory discharge has occurred in the past, even if the pipe is not currently flowing. Physical indicators are not ranked according to their severity, because they are often subtle, difficult to interpret and could be caused by other sources. Still physical indicators can provide strong clues about the discharge history of a storm water outfall, particularly if other discharge indicators accompany them.



Bacterial growth at this outfall indicates nutrient enrichment and a likely sewage source.



This bright red bacterial growth often indicates high manganese and iron concentrations. Surprisingly, it is not typically associated with illicit discharges.



Sporalitis filamentous bacteria, also known as “sewage fungus” can be used to track down sanitary sewer leaks.



Algal mats on lakes indicate eutrophication. Several sources can cause this problem. Investigate potential illicit sources.



Illicit discharges or excessive nutrient application can lead to extreme algal growth on stream beds.



The drainage to this outfall most likely has a high nutrient concentration. The cause may be an illicit discharge, but may be excessive use of lawn chemicals.



This brownish algae indicates an elevated nutrient level.

Figure 8.4.7: Interpreting Benthic and Other Biotic Indicators



Reddish staining on the rocks below this outfall indicate high iron concentrations.

Toilet paper directly below the storm drain outlet.

Watershed Protection??

Trash is not an indicator of illicit discharges, but should be noted.

Staining at the base of the outfall may indicate a persistent, intermittent discharge.

Excessive vegetation may indicate enriched flows associated with sewage.

Brownish stain of unclear origin. May be from degradation of the brick infrastructure.

Cracked rock below the outfall may indicate an intermittent discharge.

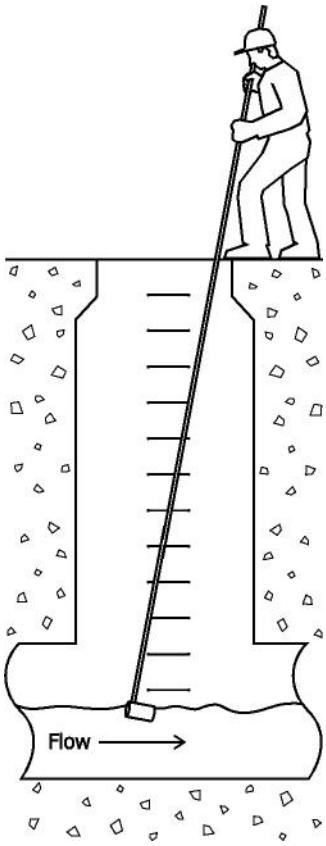
Poor pool quality. Consider sampling from the pool to determine origin.

Figure 8.4.8 **Typical Findings at Both Flowing and Non-Flowing Outfalls**

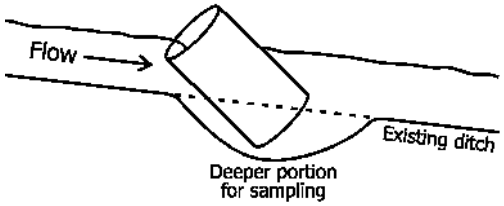
Appendix 8.5 – Stormwater Sampling Checklist

General Sampling Techniques

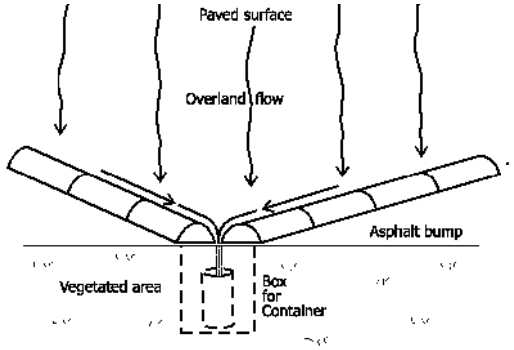
- If possible, notify the wastewater lab ahead of an illicit discharge investigation, a stream survey or a priority outfall survey so they will be aware that timely testing may be required.
- Collect two sample bottles for each sample site from the lab. Lab note: for fecal coliform samples: Bacteria sample containers should be 250-mL or 500mL pre-autoclaved (sterilized) polypropylene bottles with aluminum foil wrapped caps used to preserve sterility near the bottle opening. No preservative should be added. However, if sampling near a major road or highway, EDTA should be added to neutralize the high metals
- Prepare and carry a small sample cooler with ice.
- When collecting the sample:
    - Safety is most important. If a trip hazard is present or if there is deep, or swift water, samples should be taken with a partner. Do not enter any manhole or long culvert, unless you have been trained to enter confined spaces.
    - Wear disposable powder free gloves.
    - The sample should be collected by hand (grab sample) or with sample bottle attached to an extension pole. Samples cannot be pumped or transferred from container to container (dipper).
    - Care should be used at all times to avoid contamination of the inside of the sample bottle cap. (Do not touch the inside of the bottle cap with your hands, or place the open side on the ground.)
    - Do not rinse the bottle.
    - Do not disturb sediment from the stream bed, pipe or manhole. If the flow is too shallow to take a sample without sediment, the flow can be dammed to create a deep spot, or the ditch can be deepened with a shovel to create a small sampling pocket. See examples below.
    - Always collect samples from the active part of the stream or pipe flow.
    - Face the opening of the bottle upstream (or into the tidal flow in marine water).
    - Plunge the sample bottle to mid flow depth and sweep up.
    - Leave ½ inch headspace in the bottle for mixing.
    - As soon as the sample is collected, cap the bottle and label it.
    - Immediately store in a cooler with ice.
    - Deliver to the lab within 6 hours.



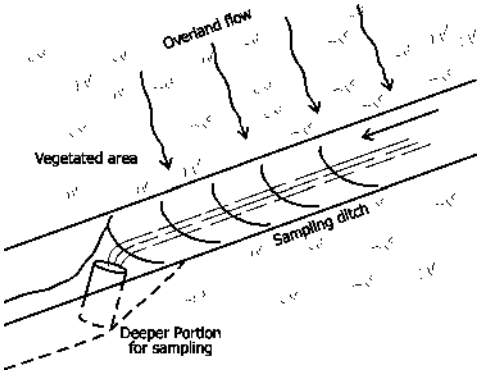
When sampling from a manhole, use a pole to safely sample from above ground. Avoid touching the sides of the manhole or pipes with the bottle to prevent contamination. Place the opening of the bottle upstream so that the flow enters the bottle directly.



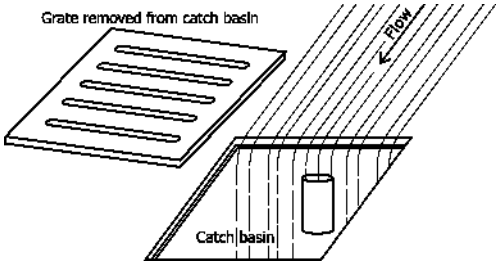
Deepening an existing ditch can allow samples to be collected directly into bottles in some cases. Be careful not to stir up solids from the sides or bottom of the ditch



Overland flow on paved areas can be sampled by constructing asphalt or concrete bumps to collect and concentrate the flow. A box positioned below ground surface in the paved area or the edge of an unpaved area can provide a place to collect samples directly into bottles.



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



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



Do not touch openings of bottles. Keep bottles clean to prevent contamination.



Do not allow bottle lids to touch ground. Keep lids clean to prevent contamination.



Do attach a bottle to a pole for sampling in manholes or when a hand sample would be in stagnant water. A boathook is used in this example and the bottle is attached to it with filament strapping tape.



Do not sample in stagnant areas with little flow. Do not stir up bottom sediments or allow foreign materials to enter the sample bottle. (Do be careful to grab a clean sample in cases where stormwater runoff is shallow.) If the runoff is so shallow that it is not possible to sample without the sample being contaminated in the process, then find an alternative way to sample.



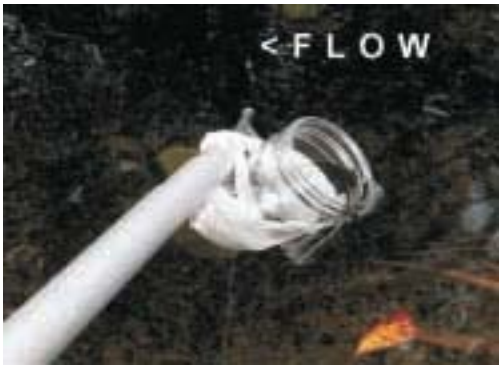
If the water is too shallow to sample with the bottle upright on the pole, try taping it on sideways, but tilted up slightly.



Do not sample with the bottle opening facing downstream, when using a pole or when sampling by hand. Water flowing past your container, pole, or hand and into the container can be contaminated by such contact.



Do not allow water to overfill the bottle, particularly not for sample bottles with preservative. Oil and grease samples should be collected from water falling into the bottle when possible, or otherwise in a single swoop.



Do sample with the opening of the bottle facing upstream, into the flow so the water will enter directly into the bottle. This is true when sampling either by hand or with a pole. Do sample water that is rapidly flowing rather than stagnant.



Do collect samples without overfilling the bottle.

City of Port Angeles | Stormwater Permit Coordination and Planning Group (SWPCPG)

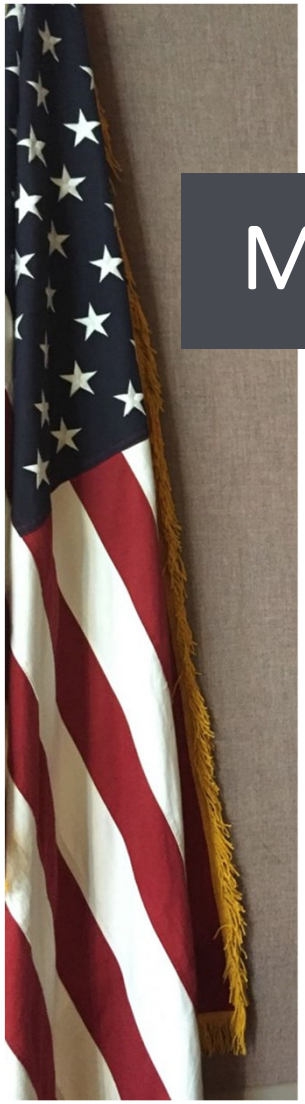


- PAPD
- Parks & Recreation
- PAFD
- Public Works
- Community & Economic Development

Vince McIntyre, PWKS/Engineering

Ann Bryant, PE, Osborn Consulting, Inc.

May 9, 2023



Meeting Agenda

1. Introductions
2. Main Meeting
   - New Items
   - Ongoing Items
   - Other Items
   - Open Discussion
3. Focused Discussion – ArcGIS Hub: Sondy, Ann & Matthew

Next Meeting: August 8th, 2023

Introductions

- **Name**
- **Department**
- **Title**



Stormwater Permit Coordination & Planning Group (SWPCPG)

Upcoming Meeting 5/9/2023

AGENDA

1. **Introductions**
    a. Brief self-introductions – name, department, title

2. **New Items**
    a. SW Engineer Position advertised – 1st review of applicants May 16th.
    b. Ecology's proposed Phase II Permit Updates (2024-2029 Permit)
        i. Lowered threshold requiring treatment – 2000 sq. ft. of PGHS
        ii. Street Sweeping program required – will need to track
        iii. Map and track forested areas
        iv. Retrofit Program for COPA – Credits for Treatment, Detention, LID, & Programs
            1. City Hall LID Parking Lot
                a. Construction scheduled for July 2023
        v. August 2023 - Draft permit will be published and ECY will hold public hearings

3. **Ongoing Items**
    a. Training
        i. All staff training – coordinating w/ IT
        ii. New Employees – ongoing
        iii. CESCL - 2024
    b. SW Planning
        i. SMAP is finished – Valley Creek Basin opportunities identified for retrofit projects
        ii. Grant applications due October 2023
    c. E &O
        i. Clallam Co. Fair, August – Whos in?
            1. Need new materials – put in an order through Jess Straits?
    d. Public Involvement & Participation
        i. Streamkeepers – need volunteers
        ii. Others? Suggestions?
    e. MS4 mapping
        i. OCI & FloAnalytics to develop Field App in Spring 2023 – SW Ops to test
    f. IDDE
        i. Currently updating IDDE Policy – comparing it to Herrera's IC/ID manual
            1. RKI has asked the City for direction
        ii. SEE SOMETHING? SAY SOMETHING
            1. Private Property
                a. Shell Station example – Source Control
                b. Code Enforcement
            2. Public Property

a. Engineering – permit related
    i. Pizza Hut stop-work order
b. SW Ops

g. Controlling Runoff from Development
    i. Roger Vess is retiring; replacement = Nickie _____
    ii. Major Projects: Starbucks & Mod Pizza, LEKT Hotel, Development near M&10th Wetland, others?
h. O&M
    i. SW & Eq. Services – added Travarius to CFP; apply for grant in Oct. 2023
    ii. PPP Training for COPA land managers
    iii. Updated Corp Yard SWPPP
        1. Map
i. Source Control
    i. Howard Carlseen is the City's PPA Inspector
        1. May be a good resource to City Staff for SC questions on City sites
    ii. 2-yr. PPA Grant Application submitted to ECY – able to subsidize the cost of a Source Control Inspection for private businesses.
    iii. Continued working w/ OCI & FloAnalytics developing the ArcGIS Hub program.

4. Other Items

a. 6PPD-Q
b. Additive in tires; adverse impact on Salmonids – specifically Coho Salmon
    i. Current understanding from ECY: Old tires may no longer be a source of 6PPD-Q
        1. May be important for artificial turf sports fields
c. Likely for 2023
    i. Corp Yard Inspection – Industrial Permit Program
    ii. ECY audit/inspection

5. Open Discussion

a. Chinks in our armor?
b. Content for next meeting?

6. Focused Discussion (Sondya, Ann, & Matthew)

a. ArcGIS HUB – budget & schedule

7. Next Meeting: August 8th, 2023 @ 1:00 pm

Wrap-Up

Next Meeting: August 8th, 2023

V. McIntyre
Last Updated: 11.14.2023

Stormwater Permit Coordination & Planning Group (SWPCPG)

Meeting 11/14/2023

AGENDA

1. **Introductions**
    a. Brief self-introductions – name, department, title
    Ryan, Daniel, Howard, Matthew, Cody, Woo, Ben, Tim

2. **Quick Status Report (Vince)**
    a. SW Engineer Position – Ryan Jefferies! (Vacant Transpo Eng.)
    b. Capital Projects
        i. City Hall LID Parking Lot Retrofit – Construction Delayed
            1. Re-advertise Winter 2023 for Construction in Spring 2024
                a. EV Charging Stations – Markings, signage, wheel-stops?
                b. Vern Burton Spring Calendar
        ii. Park Ave. Outfall to Peabody Creek – DESIGN
            1. WDFW, ONP
        iii. Francis St. Outfall – DESIGN
        iv. Canyon Edge – DESIGN/Build
            1. WDFW
        v. Big Boy Pond / Lincoln Park Drainage Assessment – Parametrix SOW
    c. Grant Opportunities
        i. 2024-2026 Capacity Grant - ± $130k (OPEN)
            1. Something specific we want to use it for?
        ii. 16th Street SW Facility Construction
            1. Route Agreement for Review; construct 2025
        ~~iii. SMAP projects – design grants? – Valley Creek Basin (OCTOBER)~~
        ~~iv. Permeable Pavement Cleaning Vehicle – Enhanced Program (OCTOBER)~~

    New position – CED only? Follow up with JB.

    d. Training
        i. CESCL – March 2024 (Thanks Leena for the Help!)
            1. Re-cert on March 26th
            2. New Cert on March 27th & 28th
                a. Field Day to occur at Triangular Lot next to WTP (Thank you Bruce!)

    Send out cost /budget estimate per person.

    Sign-up sheet – last training

        ii. IC/ID – refresher being discussed by Stormwater Center; Last taught in 2020
        iii. All-Staff IDDE Training – Need to record; Gift ideas for Daniel Harris
        Check in with Kari – Proposed Software Training Package coming in the future

1. Add in info about Updated Corp Yard SWPPP & Updated Policies & Procedures.

iv. IDDE Survey 123 App – all-staff reporting
1. PAFD received training – any reports?
1 received
Add Ryan to the IDDE inbox
Windows Login allow us to login to ArcGIS
Give Detailed Training to SW OPS Crew & Cody, Bring Ryan & Howard

e. E&O – Spring 2024 Home Show
i. Bruce Dorcy initiating
ii. Plant Order from CCD
iii. Any further talk about new COPA marketing material order?
Earth Day 2024?
Social Media Posts?

f. IDDE
i. Any items to discuss?
ii. Collaboration with Ops, Eng., & Code enforcement? Any reports?

g. Source Control
i. UAC Presentation 8/8/2023
1. Using PPA funds to offset the direct costs of program implementation.
ii. Howard Carlseen can be a good resource for you regarding management of runoff from City Properties.

h. Work with Osborn being extended into 2024.
i. Outfall inspection survey form – survey 123
ii. Private O&M Insp. form and Hub Site – underway
iii. SC Hub Sites are being tested.

i. Ecology's proposed Phase II Permit Updates (2024-2029 Permit)
i. Public Comment has closed.
ii. PAFD – new language and requirements regarding PFAS Firefighting Foams: read.

3. Scheduled Group Discussion Items (Open Discussion)

i. Any?

Lack of connection between PAPD, FD, & COPA – response to accidents & reporting. (M. Moore) Lack of Training. New staff. Using dispatch. Officer Rife – Training (PAPD).

Small local businesses unable to dispose of dangerous wastes locally. Exists for residential but not for commercial. Nearest Tacoma. Makes it easy to dispose down the drain.

Republic's Fees are large. Bremerton will accept commercially.

Landfill Permit allowable? Maybe, maybe not.

Check with Bruce – starting point.

4. **Other Items (Open Discussion)**
    a. Likely for 2023 / 2024
        i. Corp Yard Inspection – Industrial Permit Program
            1. Storage of materials; encourage disposal offsite
        ii. ECY audit/inspection

5. **Open Discussion**
    a. Chinks in our armor?
    b. Content for next meeting?

6. **Focused Discussion**
    a. None

7. **Next Meeting:** February 13th, 2024 @ 1:00 pm

V. McIntyre
Last Updated: 8.7.2023
Meeting Notes: 8.8.2023

Stormwater Permit Coordination & Planning Group (SWPCPG)

Meeting 8/8/2023

AGENDA

1. **Introductions**
    a. Brief self-introductions – name, department, title
    Attendees: Woo Haskins, Cody Romero, Matthew Moore, Sondya Moriarity, Chief Smith, Tyler White, Shannon Cartmel, Tim Tucker & Vince McIntyre

2. **Quick Status Report (Vince)**
    a. SW Engineer Position still vacant – $7,500 bonus
    b. Capital Projects
        i. City Hall LID Parking Lot Retrofit – Construction Delayed
            1. Re-advertise Winter 2023 for Construction in Spring 2024
                a. EV Charging Stations – Makings, signage, wheel-stops?
                Stencil logo, & wheel stops – Street Dept. to install
                b. Vern Burton Spring Calendar
                End of May – Juan de Fuca Festival. Tim to look into other potential conflicts on the schedule for the Spring.
        ii. Park Ave. Outfall to Peabody Creek – DESIGN
            1. WDFW, ONP
        iii. Francis St. Outfall – DESIGN
        iv. Canyon Edge – DESIGN/Build
            1. WDFW
    c. Grant Opportunities
        i. 2024-2026 Capacity Grant - ± $130k (OPEN)
            1. Something specific we want to use it for?
        ii. 16th Street SW Facility Construction – BioPods (OCTOBER)
        iii. SMAP projects – design grants? – Valley Creek Basin (OCTOBER)
        Discussion of SMAP projects.
        iv. Permeable Pavement Cleaning Vehicle – Enhanced Program (OCTOBER)
        Cody recommends submitting an application regardless
    d. Training
        i. CESCL – March 2024 (Thanks Leena for the Help!)
            1. Re-cert on March 26th
            2. New Cert on March 27th & 28th
                a. Field Day to occur at Triangular Lot next to WTP (Thank you Bruce!)
            Vince to send out an email in the near future. Shannon confirmed Jim and Pat would likely be in attendance.
        ii. IC/ID – refresher being discussed by Stormwater Center; Last taught in 2020
        iii. All-Staff IDDE Training – Gift ideas for Daniel Harris

1. Add in info about Updated Corp Yard SWPPP & Updated Policies & Procedures.

e. E&O – 2023 Clallam County Fair
   i. Setup on Wednesday Aug. 16th @ 9 am
      Solid Waste, SW, DCED?, Conservation, Jess S?.
         Shannon to check with Ben.
            Ben Followed-up later; will be bringing Q&A board and some items to layout for discussion.
   ii. Open to all departments – online sign-up sheet
   iii. CT / OT & maybe FT opportunities; also free entry for the day
   iv. Questions? – Jess Straits to be sending out an email soon.
f. IDDE
   i. Upcoming Basin Screening – BASIN 7: Between Lauridsen & Ahlvers
      1. Dates?
         August 23rd. – 1 day, 2nd day reserved. Creek Walks? – Yes, Southern sections of Valley & Peabody.
   ii. Vehicle accidents – who cleans up the spill/absorbent? See discussion below.
         Towing Company initially responsible – unwritten rule
            a. Paid to perform the service – billed to the Ins. Co.
         If residual, SW Ops notified and will respond
            b. Via dispatch, from Police or Fire – SW Ops to run sweeper through.
         Update Code?
            c. Update Policies & Procedures?
         Add to the Survey 123 Checklist?
            d. Maybe not for Reporter – Maybe add to Responder
   iii. Survey 123 Checklist – status?
         Effectively complete – Matthew shared screen and gave a cursory training.
g. Source Control
   i. UAC Presentation 8/8/2023
      1. Using PPA funds to offset the direct costs of program implementation.
   ii. Howard Carlseen can be a good resource for you regarding management of runoff from City Properties.
h. Ecology's proposed Phase II Permit Updates (2024-2029 Permit)
   i. August 2023 - Draft permit will be published and ECY will hold public hearings

3. Scheduled Group Discussion Items (Open Discussion)

a. IDDE – Vehicle accidents & response to spills (Matthew Moore)
   i. Police - Fire - Tow Truck Co. - Responsible Party - Owner - SW Ops.
      See above

4. Other Items (Open Discussion)

a. Likely for 2023
    i. Corp Yard Inspection – Industrial Permit Program
    ii. ECY audit/inspection

5. **Open Discussion**
    a. Chinks in our armor?
    b. Content for next meeting?

    None

6. **Focused Discussion**
    a. None

7. **Next Meeting:** November 14th, 2023 @ 1:00 pm

End. Meeting finished at 2:00 pm

Stormwater Management Program | Annual Report to ECY

S5.C.2.a.iii. - List of Stewardship Opportunities provided in 2023

1. **Streamkeepers of Clallam County**
   The City has long-partnered with Streamkeepers of Clallam County in support of their water Quality monitoring program that utilizes trained volunteers to collect water quality data. The City and the County executed a new 5-year Inter-local Agreement with Streamkeepers in 2022. See attached 2022-2026 ILA. A few notable additions to the agreement are:
   - Benthic macroinvertebrate sampling on Tumwater, Peabody, Valley, and Ennis Creeks
   - Production of a comprehensive 20-year report
   - Sampling for E.Coli (freshwater) and E. Cocci (marine waters).

DocuSign Envelope ID: 834496C5-4831-4284-83CE-D64BB0163400

332.22.007

2a
01/27/22

INTER-LOCAL AGREEMENT
BETWEEN
CITY OF PORT ANGELES
AND
CLALLAM COUNTY
FOR STREAM WATER QUALITY MONITORING
2022 – 2026
PSA-2022-53

This Inter-Local Agreement is between the City of Port Angeles (herein after referred to as "the City") and Clallam County (herein after referred to as "the County") for the purpose of volunteer recruitment, training and coordination for water quality monitoring, and associated data storage and reporting. Funding for this work is through the City of Port Angeles.

WHEREAS, the Inter-Local Cooperation Act, RCW 39.34, provides that any two public agencies of the state having separate authority to exercise a particular power may enter into an agreement for cooperative or joint exercise of that power; and

WHEREAS, the City is a municipal corporation of the State of Washington, and the County is a political subdivision of the State of Washington, and each party has the authority to contract for water quality monitoring services under Article XI § 11 of the Washington State Constitution; Chapter 17.10 RCW; Chapter 36.89 RCW; Chapter 85.15 RCW; and

WHEREAS, the City desires to monitor levels of bacteria, and other water quality parameters in the streams and harbor of Port Angeles, in a systematic and scientific manner; and

WHEREAS, the City would like to use the services of the County's Streamkeepers program; and

WHEREAS, the County will benefit from the information gathered by the City's monitoring of the above-mentioned water quality parameters in the County's own water quality monitoring projects.

Therefore, it is mutually agreed that:

A. The County's Responsibilities:

1. Project management: The County shall track work hours and budget of the County's Streamkeepers program to ensure effective expenditure of funds and provide a breakdown of hours and activities on pay applications.
2. Recruit and train volunteers through the County's Streamkeepers program to perform water-quality monitoring in the Port Angeles area.
3. Devise a sampling plan in conjunction with the City. Sample sites, parameters, and periodicity will be agreed upon by Streamkeepers and the City. Sites will have safe access. Where a sampling site is not accessible from a public road or other easement, the City will obtain the landowner's permission for Streamkeepers' staff and/or volunteers to access the site. Baseline sampling is expected to include monthly sampling for *Escherichia coli* (*E. coli*) bacteria in freshwater streams and *Enterococci* bacteria in marine waters. The sampling plan will depend upon funding and laboratory costs.

DocuSign Envelope ID: 834496C5-4831-4284-83CE-D64BB0163400

4. Sampling for benthic macroinvertebrates will occur in 2022 in approved locations central to each streams extent within the City limits for the following creeks: Peabody, Valley, Tumwater, & Ennis. Additional sampling events or locations must be approved by the City in advance and have funds available within the approved budget. Benthic Macroinvertebrate sampling is to occur on a 5-year interval. It is anticipated that these same sites will be sampled again in 2027 under the next ILA.
5. Conduct water quality monitoring (done by staff or volunteers), including collection of samples, in situ measurements, and installation and retrieval of continuous data loggers at designated sample sites using standard Streamkeepers protocols and quality-control measures.
6. Conduct quarterly stream flow monitoring at agreed-upon sites using standard Streamkeepers equipment, protocols, and quality-control measures. Flow monitoring data is to be included in the annual report to the City.
7. Submit samples to laboratories for analysis:

   a. Bacterial and other water-quality samples to the County Environmental Health Lab or, when the County Environmental Health Lab is unable to perform the analysis, another state accredited lab as defined in RCW 43.21A.230 and WAC 173-50-040.

   b. Benthic macroinvertebrate samples to professional taxonomy laboratories for identification and verification.
8. Record, confirm, and analyze all results, and report them to the City as soon as possible but no later than 30 days following collection via the standard reporting/recordkeeping formats as used by the County's Streamkeepers program. Along with providing the sampling results, produce and submit to the City each month a table of data for that month, and a brief written summary pointing out any anomalies or exceedances of State water quality standards that may warrant follow-up investigation by the City's Illicit Discharge Detection and Elimination (IDDE) response team.
9. Produce and submit to the City a yearly report compiling the collected data for the year and providing detailed graphical and statistical analysis and interpretation of results. In addition, where appropriate, annual data is to be overlain and compared against data collected during previous years. The report shall discuss trending, comparisons, anomalies, etc., and calculate and report statistical significance of results as appropriate.
10. Produce and submit to the City a comprehensive report on water quality trends in Port Angeles streams over the period 2001-2021. This comprehensive report is to be submitted to the City no later than December 31st, 2023.

B. <u>The City's Responsibilities:</u>

1. Provide direction as to overall sampling design, including sites, parameters, and periodicity.
2. In the instance a sampling site is not accessible from a public road or other easement, obtain landowner permission to access the site for sampling purposes.
3. Arrange with analytical laboratories for payment, as appropriate. Expected laboratory services include:

DocuSign Envelope ID: 834496C5-4831-4284-83CE-D64BB0163400

a) Water samples for pollutant analysis. The 2022 lab fees at the Clallam County Environmental Health Laboratory are $35.00 per sample for *E. coli* and $40.00 per sample for *Enterococci* bacterial tests. Payment of lab fees will be based on current year sample rates as set by the Clallam County Environmental Health Laboratory. If other parameters, methods, or laboratories are used, fees will vary.

b) Benthic macroinvertebrate samples for taxonomic analysis per the Benthic Index of Biological Integrity (B-IBI). Laboratory fees are estimated at $430 per sample, however, rates are known to fluctuate and cannot be accurately determined in advance, but the City will use the same taxonomist(s) the County uses and will pay the same rate, including pro-rated costs for Quality Assurance laboratory analysis.

4. The City will pay for staff time and costs for the services described in "A." above at the staff billing rate set by the County, and the actual cost of incidental material. The staff billing rate will be the composite rate of the staff salary set by Clallam County. The County will invoice the City monthly, and the City will pay within 30 days. The 2022 Streamkeeper Coordinator's billing rate is $50.82 per labor hour. Subsequent years will be billed at the established staff billing rate set by Clallam County.

5. City's maximum obligation: The total cost of services for the above tasks, including payments to Streamkeepers and laboratories, shall not exceed $14,000 for year 2022 and $21,000 for each additional calendar year, totaling $98,000 for the years 2022 through 2026.

C. General Conditions:

1. Duration: Unless terminated by either party, this agreement shall commence on the date of execution, and shall remain in effect through December 31, 2026.

2. Modification: This Agreement may be amended or altered only by written agreement of the designated representatives of both the City and the County upon the signature of such representatives. The amendment shall explicitly state that it is an amendment to this Agreement.

3. Termination: This Agreement may be terminated by either party sixty (60) days after receipt of written notice of intent to terminate; PROVIDED that either party may immediately terminate this Agreement for public convenience or in the event of a financial emergency. If this contract is terminated or expires, the City is obligated to reimburse the County for all costs incurred in performance of the Agreement prior to its termination or expiration.

4. Property: The parties do not intend to purchase or acquire any real or personal property in performance of this Agreement, other than the supplies necessary to perform this Agreement. Property purchased or acquired in performance of this Agreement will remain with the purchasing party upon termination or expiration of this Agreement.

5. Ownership of Items Produced: All writing, programs, data, public records or other materials prepared by the County and/or its consultants, subcontractors, or volunteers, in connection with performance of this Agreement will be entered into the Clallam County Water Resources

DocuSign Envelope ID: 834496C5-4831-4284-83CE-D64BB0163400

database, and then delivered to the City. The parties recognize and acknowledge that all such information is available to the public.

6. Non-Discrimination: The County shall not discriminate against any person on the basis of race, creed, political ideology, color, national origin, sex, marital status, sexual orientation, age, or the presence of any sensory, mental or physical handicap.

7. Defense, Indemnity, Hold Harmless: The County shall defend, indemnify, and hold the City harmless from and against any liability for any/all injuries to person or property arising from the sole negligent act or omission of the County or its elected officials, department heads, agents, or employees in performance of this Agreement.

   The City shall defend, indemnify, and hold the County harmless from and against any liability for any/all injuries to person or property arising from the sole negligent act or omission of the City or its elected officials, department heads, agents, or employees in performance of this agreement.

8. Administration: This Agreement will be administered by the County's Streamkeepers program.

   The County's contact is: Joel Green, Streamkeepers Coordinator, Clallam County, 223 E. 4th Street, Suite 5, Port Angeles, WA 98362, (360) 417-2281, joel.green@clallamcountywa.gov

   The City's contact is: Vince McIntyre, Stormwater Engineer, City of Port Angeles, 321 E. 5th Street, Port Angeles, WA 98362, (360) 417-4701, Vmcintyr@cityofpa.us.

DocuSign Envelope ID: 834496C5-4831-4284-83CE-D64BB0163400

IN WITNESS HEREOF, this Agreement is executed by Clallam County and by the City of Port Angeles, Washington.

CITY OF PORT ANGELES

DocuSigned by:
Nathan West
0F7345F35344417...
Nathan West, City Manager

Dated: 10/6/2022

Attest:

DocuSigned by:
Kari Martinez-Bailey
C3E8F3647C5341C...
Kari Martinez-Bailey, City Clerk

Approved As To Form:

DocuSigned by:
William Bloor
E5EC5FBD4113427...
William E. Bloor, City Attorney

CLALLAM COUNTY BOARD OF COMMISSIONERS

Mark Ozias, Chair

Dated: 9/27/22

CLERK OF THE BOARD CLALLAM COUNTY COMMISSIONERS PORT ANGELES WA

Attest:

Loni Gores, Clerk of the Board

Approved As To Form:

Dee Boughton, Deputy Prosecuting Attorney



Citizen Involvement
Data Sheets, Forms, & Tools
Monitoring Services
Newsletters
Program Planning
Quality Assurance +
Studies & Data +
Volunteer Application
Volunteer Handbook
What is Streamkeepers? +

Streamkeepers

We monitor streams, and we do it well.

Streamkeepers OF CLALLAM COUNTY

Citizen Involvement

Find ways to become involved with keeping our water resources safe.



Data Sheets, Forms, & Tools

Find a list of monitoring-related tools.

Monitoring Services

Streamkeepers, Clallam County's volunteer watershed involvement program, has long been praised for its monitoring and outreach activities.



Newsletters

Track the history of Streamkeepers of Clallam County by perusing the archived memos and issues of Streamkeepers newsletter, In the Flow.

Program Planning

See programming plans, both current and future.



Quality Assurance

Read the Quality Assurance Project Plans (QAPPs) and supporting documents.

Studies & Data

Find studies and data pertaining to stream monitoring.

Volunteer Application

Volunteer Handbook

Read the volunteer handbook.

What is Streamkeepers?

Streamkeepers, a citizen-based watershed monitoring program of Clallam County's Department of Community Development, provides volunteer opportunities and project assistance in the effort to protect and restore our local watersheds.

Contact Us

Streamkeepers

Contact Streamkeepers

Physical Address View Map
223 East 4th Street, Suite 5
Community Development
Port Angeles, WA 98362

Directions

Phone 360-417-2281

Directory

City of Port Angeles | 2023 Education and Outreach Tracking

Table 1. Summary of Local Events

2023 Activities / Events	Date(s)	Location(s)	City Personnel	Target Audience	Contact Information (other groups)	Subject Area(s)	Attendance/Distribution	Educational Materials Used	Notes/Other
KONP Home Show	March 9-10, 2023	Port Angeles High School Gymnasium	Mathew Moore, Vince McIntyre, Howard Carlseen, others	General Public, Developers, Landscapers, & Home Owners	vmcintyr@cityofpa.us	IDDE Program, LID Rebate Program, Rain Gardens, Natural Yard Care	Not Tracked	Focus on Natural Yard Care: Bare Root Plantings from CCD, PSSH materials, SWMP Plan, LID Rebate, LID Guidance Documents, etc.	resumed
Clallam County Fair	August 17, 18, 19, 20 of 2023	Clallam County Fairgrounds	Woo Haskins, Leena Ellis, Vince McIntyre, Jonathan Boehme, Sean Armstrong, Rob Feller	General Public	vmcintyr@cityofpa.us	Focusing on pet waste awareness, the SWMP Plan, IDDE, and updates the the SW Program	Tracked over 1,800 interactions with people over the 4 day event	PSSH handout materials (grocery totes, pet wast bags and dispensers, bike lights, stickers, etc.). IDDE materials w/ hotline (pens, pencils, travel mugs, etc.), candy, informational materials (brocures, fliers, 1-sheets, etc.)	
PSSH Month - handouts to community	year-round	City Hall, welcome desk	Vince McIntyre, Eric Walrath, Mike Spencer Glenda Watson	General Public	vmcintyr@cityofpa.us	Stormwater Imapcts from: Pet Waste, Landscaping Runoff, & Car Washing	Pet Waste Bad Dispensers were distributed freely throughout the year from the City Hall welcome center and positioned next to the Spills Happen outreach banner advertising the City's IDDE Program contact information.	Materials included PSSH Campaign information directing to their website for more information.	
Stormwater Awareness Ad. Campaign - online	September	Virtual: YouTube, Facebook, Basis DSP, Instagram	Ryan Jeffries Vince McIntyre	General Public	vmcintyr@cityofpa.us	Stormwater Imapcts from: Pet Waste, Landscaping Runoff, Vehicle Fluids	Large regional social media campaign facilitated by Puget Sound Starts Here (PSSH) and in partnership with the City.	PSSH Stormwater Awareness online videos and paid advertisements	
STEM Like ME	May 1	Stevens Middle School	Vince McIntyre	Public School	vmcintyr@cityofpa.us	Civil Engineering Stormwater	Handout and group exercise	12-page handout including group activity	
Business Stormwater Education - PPA/SC Program	All-year	Site visits to businesses within the City	Howard Calseen	Local Businesses	Hcarlseen@cityofpa.us	Pollution Prevention, Source Control	190 Local Businesses, 63 inspections The position was backfilled in late 2022. Inspections resumed January 2023.	Targeted Pollution Prevention and reporting information for local businesses to prevent adverse downstream stormwater impacts.	

2023 Education and Outreach Summary

S5.C.2 - The City Continues to partner with The West Sound Stormwater Outreach Group (WSSOG)
S5.C.2.i. - General Awareness:
Target Audience: General Public
Subject Area: General Impacts of on Surface Waters, See tracking sheet above for 2023
Additional information is included in the WSSOG 2023 Activities Report
S5.C.2.ii. - Behavior Change:
Target Audience: Residents, Homeowners, & Landscapers
Subject Area: Natural Yard Care
Additional information is included in the WSSOG 2023 Activities Report

Stormwater SWAG Tracking Sheet

2023 Clallam County Fair

Item	Started	Ended	Dispersed
Poop Bag Disp.			190
Pink	275	275	0
Multi: Teal, Pink, Green, Org., Red	290	100	190
Bike Lights (Black)	100	5	95
Poop Bag Refills (yellow/blk)	220	200	20
Tote Bags			143
Blue	350	327	23
Green	101	19	82
Black	100	62	38
IDDE Pencils	20	20	0
PSSH Magnets	180	175	5
We Scoop Stickers	500	495	5
IDDE Pens	320	315	5
Pet Waste Fliers	400	395	5
NYC 5 Steps Booklets	250	245	5
811 Box of Stuff	*Don't Track		
Cand - Dum Dums (bags of 300)	2		2
Candy - Airheads (Bags of 30)	7		7

last updated: 8.15.20

Item	Started	Ended	Used
Water (cases of 24)	4	2.5	1.5
Gatorade (packs of 12, 12 oz)	3	1.5	1.5
Gatorade (packs of 18, 12 oz)	2	1	1

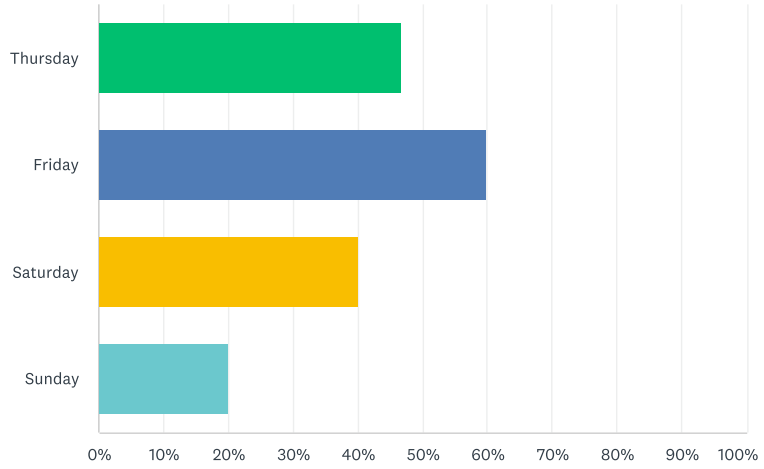
SIGN UP FREE

2023 Post County Fair Exit Survey

Q1

What days did you work at the booth?

Answered: 15 Skipped: 0

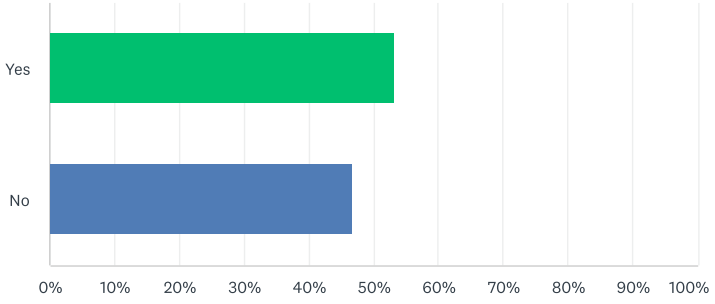


ANSWER CHOICES	RESPONSES	
Thursday	46.67%	7
Friday	60.00%	9
Saturday	40.00%	6
Sunday	20.00%	3
Total Respondents: 15		

Q2

Did you field a lot of questions outside your professional focus?

Answered: 15 Skipped: 0



Share Link https://www.surveymonkey.com/re: COPY Share Tweet Share

15 responses

SIGN UP FREE

TOTAL	15

Q3

What were visitors generally interested in learning beyond dog doo?

Answered: 15 Skipped: 0

8/22/2023 12:36 PM

ADA Parking. rebates. energy audits. how to anchor holding tanks.

8/22/2023 12:29 PM

Heat pumps and complaints about solid waste.

8/22/2023 12:26 PM

???

8/22/2023 12:24 PM

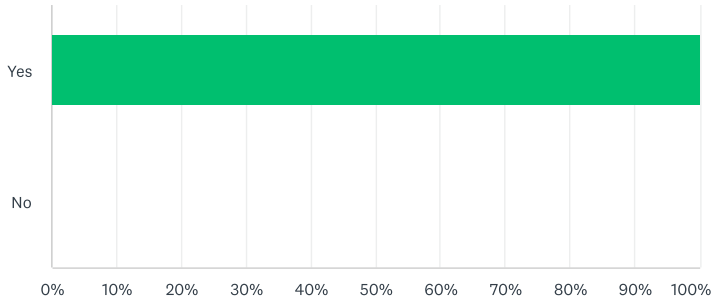
Lanterns.

8/22/2023 12:12 PM

Q4

Do you feel there were enough educational materials?

Answered: 15 Skipped: 0



ANSWER CHOICES	RESPONSES	
Yes	100.00%	15
No	0.00%	0

Share Link COPY 15 responses

Q5

If not, what was missing?

Answered: 2 Skipped: 13

N/A

8/22/2023 12:47 PM

We could use more recycling info and energy conservation engagement.

8/22/2023 12:38 PM

Q6

What did you like most about working the fair?

Answered: 15 Skipped: 0

8/22/2023 12:36 PM

interacting with the public and other city employees.

8/22/2023 12:29 PM

interacting with both the people and fellow workers from other departments.

8/22/2023 12:26 PM

Talking to people

8/22/2023 12:24 PM

People are in a good mood and willing to listen for a moment.

8/22/2023 12:12 PM

Q7

If you could make one change to the City's booth or outreach process at the fair, what would it be?

Answered: 15 Skipped: 0

Change the location of the booth so more people would stop by, maybe a larger tent to accommodate more conversations

8/22/2023 02:38 PM

have a city operations crew booth that shows the working side of the city, line crew, water crew, street crew, etc.

8/22/2023 01:31 PM

more prominent location

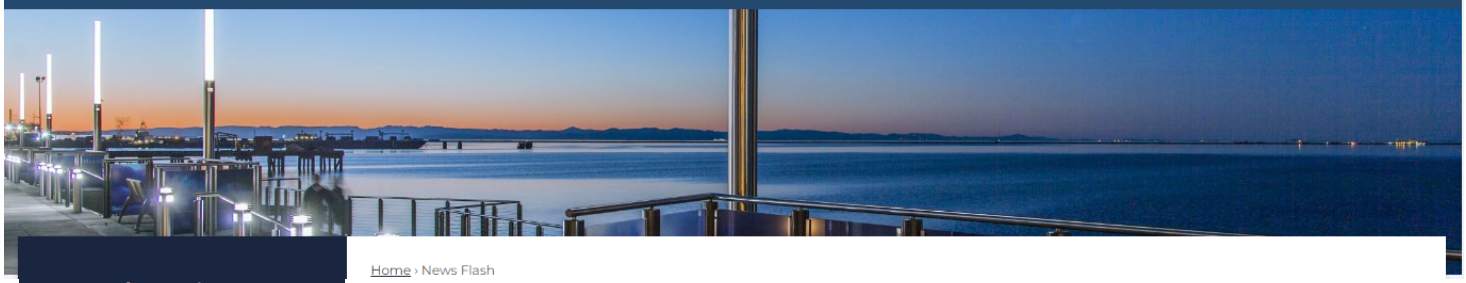
8/22/2023 01:25 PM

Having the booth in a more populated area

8/22/2023 01:09 PM

Powered by SurveyMonkey

Check out our sample surveys and create your own now!



Hours of Operation
Municipal Code
Utility Services
Meetings & Agendas
Live Virtual Meetings
City Budget

Home › News Flash

Home - News & Announcements

Posted on: April 18, 2023

Make Every Day Earth Day



April 22nd is Earth Day; a time to celebrate the beauty of our environment, and an opportunity to consider the actions we can take to protect it for future generations.

While Earth Day comes around only once a year, we can take daily actions to promote sustainability, celebrate and protect our planet.

At the City of Port Angeles, we are constantly working towards a more sustainable future. From investing in electric vehicle infrastructure to implementation of the Climate Resiliency Plan, we are taking steps to confront climate change, protect our natural resources, and ensure the environmental health of our community for generations to come.

But we can't do it alone. Each of us has a role to play, and we all must do our part to make a lasting impact. Please join us in celebrating Earth Day *every day*; below are ten simple actions you can take to protect our environment.

1. Reduce Your Energy and Water Consumption

As our community grows, it's important now more than ever that we use our power and water wisely. A few simple, low-cost ways to conserve energy and water at home include (view even more ways to conserve on our website):

- Lowering your thermostat at night and when you are not at home. For every degree you reduce your thermostat setting, you can reduce the heating portion of your electrical usage by 2%.
- Switching to compact fluorescent or LED light bulbs, which use 60-75% less energy than regular bulbs. Replace bulbs in outdoor fixtures and high-use areas, such as the kitchen, first.
- Changing your energy habits by shutting off computers, tv's, and other appliances when not in use. Once shut off, unplug equipment, or plug into a power strip that you can turn off.

Tools

RSS
Notify Me®
View Archived

Categories

- All Categories
- Home - News & Announcements
- Planning Commission Meeting Notification
- City Projects

Enable Google Translate

These devices use electricity even when they are not actively in use.

- Ensure water leaks are repaired. If your faucet is leaking at a rate of one drop per second, you can waste 75 gallons or more a week.
- Water your lawn during the evening or early morning hours to limit evaporation before the water has had a chance to soak into the roots of the grass.
- Avoid over-fertilizing, which will increase your lawn's need for water.

2. Take Advantage of Our Conservation Programs and Incentives

In cooperation with the Bonneville Power Administration, the City provides a number of opportunities to save both energy and money in your home or business.

- Rebates on energy-saving upgrades are available to Residential, Commercial and Industrial customers. This includes residential heating systems, window and insulation upgrades, as well as commercial lighting and other industrial projects. Learn more here.
- The City also offers an income-based Free Weatherization Program for qualifying homes. This program is open to both homeowners and renters who meet qualifying income guidelines and are interested in upgrading their home's heat source, water heaters, windows or insulation. Learn more here.

The City also provides Green Infrastructure rebates (learn more here) for new development or redevelopment projects that implement Low Impact Development (LID) techniques, including:

- Permeable Pavement
- Composted Amended Soils
- Rain Gardens
- Rain Garden Retrofits

Finally, the City provides the following water-conserving items at no-charge:

- Low Flow Water Showerheads
- Faucet Aerators
- Water-Saving Toilet Dams

Visit City Hall during business hours to receive your free, water-saving devices.

3. Work with Us to Find and Resolve Potential Pollution Issues

The City's Pollution Prevention Assistance (PPA) Specialist offers free, hands-on assistance to help businesses find and resolve potential pollution issues. By working with our PPA Specialist, you can stay on top of regulatory changes, protect employee health, and reduce polluted stormwater runoff at its source.

This approach not only protects our water quality and standard of living, but also saves businesses money through conservation of resources, improved worker safety and satisfaction, reduced regulatory overhead, avoidance of spills and costly cleanups, reduced cost of waste treatment and disposal, and decreased liability. To learn more and request a technical assistance visit, please visit our website or contact the City PPA at (360) 417-4693.

Enable Google Translate

4. Attend Free Webinars to Learn About Natural Yard Care
The City has partnered with the West Sound Stormwater Outreach Group (WSSOG) to improve water quality by reducing pollutants in stormwater runoff. As lawn and garden season approaches, the WSSOG would like to remind you to choose yard care products that are labeled *natural* or *organic* to reduce harmful chemical exposure to your family, our streams and seas.

This week, stop by City Hall to pick up a 25% coupon (up to $15 off) your first bag of natural lawn fertilizer from Airport Garden. In the weeks ahead, attend a webinar to learn how you can grow a healthy, beautiful lawn using natural yard care techniques. Upcoming webinar dates (learn more and register here):

- Saturday, April 29 from 10-11 a.m.
- Wednesday, May 3 from 6-7 p.m.
- Saturday, May 20 from 10-11 a.m.

5. Pick Up After Your Pet
When it rains, pet waste and the harmful bacteria it carries can flow directly into our precious waterways. To protect our rivers, streams and seas, we must always pick up after our pets and dispose of it properly (bag it and trash it). Stop by City Hall this week for a free pet waste bag dispenser, and remember, “Doo” good to feel good.

6. Report Spills
You can help to protect our water quality by reporting suspicious drainage and spills. Please contact the City of Port Angeles’ Pollution Hotline if you see oil, paint, suds and sewage in our ditches, drains and waterways: (360) 417-4745.

7. Join the Port Angeles Regional Chamber of Commerce for a Community Cleanup
Participate in the Big Spring Spruce Up on May 6th. Hosted by the Port Angeles Regional Chamber of Commerce, this event is a community cleanup and celebration of our beautiful downtown. The cleanup will occur from 9 a.m. to 1 p.m., followed by lunch and live music! Advanced registration is encouraged, but not required. For more information, please visit the Chamber of Commerce website.

8. Bike, Walk or Take Public Transit
Reduce your carbon footprint by utilizing public transportation, carpooling, biking or walking.

The City of Port Angeles encourages multimodal transportation and is currently working to install a new multimodal connection from the Port Angeles’ waterfront to the Olympic National Park Visitors Center. Learn more about this project.

9. Enjoy the Outdoors
The City of Port Angeles offers 10.5 miles of trail and 300 acres of land, including numerous neighborhood parks, viewpoints, athletic fields and courts for you to explore. We encourage you to recreate responsibly and to enjoy all the beauty our City and our region has to offer. Learn more about City parks and trails.

10. Educate Others to Take Action
On Earth Day and every day, it’s critical that we work together to protect our environment. It’s important to engage with our neighbors and loved ones on how they can make impactful changes. For those who are already making environmentally conscious decisions, we encourage you to lead the way.

Enable Google Translate

It takes a collective effort to protect our planet, and if we each take action, we can make a significant impact. Let's work together to build a more sustainable future and protect our precious environment for the generations to come.

For more information on any of the City programs listed above, please stop by City Hall or contact us by phone or email.

Program	Phone Number	Email
Water/Energy Conservation and Rebates	**(360) 417-4715**	**Send an email**
Green Infrastructure Rebates	**(360) 417-4701**	**Send an email**
Pollution Prevention	**(360) 417-4693**	Send an email
Natural Yard Care	**(360) 417-4820**	Send an email
Parks & Recreation	**(360) 417-4550**	Send an email

Next ⇒
PA City Council & Clallam County Commissioners Approve Purchase of Joint Public Safety Facility Site

Other News in Home - News & Announcements

PA City Council & Clallam County Commissioners Approve Purchase of Joint Public Safety Facility Site
Posted on: April 12, 2023



Press Release: Erickson Playfield Receives State Recognition, Thanks to Community Partnerships
Posted on: April 5, 2023



2023 State of the City Presentation Available Online
Posted on: March 10, 2023



Provide Input on the 2023 Draft Wastewater Comprehensive Plan
Posted on: March 10, 2023



Press Release: Ediz Hook Boat Launch Repairs Necessary – Launch Remains Open
Posted on: February 22, 2023



Press Release: Race Street Improvement Project Phase One Set to Begin February 21st
Posted on: February 16, 2023



City of Port Angeles Offers Energy Efficiency Rebates to Residential and Commercial Customers
Posted on: February 10, 2023



Notice: Temporary Closure of Playground at Shane Park
Posted on: September 14, 2022



Enable Google Translate

Government Websites by CivicPlus®

Enable Google Translate

City of Port Angeles 2023 Home Show

	Saturday, March 18 Open 9a-4p	Sunday, March 19 Open 9a-3p
9:00am - 12:00pm	1 Vince McIntyre 2 3 4 5 6	1 Howard Carlseen 2 3 4 5 6
12:00pm - 2:00pm	1 Sean Armstrong 2 3 4 5 6	1 Sean Armstrong 2 3 4 5 6
2:00pm - 4:00pm	1 Matthew Moore 2 3 4 5 6	1 Vince McIntyre 2 3 4 5 6
		Tear down 3p-4

TREE AND SHRUB SELECTION GUIDE

Douglas Fir (pseudotsuga menziesii)





Plant Description: (up to 200') Pyramid shaped with straight trunk & blue/green needles. Fast growing. Used for windbreaks.
Habitat: Prefers full sun. Grows in all but the wettest conditions. Drought tolerant.

Western Red Cedar (thuja plicata)





Plant Description: (up to 200') Grand & long lived tree. Drooping branches hold flattened, spray-like branchlets with scaly leaves.
Habitat: Prefers shade when young. Tolerates saturated soils and seasonal flooding

Red Osier Dogwood (cornus sericea)





Plant Description: (up to 15') Many-stemmed shrub. White flowers & blue/white berries. Red-purple leaves in fall. Red twigs in winter.
Habitat: Full sun to partial shade, moist, well-drained soil. Tolerates seasonal flooding.

Oceanspray (holodiscus discolor)

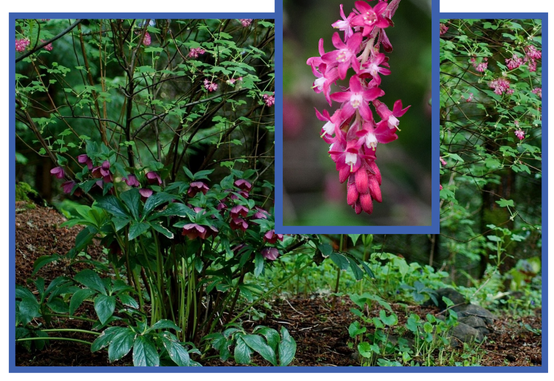




Plant Description: (up to 15') Bushy shrub with showy white, cascading flower clusters. Seeds persist into winter season.
Habitat: Full sun to partial shade. Dry to moist sites with well-drained soil. Drought tolerant.

Red Flowering Currant (ribes sanguineum)





Plant Description: (up to 12') Deciduous shrub with brilliant display of ornamental carmine red flowers that attract butterflies and hummingbirds.
Habitat: Full sun to partial shade. Well-drained, dry to somewhat moist soils.

Snowberry (symphoricarpos albus)





Plant Description: (up to 6') Delicate but dense, twiggy, spreading shrub. Small clusters of pink flowers in spring & white berries in summer.
Habitat: Full sun to partial shade. Dry to wet sites.

Thimbleberry (rubus parviflorus)



Plant Description: (up to 10') Soft velvety leaves, large white flowers, & tasty red berries. Favored food for birds, squirrels & chipmunks.
Habitat: Full sun to partial shade. Intolerant of saturated soils.

22

Bonita's
Four-legged Friends
pet supplies
fine dining for your family pet
10159 Old Olympic Hwy, Sequim & 1433 W Sims Way, Port Townsend

ONLY rain down the drain.

I GROW.
You use less chemicals. Any questions?

CITY OF PORT ANGELES
PUBLIC WORKS & UTILITIES
STORM WATER PROGRAM
$1000
Rain Garden Retrofit Rebate

TREE AND SHRUB
SELECTION GUIDE
Douglas Fir
Western Red Cedar
Red Osier Dogwood
Oceanspray
Red Flowering Currant
Snowberry

CITY
CITY OF PORT ANGELES
PUBLIC WORKS & UTILITIES

Weatherwise
Your Energy Efficiency

CITY OF PORT ANGELES
PUBLIC WORKS & UTILITIES

ACE
The helpful place

RE: Puget Sound Starts Here Tire Campaign Information

MM

Matthew Moore
To Jessica Straits

Reply | Reply All | Forward

Thu 1/4/2024 2:46 PM

Hi Matthew,

I am so sorry – I don't think I got back to you with final information!

Title	Date published	Status	Distribution	Returning viewers	Impressions	Reach
 Winter is on its way! Time to coz... City of Port Angeles Public Works... Boost post ...	Nov 16, 2023		-- Distribution	0 Returning viewers	408 Impressions	377 Reach
 Be sure to get your tire alignme... City of Port Angeles Public Works... Boost post ...	Nov 9, 2023		-- Distribution	0 Returning viewers	535 Impressions	485 Reach
 ProTip: Check your car tire press... City of Port Angeles Public Works... Boost post ...	Oct 27, 2023		-- Distribution	0 Returning viewers	737 Impressions	707 Reach
 Properly inflated tires can help k... City of Port Angeles Public Works... Boost post ...	Oct 20, 2023		-- Distribution	0 Returning viewers	103 Impressions	86 Reach

Happy New Year!

Jessica Straits
Communications & Records Management Coordinator
City of Port Angeles
360.417.4507 | www.cityofpa.us
Subscribe to receive news and alerts from the City of Port Angeles.

GA:CREATIVE

PUGET SOUND STARTS HERE

Tire Care Awareness Campaign – Final Report
Don't Wait to Inflate for Puget Sound Starts Here Month

November 22, 2023

PREPARED BY:

RICH MARKETING

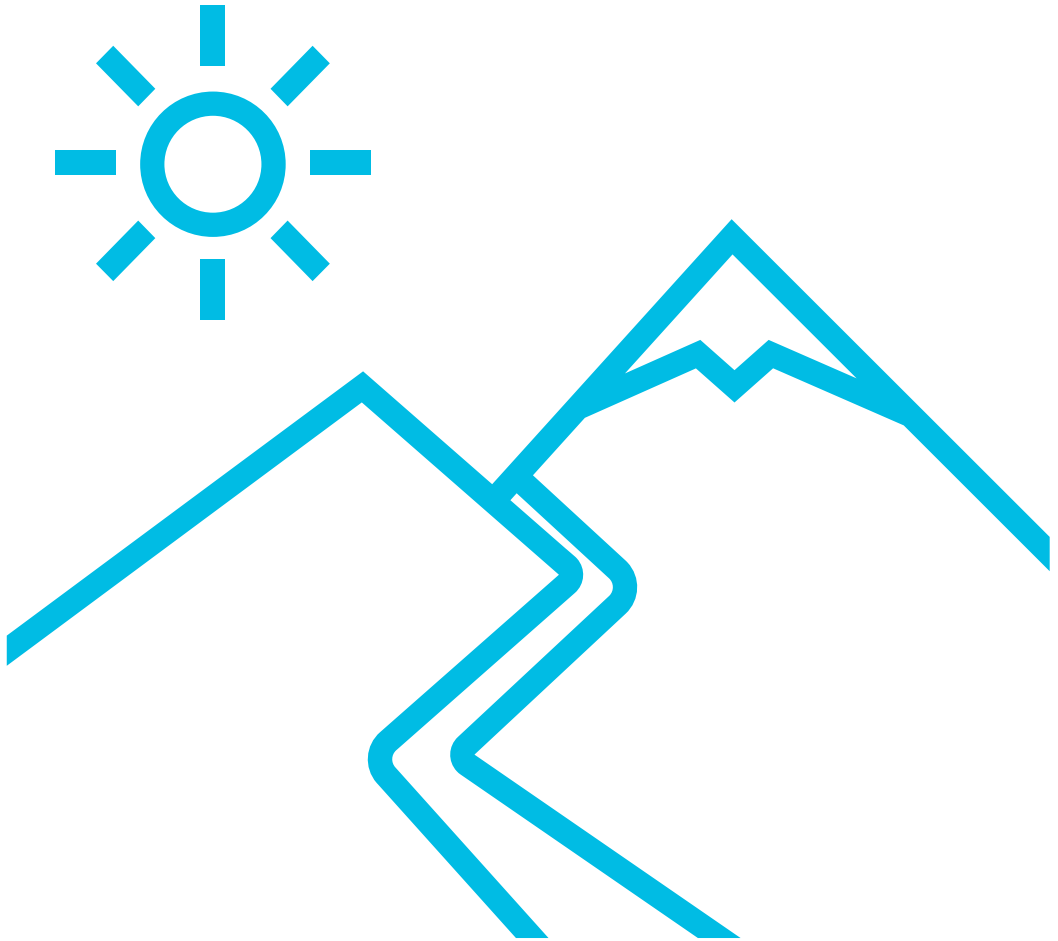
Agenda

- Assignment & strategy
- High-level campaign results (website)
- Paid media performance & drill down by media channel tactic
- Additional learnings & recommendations



Long-term objective

- Reduce 6PPD-q from polluting our waterways by keeping vehicle tires inflated properly



Campaign objectives

Create awareness to encourage people to learn more about proper tire pressure and key benefits:

- Drive safer
- Save money
- Save Coho salmon

Primary Call to Action: Check tire pressure monthly & add air as soon as possible. When made aware tire pressure is low, people:

- Fill tires immediately (at least half)
- Within a few days (one-third)



Campaign target audiences

Primary: "Help me" & "Show me" segments somewhat likely to very likely to check tire pressure in future = 58%

- Adults 25+
- vehicle owners
- lean females (digital is all genders)
- English & Spanish (King County provided additional Vietnamese & Korean)

Secondary: Sensitive audience segments

- Low income
- Limited English
- BIPOC, identified ethnicity



Strategic integrated media campaign

1. **Awareness & Prospecting:** all media worked together to efficiently reach the greatest qualified populations within the Puget Sound region
2. **Consideration:** digital and social media drove website traffic to *DontWaitToInflate.org* campaign landing page for easy click-to-learn information
3. **Conversions:** as first party data metrics built, we drove higher qualified users to take a conversion action

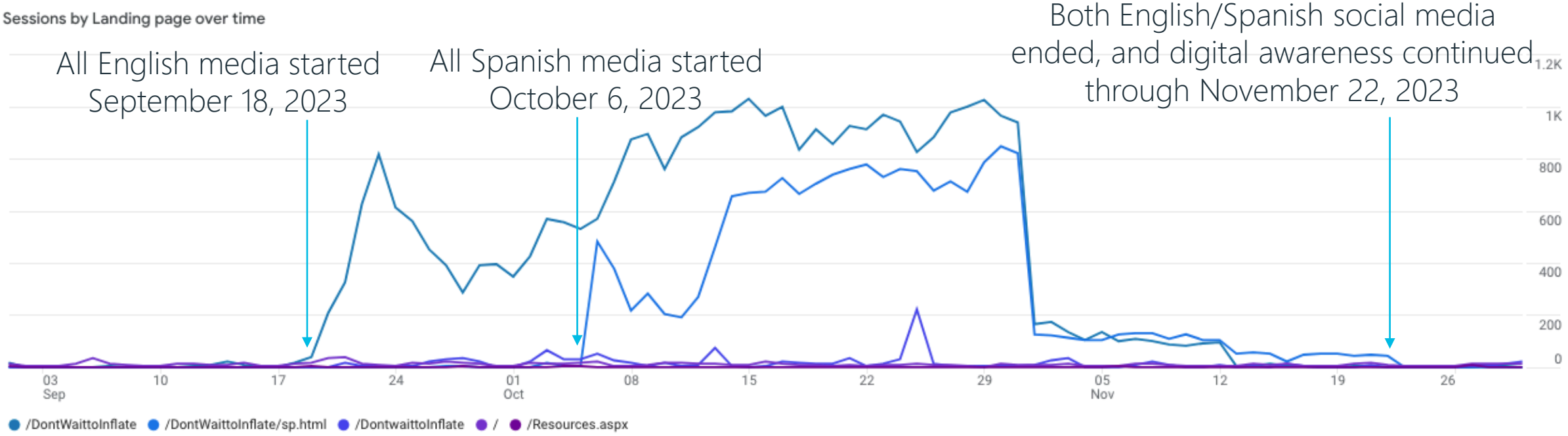
Campaign KPIs: website traffic, sessions/page views



High Level Campaign Results

Website traffic overview

Sessions by Landing page over time



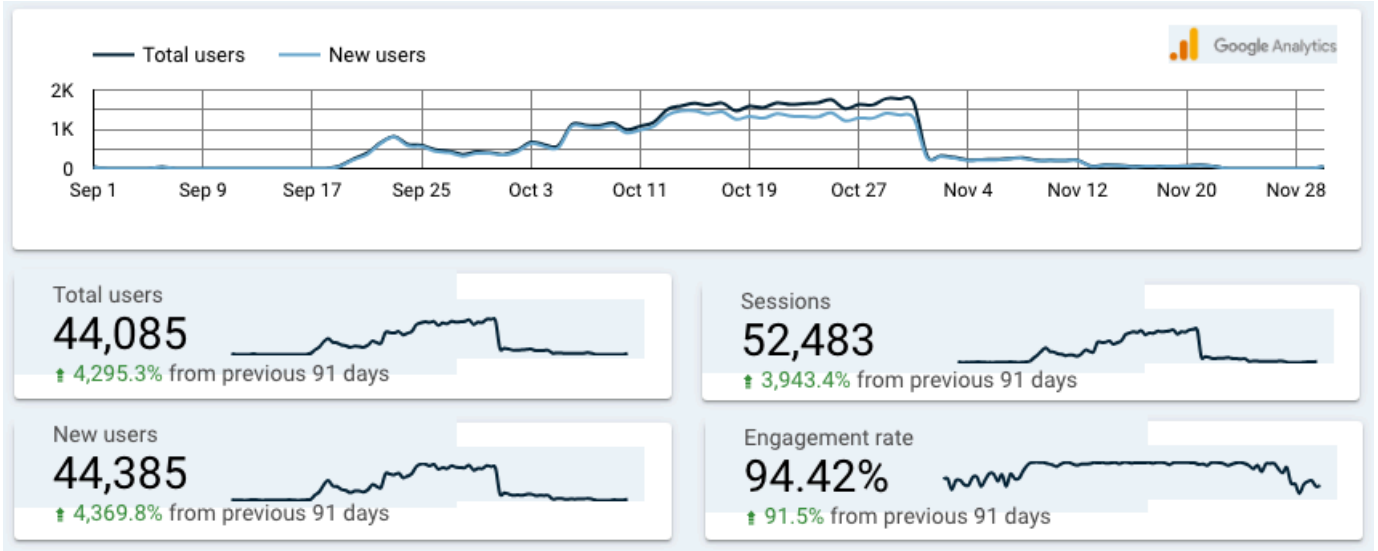
Search...

Rows per page: 10 Go to: 1 1-10 of 11

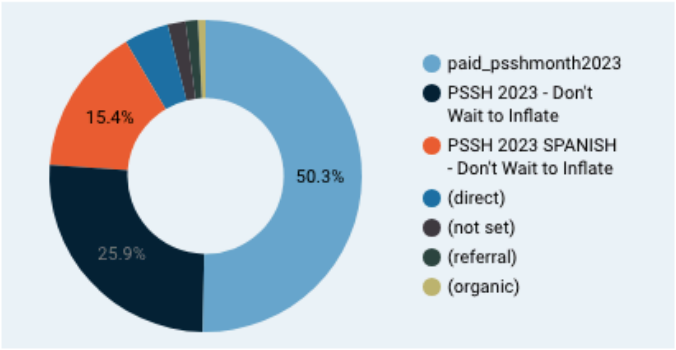
	Landing page	Sessions	Users	New users	Engagement rate	Scrolled users	Events per session	Conversions (All events)
		52,111 100% of total	**43,761** 100% of total	**44,148** 100% of total	**94.66%** Avg 0%	**2,034** 100% of total	**4.52** Avg 0%	**59,129.00** 100% of total
1	**/DontWaittoInflate**	32,152	27,582	27,430	99.22%	980	4.47	37,530.00
2	**/DontWaittoInflate/sp.html**	17,269	15,151	14,705	99.64%	459	4.47	20,261.00

Website traffic discoveries

- All website traffic and engagement* is up across the board, by sending users to the *DontWaitToInflate.org* landing page from the previous period**
- Acquisition traffic driving a majority of the website traffic via digital and social media
    - Paid digital & social mediums drove more website visitors than direct & organic mediums



Acquisition Traffic



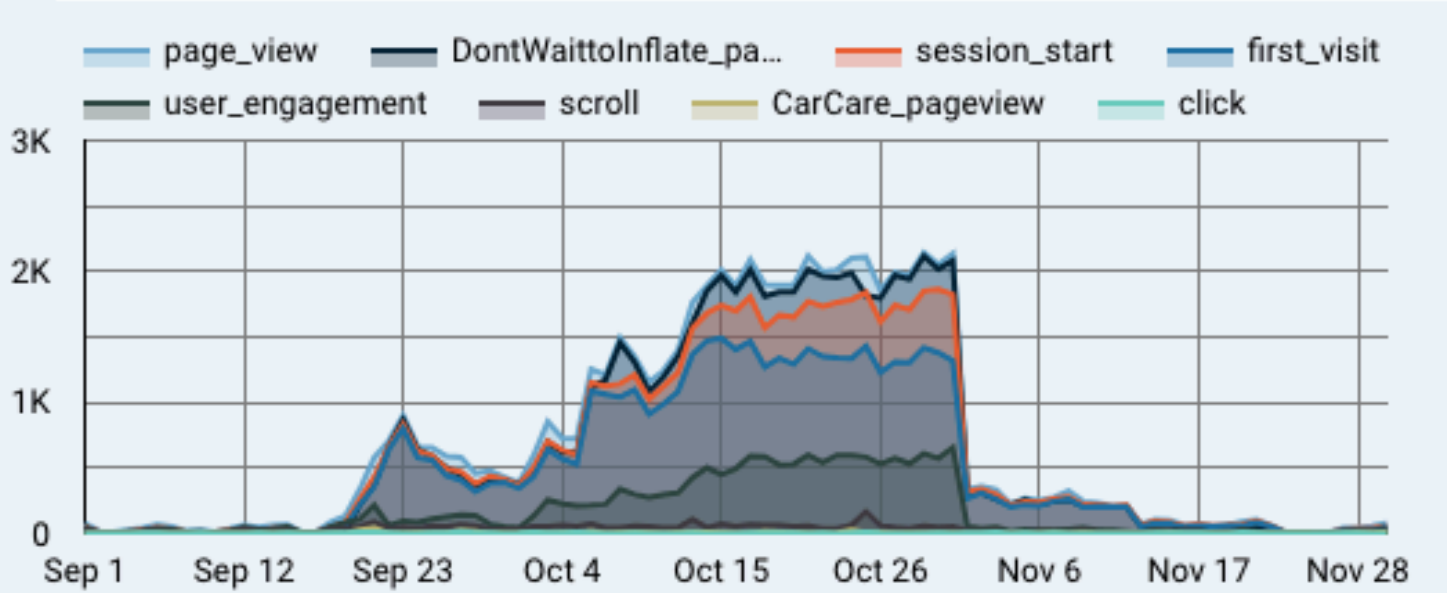
Source	Medium	Campaign	Total users...
google	cpc	PSSH 2023 - Don't Wait to Inflate	11,769
google	cpc	PSSH 2023 SPANISH - Don't Wait to Inflate	6,990
meta	display_eng	paid_psshmonth2023	3,726
meta	video_eng	paid_psshmonth2023	3,660

* Google defines engagement as a session that lasts longer than 10 seconds, has a conversion event, or at least 2 sessions/page views.
**Only previous period available due to brand new landing page & Google Universal Analytics switching to GA4 reporting.

Website events & conversions discoveries

New tracking implemented within the new GA4 analytics shows strong click-throughs to the *DontWaitToInflate.org* information-gathering landing page. Additional GA4-defined events/conversions will help gauge website traffic in the coming year.

PSSH Website Event Performance by Date



PSSH Event Name (Page Views)	Total Event Users ▼
page_view	43,922
session_start	43,897
first_visit	43,769
DontWaittoInflate_pageview	41,773
user_engagement	10,688
scroll	2,183
take_action	185

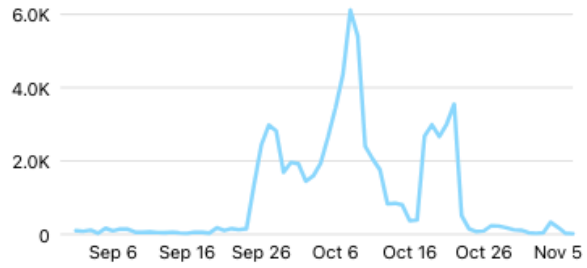
Social media results – organic

Reach Export

Facebook reach
304,776 ↑ 17.0K%



Instagram reach
46,664 ↑ 12.3K%



Link clicks Export

Facebook link clicks
10,932 ↑ 121.4K%



Instagram link clicks
102 ↑ 100%

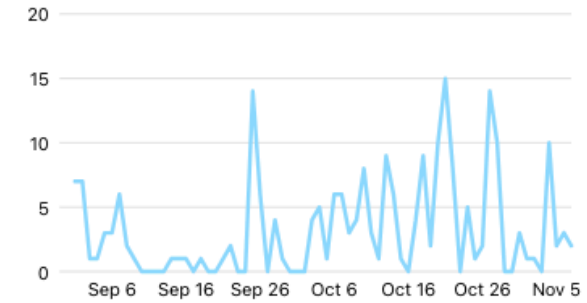


Interaction Export

Facebook content interactions
771 ↑ 766.3%

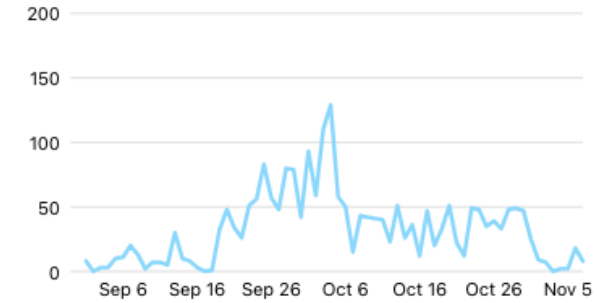


Instagram content interactions
222 ↑ 1.2K%

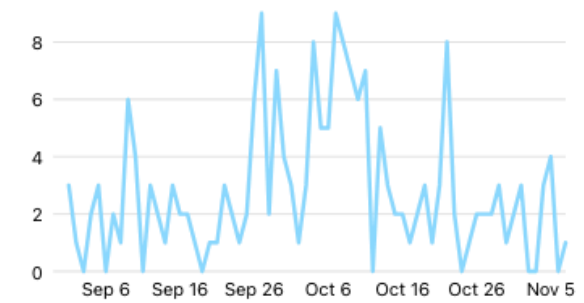


Visits Export

Facebook visits
2,209 ↑ 868.9%

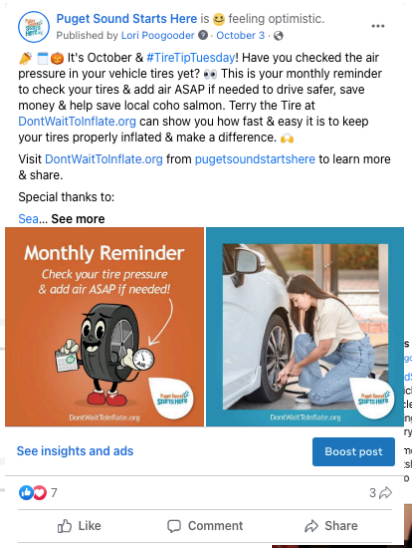


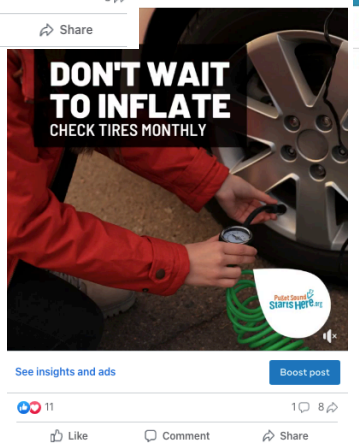
Instagram profile visits
192 ↑ 481.8%

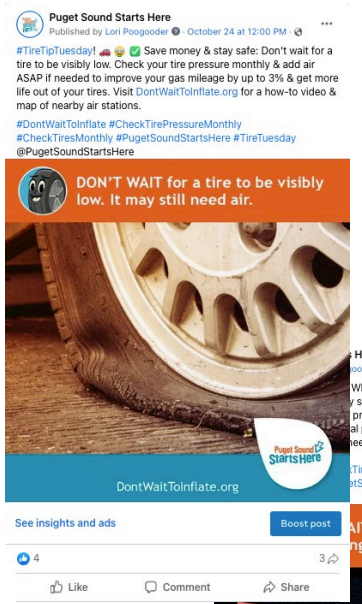


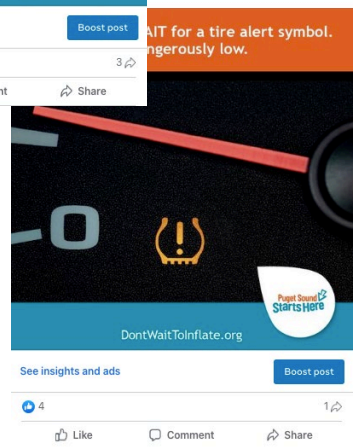
Social media results – Top organic post content

	📣 🗓️🎃 It's October & #TireTipTuesday! Hav... Puget Sound Starts Here	Post	Tue Oct 3, 12:54pm	1.7K Reach
	23 Ways to Start – Small steps to cleaner, hea... Puget Sound Starts Here	Post	Fri Sep 1, 1:04pm	1.1K Reach
	#TireTipTuesday! 🚗 🤑 ✅ Save money & sta... Puget Sound Starts Here	Post	Tue Oct 24, 12:00...	1.1K Reach
	#TireTipTuesday! 😱 🎃 🚗 What's scary & gl... Puget Sound Starts Here	Post	Tue Oct 31, 10:00am	746 Reach



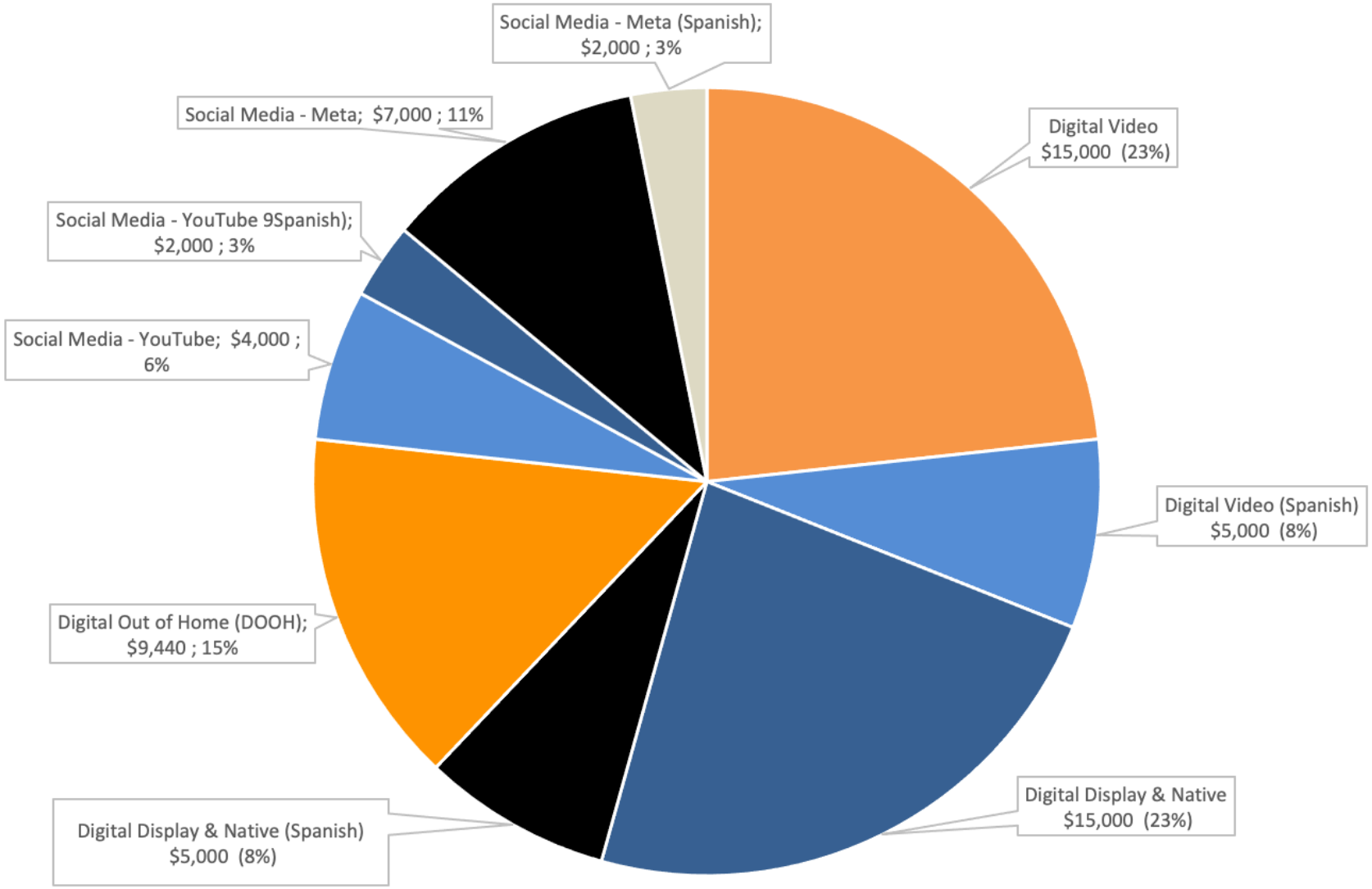






Audience Budget & Media Mix

PSSH - Tire Care Campaign
"Don't Wait to Inflate" Media Mix



Spanish in-language ad placements account for $14,000 (22%) of the total media budget.

Media mix performance

Media	Flight Dates	Media Budget 2023 (Net)	Media Imps	Cost per (000) (CPM)	Clicks	Cost per Click (CPC)	Click Through Rate (CTR)	Page View Conv
Digital Video CTV/OTT	Sept 17 – Nov 22, 2023	$15,000.06	757,035	$19.81	425 (B)			
Digital Video CTV/OTT (Spanish video)	Oct 6 – Nov 22, 2023	$4,493.59	350,571	$12.82	478 (B)			
Digital Out of Home (DOOH)	Oct 16 – Nov 22, 2023	$3,193.70	316,829	$10.08				
Digital Display & Native	Sept 17 – Nov 22, 2023	$15,050.14	2,674,809	$5.63	2,822	$5.33	0.11%	5,032
Digital Display & Native (Spanish)	Oct 6 – Nov 22, 2023	$4,950.15	895,447	$5.53	1,200	$4.13	0.13%	6,213
Social Media Google – YouTube	Sept 17 – Oct 31, 2023	$4,000.00	1,202,854	$3.33	22,783	$0.18	1.89%	18,498
Social Media Google – YouTube (Spanish)	Oct 6 – Oct 31, 2023	$2,000.00	556,944	$3.59	13,289	$0.15	2.39%	11,619
Social Media Meta – Facebook & Instagram	Sept 17 – Oct 31, 2023	$7,000.00	1,476,777	$4.74	18,244	$0.38	1.24%	7,318
Social Media Meta – Facebook & Instagram (Verde PSSH/Spanish)	Sept 17 – Oct 31, 2023	$2,000.00	230,770	$8.67	4,699	$0.62	2.04%	No Tracking
TOTAL		**$57,687.64**	**8,462,035**		**63,940**			

(B) = Bonus; not a KPI

Media Channel Insights

Digital Out of Home (DOOH)

Strategy:

- Surrounded Puget Sound waterway counties with video across retail venues (convenience stores, grocery check-out, malls, pharmacies) and gas station stalls (pump screens)
- Hit viewers while they are running errands in the hope they also check and inflate their tires

Discoveries:

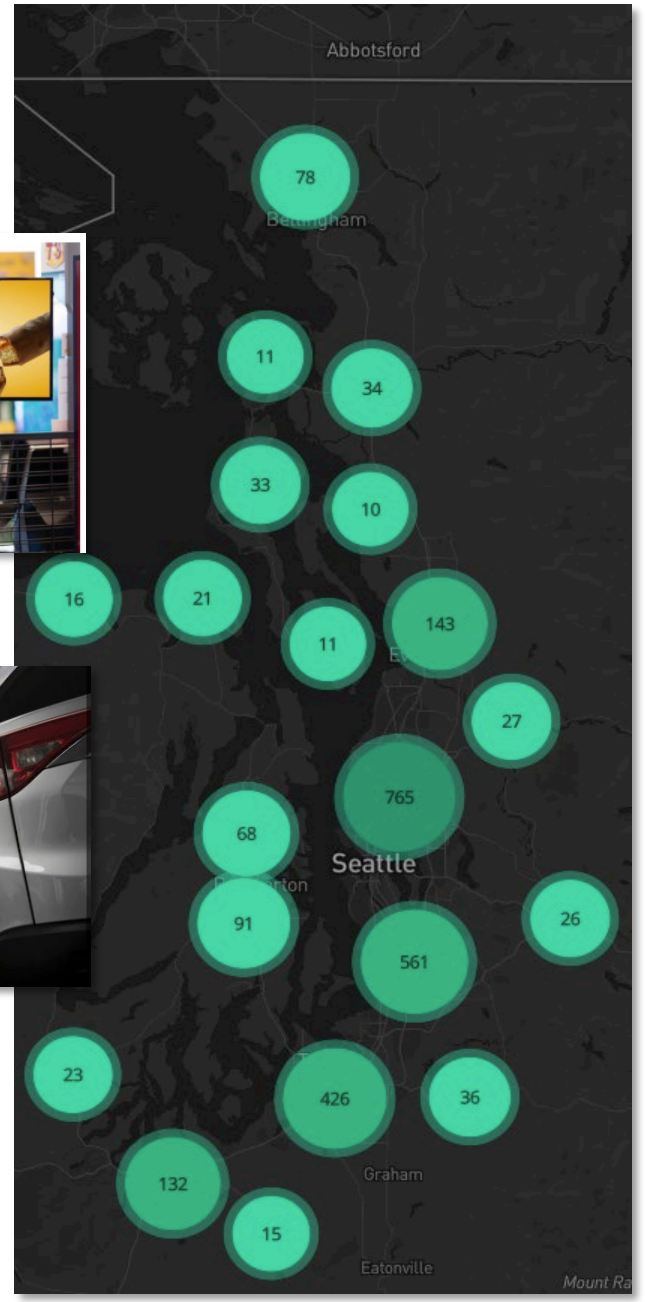
- Most impressions delivered to grocery venue location screens
- Gas station stalls came in second

Recommendation:

- More advanced planning will allow direct deals to be created
- Expand venue types in select zip code locations – OR –
- Target gas station stall screens with greater budget







Digital Video (CTV/OTT)

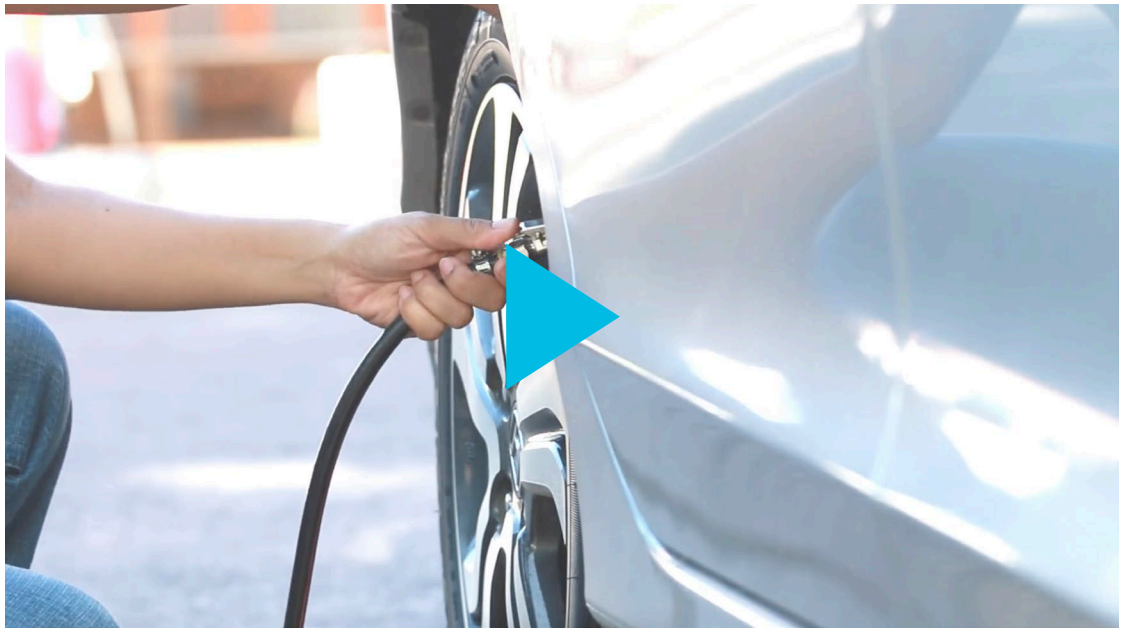
Strategy: Video awareness tactics with precise audience targeting to vehicle owners wherever they stream video – through connected TVs or over-the-top devices – around the Puget Sound

Discoveries:

- Created highly targeted awareness, clicks primarily from lower CPM streaming pre-roll video
- 90% video completion rate English
- 68% video completion rate Spanish (more clicks)

Recommendation:

- Important to combine lower CPM pre-roll streaming (clickable) with CTV/OTT
- Test QR coded video option to download a tire inflation station map



Digital Display

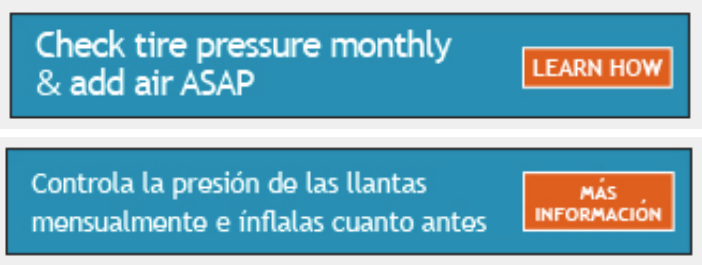
Strategy: Awareness & consideration banner ad tactics with clickable actions direct to website; leans more toward awareness tactic without higher level awareness

Discoveries

- More clicks from mobile display ads vs. desktop shows campaign targeting occurred with users while out and about
- 'Real' photography performed better with English speakers
- 'Terry' animated character performed better with Spanish speakers

Recommendation

- Test Spanish speaker browser vs. 3rd party targeting for digital native next campaign to test which tactic performs better
- Create specific retargeting ads to follow up the monthly reminders



Mobile ads in English and Spanish



Mobile, tablet and desktop ad English winner



Mobile, tablet and desktop ad Spanish winner

Digital Native

Strategy: Awareness & consideration ad tactic in which the ad appears in the context of editorial-related content that clicks through to the website; leans more toward awareness tactic without higher level awareness

Discoveries:

- High-click tactics performed better than high-view tactics
- Native produced lower cost per (000) (CPM), cost per clicks (CPC), and higher total page view conversions, showing that a more organic message with an animated character gets greater impression reach and lower click cost

Recommendation:

- Test Spanish speaker browser vs. 3rd party targeting for digital native next campaign to test which tactic performs better



Ad by Puget Sound Starts Here

Don't wait to inflate

Check your tires monthly & add air ASAP as needed. Properly inflated tires are safer, save money, and protect our coho salmon.



Ad by Puget Sound Starts Here

No esperes para inflar

Revisa tus llantas e ínflalas ahora. Mantenerlas infladas mejora la seguridad, ahorra dinero y protege nuestro salmón.

Terry animation – Both English & Spanish Native ad winners

Social – Facebook & Instagram

Strategy: Target socially active PNWers around the Puget Sound who are more apt to share important information; all Spanish audiences were targeted

Discoveries:

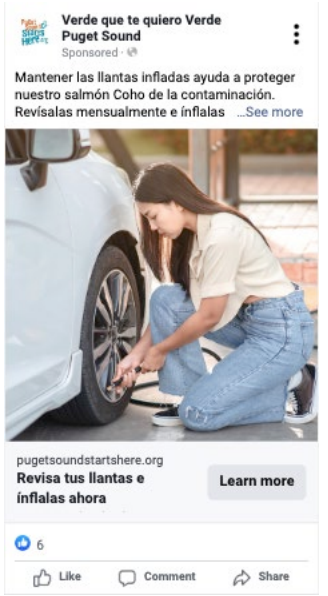
- English winners – 'Save money' Terry animation & 'Drive safer' videos
- Spanish winners – 'Coho salmon' Real photography & 'Coho salmon' videos
- Custom and lookalike audiences drove higher click-through rates (CTRs) and lower cost per clicks (CPCs)

Recommendation:

- Continue website traffic objectives using the seasonal creative and retarget custom-engaged audiences with paid ads
- Continue organic posts and paid ads posts to drive engagement and followers
- Promote Meta Events showcasing how-to online webinars/pre-recorded videos or in-person events
- Refine messaging/social captions based on highest performers



English winner



Spanish winner

Social – YouTube

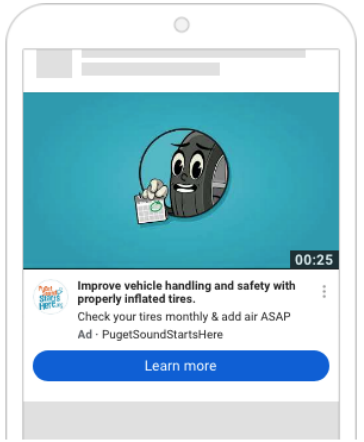
Strategy: Video awareness and consideration strategy using responsive videos with clickable links to the entire Puget Sound region in English and in Spanish for Spanish speakers

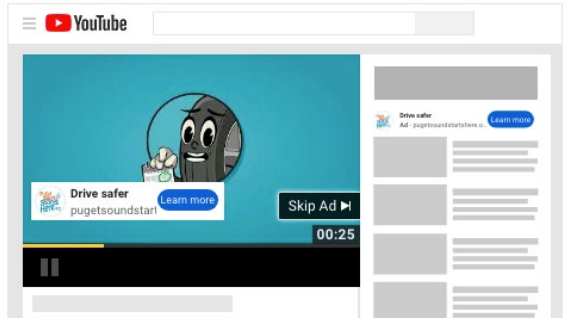
Discoveries:

- Video engagements with a video conversion tactic drove high clicks to the site while also upping awareness
- Viewable rates were still high (65%+), even with a consideration tactic with an enticing clickability

Recommendation:

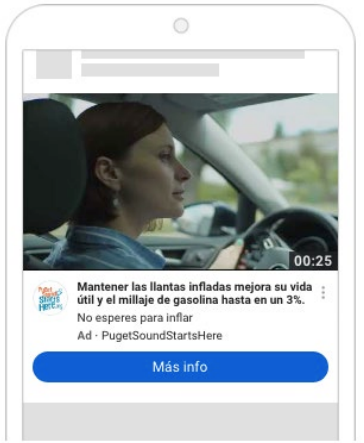
- Continue video conversion tactic with PSSH tire care videos and add in explainer or how-to check tire pressure and inflate tires short videos (less than :60-seconds)

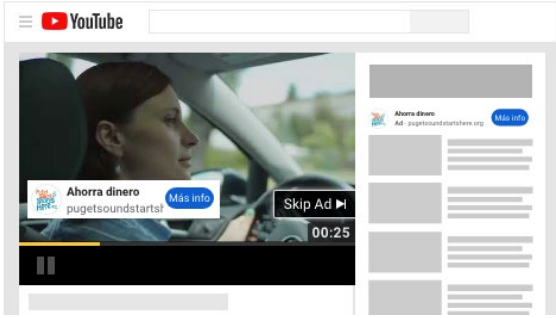


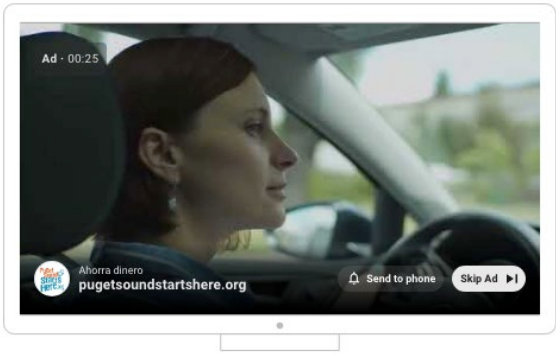




English YouTube ads on mobile app, desktop, and CTV/OTT screens







Spanish YouTube ads on mobile app, desktop, and CTV/OTT screens

Key website learnings & recommendations

- Additional events/conversions should be added to GA4 to use for optimization and ad account fine-tuning
- Click buttons were not set up to be tracked and may have 'jumped' to sections of the landing page, preventing 'scrolls' events from tracking correctly
- Website journey mapping to refine content and next steps, with media tracking set to match
- Google Analytics (GA4) >><< Google Ads need a complete review for organic/paid peak performance
- Use refined GA4 events & conversions for all digital and social platform ad tracking
- A downloadable/printable free tire inflation station map could be useful to visitors
- Add a jurisdiction partner event calendar to the site (would require ongoing updates)
- YOY tracking, specifically to the tire care landing page will be ideal once we have a full year's worth of data
- The 2023 campaign created a foundation of data to use and improve upon for next year

Key paid media learnings & recommendations

- Planning strategies will use learnings & actual media performance metrics
- Continued optimizations will include:
  - Perform scrubs to remove high-cost/low performing domains & exchanges
  - Bigger lookalike audience capabilities
  - Additional private marketplace deals for video streaming
  - Retargeting tactics increase click-through rates
  - Ad creative units shift to those that perform the best with these audiences; seasonal creatives can be used
- Longer ad spend windows will continue to create ad efficiencies with the above optimizations
- Add traditional awareness tactics with media partnerships and events to show the 'how's and why's' is suggested, but will take a larger media budget
- Lower website visitors at the end of the campaign flight dates show what happens when only awareness is running; the key is both awareness and consideration tactics running simultaneously

Key creative learnings & recommendations

- Create a longer runway to develop creative for a more strategic rollout and testing of campaigns moving forward
- Refine creative based on best-performing messages & develop creative tests as noted
- Promote ways people can learn about the program and/or get help with their tires by driving people to events and/or webinars and pre-recorded webinars located online to view on the website
- Consider an additional explainer video
- Collect topic experts to discuss the importance and benefits of tire inflation to leverage as part of the campaign – ads and/or longer-form informational video section on the site for even greater engagement
- Have the creative assets to run full awareness > consideration > conversion campaigns – time to add traditional media for a larger awareness boost around the Puget Sound region
- Partnerships with tire retailers and service providers will provide pre- and post-campaign anecdotal insight into additional off-line tire maintenance behaviors

What's next?

- Present findings to STORM consortium & jurisdictions
- Secure funding and jurisdiction contributions for 2024
- Beginning planning for 2024



GA:CREATIVE

Thank you

PREPARED BY:

RICH MARKETING

Attachments

Jurisdiction Reporting Materials

Campaign Summary >> Customize for your jurisdiction

[INSERT YOUR JURISDICTION] contributed $[INSERT YOUR PSSH CAMPAIGN CONTRIBUTION] to the *Puget Sound Starts Here* regional awareness campaign, which collectively reached over 8.4 million total media impressions, covering our participating STORM consortium zip codes across digital and social media – including relevant local and national publishers to sensitive populations in 4 languages. [INSERT YOUR ADDITIONAL DIGITAL AD DELIVERY HERE >> PULLED BY ZIP CODE ON THE MEDIA DATA REPORT LINKED IN THE NEXT PAGE].

We also [INSERT YOUR JURISDICTION SPECIFIC ENGAGMENT] with a number [INSERT #] of our residents [INSERT WHAT THEY DID WITHIN YOUR JURISDICTION].

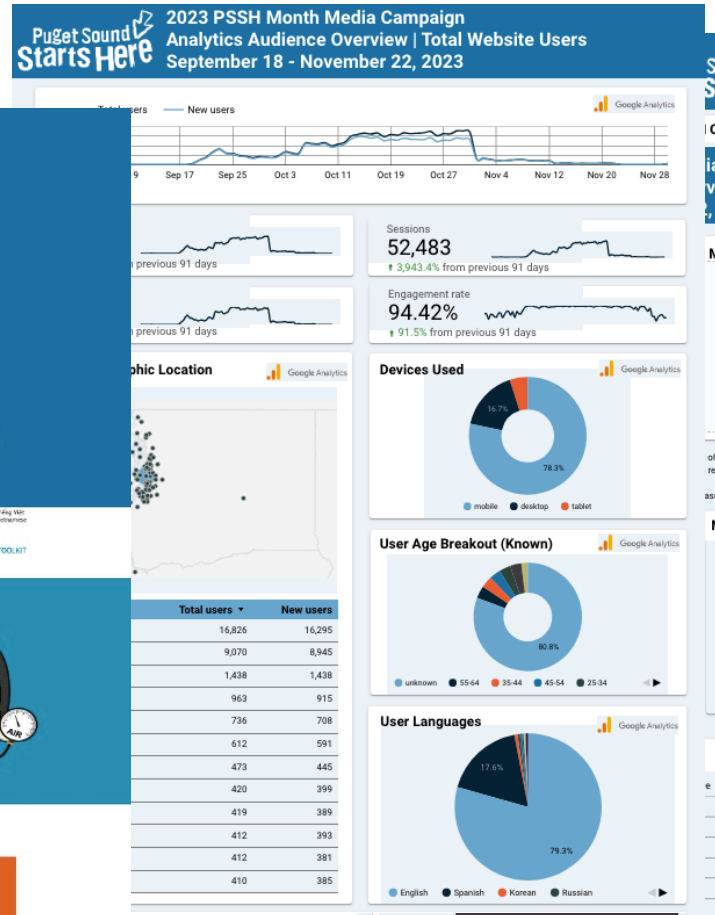
This year's regional media campaign:

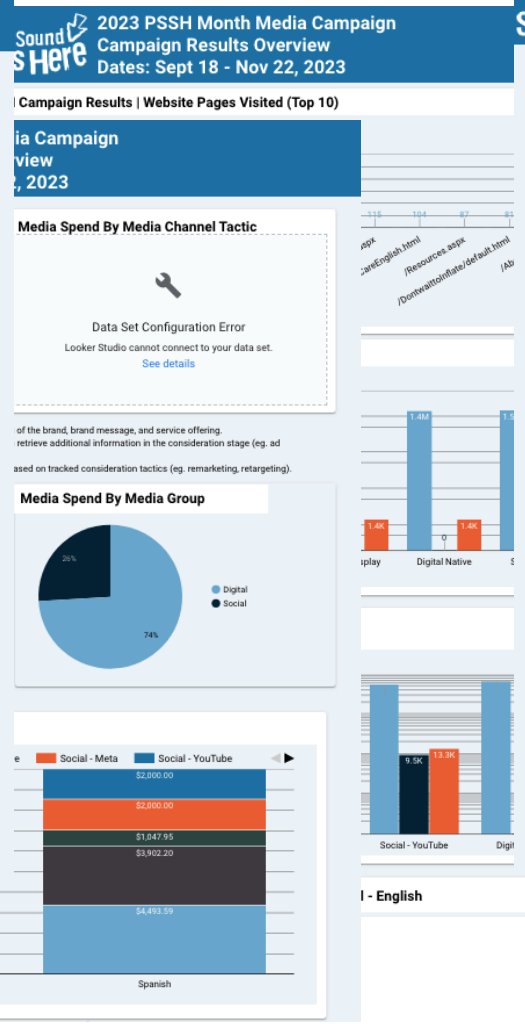
- Delivered almost 64K website clicks through the paid media campaign to the DontWaitToInflate.org website for tire care-specific information
- Overall campaign performance saw over 44K users produce 52K engaged website sessions (page views) with a 94.42% engagement rate; meaning website users went to the website and actively engaged with the content based on the high engagement rate (Google defines engagement as a session that lasts longer than 10 seconds, has a conversion event, or at least 2 sessions/page views).
- Saw that campaign optimizations over a longer period create more media efficiency opportunities, proving the case that lengthening the PSSH campaign creates paid media efficiencies for all our collective jurisdiction dollars.

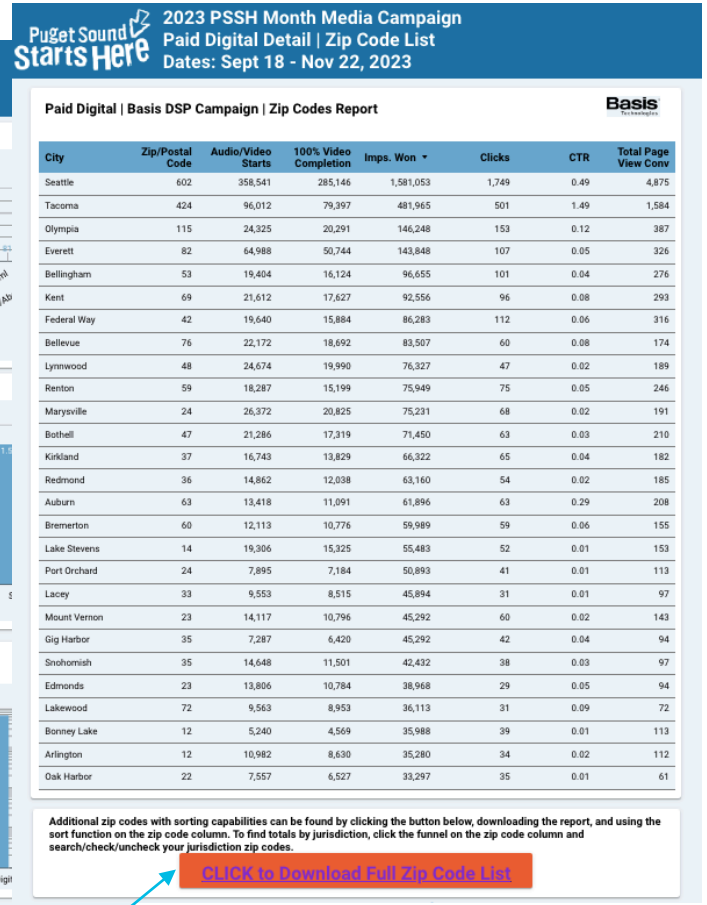
Collectively, through our contribution funding, we achieved a greater reach and more significant media performances across the region. This not only increases our jurisdiction's reach but also helps us to further the cause locally. I will include this information in our [YOUR JURISDICTION'S SPECIFIC REPORT NAME] and collaborate with the consortium to develop strategies to enhance our collective efforts even further in 2024.

Campaign dashboard >> Click here to link to the dashboard









Links to paid digital detail by zip codes; sortable by jurisdiction cities/zip codes for specific area results

Items	Western Washington Uviversity Extension - Huxley College of the Environment, Field Trip	Home Show	Earth Day / Front Desk	STEM Presenation	Clallam County Fair	Internal	Count	Notes
Pet waste bags							0	
Pet waste flyers					5			
We Scoop stickers					5		5	
Mutt Mitt stations							0	
NYC booklets					5		5	
Spills Happen magnets					5		5	
Paint sticks							0	
PSSH tote bags					143		143	
PSSH coasters							0	
PSSH coffee sleeves							0	
PSSH pens					5		5	
PSSH pencils					0		0	
PSSH leash bag holders		188	47		190		425	Began with 800 holders and had 565 pre-Home Show
PSSH leash bag refills					20		20	
PSSH bike lights					95		95	
PSSH other							0	

Activities							Count	Notes
Poop Toss					1		1	
Pet waste events/outreach							0	
Spills/IDDE trainings							0	
Spill response						19	0	
PSSH Month Proclamation							0	
PSSH other outreach							0	
PSSH STORM Digital Advertising							0	
Stewardship	1			1	885		887	

STEM Like ME℠

STEVENS Middle School
Port Angeles, WA

May 1st, 2023

Civil Engineering

Vince McIntyre, P.E., Stormwater Engineer
City of Port Angeles, WA

CITY OF PORT ANGELES PUBLIC WORKS DEPARTMENT

Science, Technology, Engineering, & Mathematics

STEM Like ME℠

STEVENS Middle School
Port Angeles, WA

People who get paid to solve problems

Civil Engineering

Vince McIntyre, P.E., Stormwater Engineer
City of Port Angeles, WA

CITY OF PORT ANGELES PUBLIC WORKS DEPARTMENT

Science, Technology, Engineering, & Mathematics

Introduction

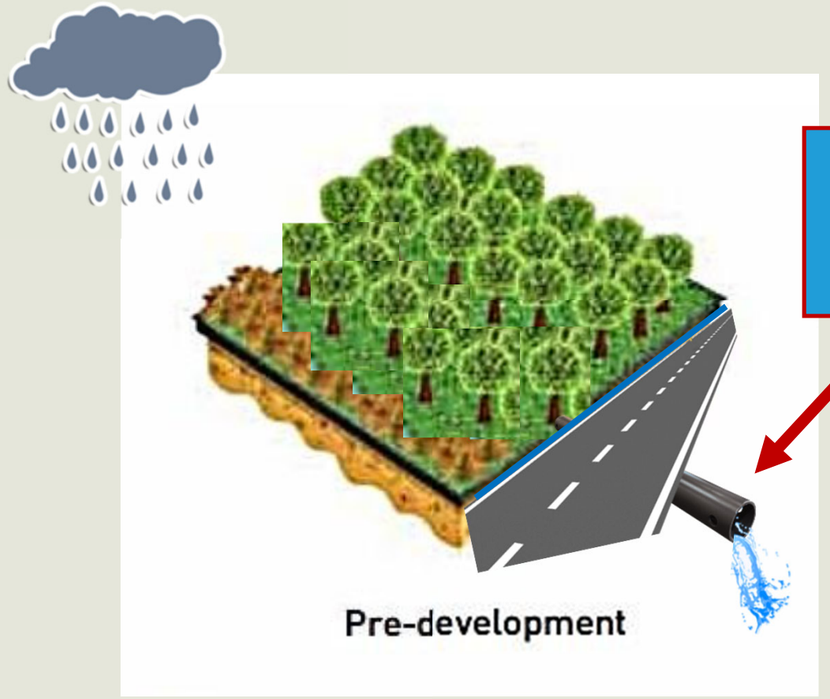
Vince McIntyre, P.E.

- PAHS Graduate
- Peninsula College Graduate
- USMC Veteran
- Washington State University Graduate
  - BS Degree – Civil Engineering
  - MS Degree – Environmental Engineering
- Licensed Professional Engineer
- City of Port Angeles, Stormwater Engineer

Engineering Exercise

STEP 1: Grab a Calculator!

STEP 2: The Scenario – Someone wants to develop a 5 acre site…



Forest, C = 0.15

Runoff Coefficient (C)



Urban City, C = 0.8

Engineering Exercise

Rational Method Equation

Q = CIA



Q = **Flow** (cfs, cubic feet per second)


vs


C = **Runoff Coefficient**



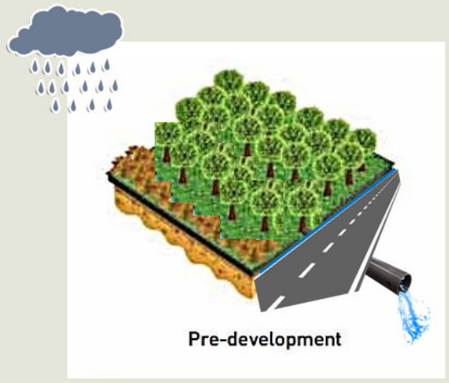
I = **Rainfall Intensity** (in. per hour)



A = **Area** (acres)

Location: Port Angeles
&
Time of Concentration

Engineering Exercise



Tc = 31 mins

C = **0.15**, forest

I = **1.18** (inches per hour)

25 yr, 24 hr. design storm for Port Angeles

A = **5** (acres)

Q = **?** (cfs, cubic feet per second)



Tc = 3.9 mins

C = **0.80**, urban city

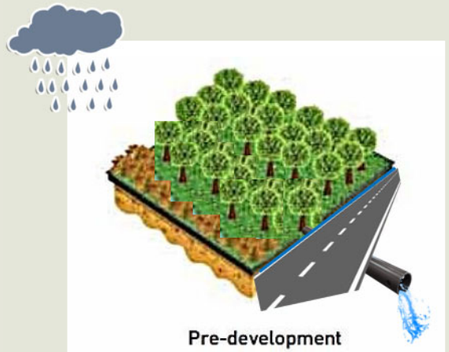
I = **3.58** (inches per hour)

25 yr, 24 hr. design storm for Port Angeles

A = **5** (acres)

Q = **?** (cfs, cubic feet per second)

Engineering Exercise



C = **0.15**, forest

I = **1.18** (inches per hour)
25 yr, 24 hr. design storm for Port Angeles

A = **5** (acres)

Q = **0.89** (cfs, cubic feet per second)



C = **0.80**, urban city

I = **3.58** (inches per hour)
25 yr, 24 hr. design storm for Port Angeles

A = **5** (acres)

Q = **?** (cfs, cubic feet per second)

Engineering Exercise



C = **0.15**, forest

I = **1.18** (inches per hour)
25 yr, 24 hr. design storm for Port Angeles

A = **5** (acres)

Q = **0.89** (cfs, cubic feet per second)

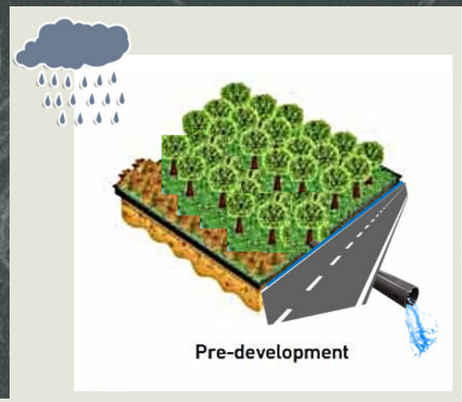


C = **0.80**, urban city

I = **3.58** (inches per hour)
25 yr, 24 hr. design storm for Port Angeles

A = **5** (acres)

Q = **14.3** (cfs, cubic feet per second)



Q = 0.89

(cfs, cubic feet per second)

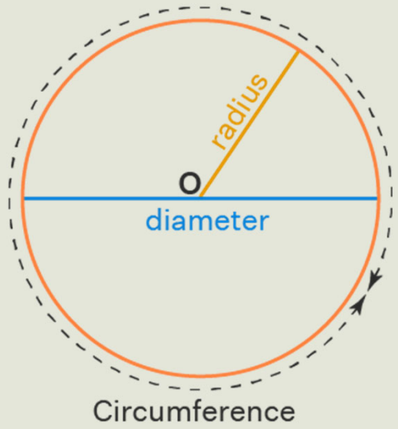


Q = 14.3

(cfs, cubic feet per second)

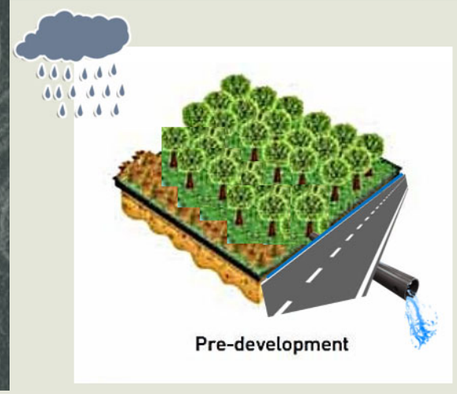
Table 1: Pipe Diameter and Maximum Flow

Pipe = HDPE
Slope = 1%



Diameter (in)	Diameter (ft)	Max Flow (Q, cfs)
4	0.3	0.27
6	0.5	0.81
8	0.7	1.74
10	0.8	3.16
12	1.0	5.14
14	1.2	7.76
16	1.3	11.07
18	1.5	15.16
20	1.7	20.08
22	1.8	25.89
24	2.0	32.65

How big does the new pipe need to be to make sure the road isn't flooded out?



Q = 0.89

(cfs, cubic feet per second)

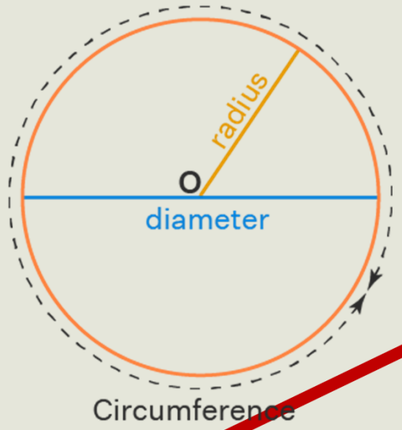


Q = 14.3

(cfs, cubic feet per second)

Table 1: Pipe Diameter and Maximum Flow

Pipe = HDPE
Slope = 1%



Diameter (in)	Diameter (ft)	Max Flow (Q, cfs)
4	0.3	0.27
6	0.5	0.81
8	0.7	1.74
10	0.8	3.16
12	1.0	5.14
14	1.2	7.76
16	1.3	11.07
18	1.5	15.16
20	1.7	20.08
22	1.8	25.89
24	2.0	32.65

<u>18 inches!</u>

Hurray! – you just engineered that new pipe!

Types of Engineers



Engineers are people who get paid to solve problems.

Civil Engineer

- Structural Engineer
- Environmental Engineer
- Geotechnical Engineer
- Water Resources Engineer
- Transportation Engineer
- Utility Engineer

- Electrical Engineer
- Chemical Engineer
- Mechanical Engineer
- Aerospace Engineer
- Materials Engineer
- Agricultural Engineer
- Marine Engineer
- Nuclear Engineer
- Industrial Engineer
- Computer Engineer
- Software Engineer
- Audio Engineer
- Petroleum Engineer
- Biological Engineer
- Architectural Engineer
- Systems Engineer
- Robotics Engineer

STEM Like ME℠

STEVENS Middle School
Port Angeles, WA

Civil Engineering

ANY QUESTIONS?

CITY OF PORT ANGELES PUBLIC WORKS DEPARTMENT

Science, Technology, Engineering, & Mathematics

STORMWATER

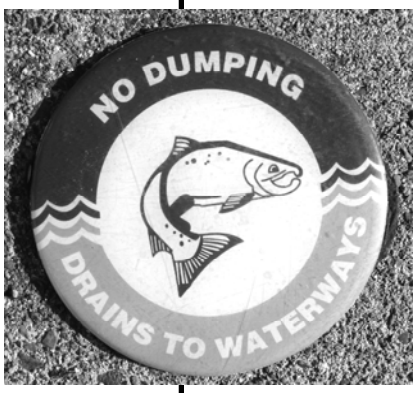
Did you know that…..

Stormwater is the number one water pollution problem in urban areas of Washington?
Here's how you can help improve stormwater management and water quality in our Port Angeles creeks and harbor

What is stormwater?

Stormwater is rainwater or snowmelt that does not soak into the ground or evaporate following a storm. Stormwater runs off of surfaces such as roofs, lawns, paved streets, and parking lots.

Stormwater can become polluted by litter, dirt, bacteria, chemicals, and oils that it picks up along its journey. When polluted stormwater reaches a water body it can have a harmful impact on the plants and animals in and around the water. It can also affect people who swim or fish in the water.



YOU CAN HELP!

Impacts of some common stormwater pollutants:

Trash and litter

- Litter that reaches creeks and harbors can choke or suffocate birds and fish.
- Litter may also clog the storm drain system, leading to street flooding

Bacteria and disease-causing organisms

- These organisms can cause health hazards for animals and people.

Chemicals and oil

- Aquatic animals can be poisoned by chemicals and oils. People can be at risk if they eat contaminated fish or drink polluted water.

Nutrients

- Nutrients from fertilizers or detergents can cause algae to grow in water. This algae uses up oxygen that native organisms need to survive.

What can citizens do about stormwater?

Citizens play an important role in improving stormwater quality in Port Angeles:

- *Don't litter or dump trash illegally.*
- *Never dump oils or chemicals into catchbasins.*
- *Check your vehicles for leaks that may be running onto pavement.*
- *Use non-toxic, phosphate-free, biodegradable cleaners when washing cars and boats - or go to a carwash.*
- *Avoid using chemicals on your lawn.*
- *Plant bare and graded areas to reduce erosion.*
- *Clean up after your pet.*
- *Check your plumbing and/or septic tank to make sure aren't leaking or discharging into storm drains.*
- *Report any illegal discharges or other harmful activities to the City.*

Stormwater hotline: (360) 417-4830
Email: stormwater@cityofpa.us

- *Educate yourself, your family, and your neighbors to be good stewards of the unique environment of Port Angeles.*

STORMWATER

How is stormwater regulated in Washington?

In 1987, Congress changed the Clean Water Act to include stormwater discharges in the National Pollutant Discharge Elimination System (NPDES) permit program. The Environmental Protection Agency (EPA) developed rules to apply the new stormwater requirements in two phases.



The Washington Department of Ecology implements the stormwater rules through municipal stormwater permits.

What is the City of Port Angeles doing about stormwater?

The City is developing a Stormwater Management Plan (SWMP) to improve stormwater quality. The plan must address six minimum control measures, as identified by EPA:

1. Public Education and Outreach
2. Public Participation/Involvement
3. Illicit (illegal) Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Runoff Control
6. Pollution Prevention/Good Housekeeping

The City also implements projects and performs ongoing maintenance designed to reduce flooding and improve stormwater collection within the City.

Why does Port Angeles have a stormwater fee?

A monthly stormwater fee is charged to all property owners in Port Angeles. This fee supports the City's public stormwater utility. The fee for all residential properties is the same. The fee for commercial properties is based on the size of the facility.

The stormwater fee provides funding for activities required to construct new stormwater infrastructure, maintain existing facilities, improve water quality, and protect the environment. The stormwater utility is operated by the City's Department of Public Works and Utilities.

City of Port Angeles

321 E. Fifth St - P.O. Box 1150

Port Angeles, WA 98362-0217

~ In Partnership with the Community ~

For more information on stormwater in Port Angeles, please visit the City's stormwater web page:
www.cityofpa.us/Stormwater.htm

Stormwater Hotline
(360) 417-4830
Email: stormwater@cityofpa.us

WSSOG End of Year Reporting

Thank you for your year end data!

Jurisdiction

Port Angeles

Name (person reporting)

Matthew Moore

Reporting for year:

2023

Email

mmoore@cityofpa.us

Pet Waste

Number of pet waste bags used this year

138,000

Number of city-owned Mutt Mitt stations you maintain

18

Did you use the Poop Toss game?

Yes

Details

At the Clallam County Fair from 8/17 to 8/20 we used the poop toss game as a major draw to speak with approximately 885 individuals over the weekend. The attached photo is of Capital Project Engineer, Vince McIntyre and Parks and Recreation Director, Corey Delikat at the opening of the City booth at the Clallam County Fair.

Other pet waste events/outreach:

We distribute educational flyers with the Pet Waste brand and information at all of our tabling events.

Spills Outreach



Did you use the Spills Happen branding?

Yes

Where?

We keep a Spills Happen banner on display at City Hall at all times, and this year an additional banner and magnet handouts during Earth Day at City Hall. We use a Spills Happen banner and magnet handouts at our outreach events that involve tabling, such as the Home Show (see attachment "Booth Pic 2.jpg") and Clallam County Fair.

How many paint sticks did you distribute?

0

Other Spills/IDDE outreach:

0

Spills/IDDE trainings you did:

This year we only had one formal training to acquaint the Port Angeles Fire Department with our new tracking method for IDDE using Survey123.

# of spills calls directly to your jurisdiction

19

PSSH Outreach & PSSH Month

Please include all PSSH-branded swag distribution numbers here, including those handed out at events already listed above.



Coasters

0

Coffee sleeves

0

Pens/pencils

5

Leash bag holders

425

Leash bag holder refills

20

Bike Safety Lights

95

Other PSSH branded items

143

Please describe other PSSH branded items

PSSH tote bags.

PSSH Month Proclamation

No

Other PSSH outreach:

Like the Spills Happen outreach, we include PSSH at all our tabling events, where this year material was available at the Home Show, Earth Day at City Hall, and Clallam County Fair.

Did your jurisdiction participate in STORM's digital advertising campaign for PSSH Month?

No

Did your jurisdiction purchase movie advertising for PSSH Month?

No

Public Involvement and Participation and/or Stewardship

Stewardship

Our primary means of engaging with the public is through our partnership with the Streamkeepers of Clallam County and their water quality monitoring program which uses trained volunteers to collect field data; At least once a year we join for a sampling event (pictures attached).

Got photos or other documentation to add to the report?



ENGR Vince McIntyre and PARKS Corey Delikat.JPG
4 MB



Booth Pic 2.jpg
2.5 MB



Streamkeepers Peabody (2).JPG
1.2 MB



Streamkeepers Peabody.JPG
10.2 MB



West Sound Stormwater Outreach Group 2023 Summary of Activities

February 2024

PREPARED BY: KITSAP COUNTY, STORMWATER DIVISION

TABLE OF CONTENTS

Who We Are 3
2023 Highlights 4
BEHAVIOR CHANGE PROGRAMS (S5.C.2.a.ii) 5
ILLICIT DISCHARGE DETECTION AND ELIMINATION (S5.C.5.d.ii) 14
GENERAL AWARENESS (S5.C.2.a.i) 15
STEWARDSHIP (S5.C.2.a.iii) 17
MAXIMIZING OUR REACH THROUGH PARTNERSHIPS 18
PLANNING FOR 2024 20
Appendix A: STORM 2023 ANNUAL REPORT
Appendix B: WSSOG 2023 WORK PLAN
APPENDIX C: PUGET SOUND STARTS HERE PROCLAMATION
Appendix D: WSSOG 2023 NATURAL YARD CARE REPORT
Appendix E: NATURAL YARD CARE CAMPAIGN EVALUATION REPORT

WHO WE ARE

Kitsap County and the Cities of Bremerton, Gig Harbor, Port Orchard, and Poulsbo have been working to jointly fund, develop and implement education and outreach programs via interlocal agreements since 2008. With the additions of Bainbridge Island and Port Angeles in 2012, the group assumed the name of West Sound Stormwater Outreach Group (WSSOG). The US Navy participates as an informal member. The WSSOG goal is to work cooperatively to improve water quality and to meet key requirements of the public education and outreach components of the 2019-2024 National Pollutant Discharge Elimination System (NPDES) Phase II Municipal Stormwater Permit (herein referred to as the Permit). In doing so, we create cost savings and efficiencies and benefit the community through consistent outreach and messaging.



2023 HIGHLIGHTS

In 2023, WSSOG focused on continuing to implement the natural yard care behavior change campaign. WSSOG initially began working with a consultant, C+C, in 2018 to identify a new priority audience and best management practice (BMP). WSSOG chose to focus on natural yard care and identified residents who have either children or pets in their homes as the priority audience. The BMP selected was the use and storage of pesticides, fertilizers and/or other household chemicals. WSSOG piloted implementation of the strategy in 2021 and full implementation in 2022.

> *Permittee may choose to meet these requirements individually or as a member of a regional group. Regional collaboration…includes permittees developing a consistent message, determining the best methods for communicating the message…and creating strategies to effect behavior change. If a permittee chooses to adopt…a regional program, the permittee should participate in the regional group and shall implement the adopted element(s) of the regional program in the local jurisdiction.*
>
> *2019-2024 NPDES Municipal Stormwater Permit – S5.c.2*

In addition to expanding this behavior change campaign, WSSOG focused on maintaining and improving existing programs including the successful Mutt Mitt program, spills and illicit discharge outreach and continued to stay involved in regional collaborative efforts including local work groups and the STORM group (Stormwater Outreach for Regional Municipalities). The group also participated in Puget Sound Starts Here Month in September. Bainbridge Island declared September 2023 as "Puget Sound Starts Here Month" to solidify its commitment to clean water (Appendix C).

Lastly, Kitsap County was awarded a Grants of Regional or Statewide Significance (GROSS) from the Washington State Department of Ecology in July 2021 on behalf of WSSOG. The grant included three distinct deliverables, designed to help WSSOG's efforts in reaching overburdened communities. The grant provides for training, enhancement of an equity mapping tool, and an analysis of WSSOG's outreach programs. Two of the deliverables were completed in 2022. The last deliverable was completed in 2023.

BEHAVIOR CHANGE PROGRAMS (S5.C.2.a.ii)

WSSOG coordinates two behavior change campaigns: the long-standing Mutt Mitt program and the natural yard care campaign.

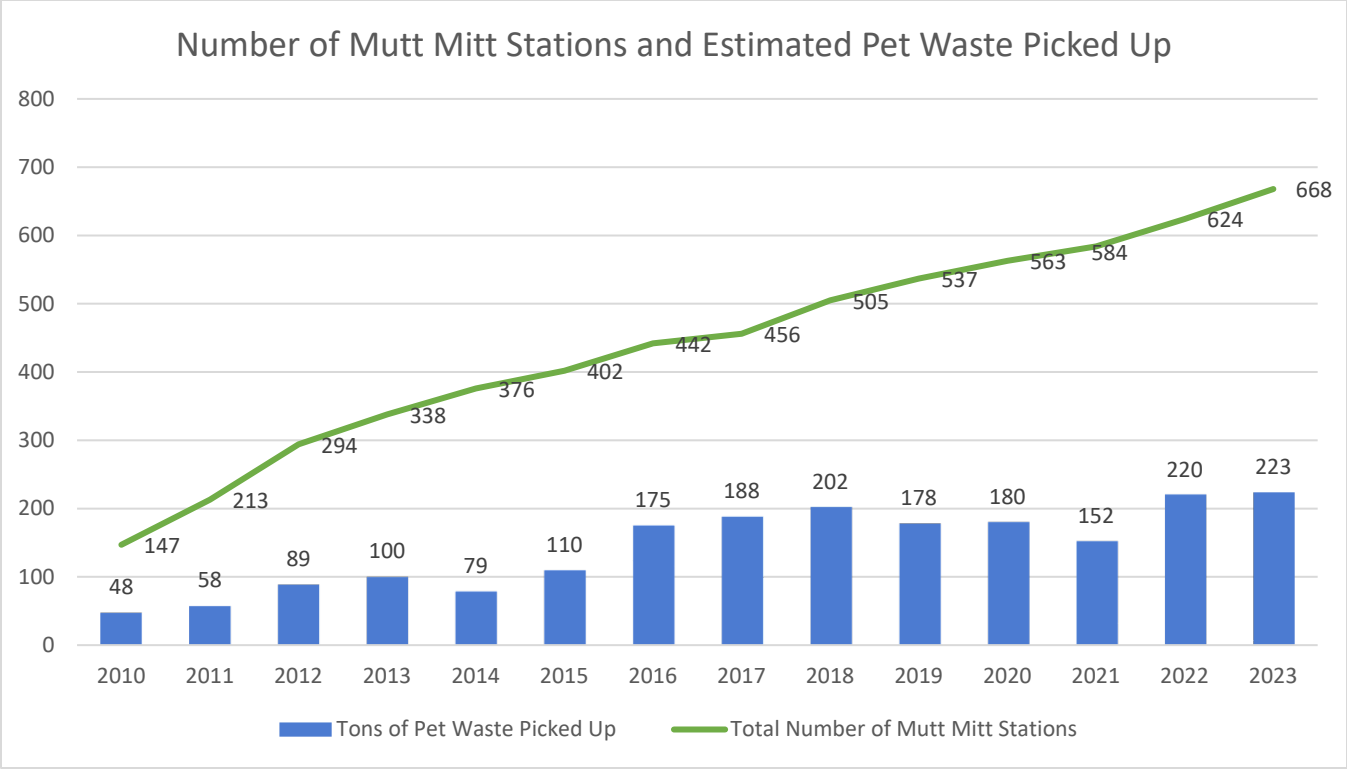
PET WASTE IN PUBLIC AREAS – MUTT MITT PROGRAM

Members of WSSOG continue to meet the requirements of S5.C.2.a.ii of the Permit through the highly successful Mutt Mitt program including evaluation of the program by the July 1, 2020 deadline. Established in 2009, this program focuses on installing and maintaining pet waste bag stations to encourage and facilitate dog walkers to pick up after the pets when they are in public places such as parks, apartment complexes, or neighborhoods.

Adoption of the target behavior is measured in part through growth of the program. As of the end of 2023, there have been a total of 668 pet waste stations distributed throughout the Kitsap Peninsula, Gig Harbor and Port Angeles. On average, 20-40 stations are added annually. In 2023, Kitsap County along with partner cities and community sponsors distributed over 1,351,000 pet waste bags, resulting in a reduction of approximately 223 tons of pet waste into local waterways.

Dog walkers depend upon stations that are reliably stocked with bags to help them adopt this behavior. It is essential that Mutt Mitt branded stations are continuously stocked and in good working order. Kitsap County typically conducts inspections of all Mutt Mitt stations located within Bainbridge Island, Bremerton, Port Orchard and Poulsbo on an annual basis and all other stations located within the County on a biennial basis. 448 Mutt Mitt stations were inspected during 2023. Of the stations that were found during their inspection, 82% were stocked. Emails were sent to all sponsors (with working email addresses) that had missing or unstocked stations.





TALKING (AND TOSSING) POOP FOR WATER QUALITY

2023 saw continued use of the popular Poop Toss game at various public events. The humorous nature of the game attracts participants of all ages and makes it easy to start a conversation about a topic people might otherwise have preferred to avoid. The Poop Toss game was used by jurisdictions at community events like Pets Walk (Poulsbo and Kitsap County), Bainbridge Island Boaters' Fair (Bainbridge Island) and the Clallam County Fair (Port Angeles). Port Angeles made contact with approximately 885 people at the Clallam County Fair. Kitsap County and Poulsbo spoke with 432 people at PetsWalk in 2023.



Vince McIntyre from Port Angeles shows two kids how to play the Poop Toss game.

Game participants learn about the correct behavior when they play and receive a Puget Sound Starts Here (PSSH) branded clip-on bag dispenser for playing, which gives them the tool they need to implement the behavior and a physical reminder to reinforce the action long after the staff contact. In total, this game helped jurisdictions reach and engage over 1,300 residents on proper pet waste pick up and disposal.



Child playing the Poop Toss Game on Bainbridge Island and in the background see Dog and its Owner demonstrating the real thing.

NATURAL YARD CARE – NEW BEHAVIOR CHANGE PROGRAM

Section S5.C.2.ii(b) of the Permit requires permittees to conduct a new evaluation of the effectiveness of an ongoing behavior change campaign (required under the 2013 Permit). Permittees were asked to document lessons learned and develop a strategy and schedule to improve or expand the existing program or identify a new target audience and BMP behavior change campaign, by July 1, 2020.

In 2018, WSSOG piloted an effort to encourage people to pick up their dog's waste at home. This effort promoted the use of a sticker placed on outdoor garbage cans at home to help set a social norm for scooping. The pilot effort used a postcard to promote the use of the sticker and importance of home scooping. Following the pilot, the group evaluated the campaign and ultimately decided not to move forward with this target audience and BMP but rather opted to develop a strategy and schedule for a new target audience and BMP behavior change campaign.

At that time, WSSOG hired a communications consultant, C+C, to help identify and select the new audience and BMP for a new behavior change campaign. The selected BMP is yard care techniques protective of water quality and the priority audience is single family home or townhome residents with kids and/or pets who have "Do It Yourself" yards and are potentially using harmful yard care products.

WSSOG's campaign focuses on residents who are using traditional "weed and feed" products on their lawn in single family residences or homes with lawns. The behavior campaign ask is: "In order to reduce pollutants in stormwater runoff, fertilize only with safer products, if you plan to fertilize your lawn. Through market research, the cost of organic/natural fertilizers was identified as a key barrier to the preferred behavior change. A coupon for an organic/natural fertilizer was offered as part of our strategy towards addressing this barrier. The coupon was also identified as an output towards measuring the change in behavior. Additionally, the priority audience indicated that Master Gardeners are the spokespeople the audience believes most when it comes to using organic products. The group worked with the local WSU extension office to coordinate educational webinars for the target audience.

NATURAL YARD CARE CAMPAIGN STRATEGY AND SCHEDULE

The following activities have been conducted through the multi-year effort:

Social Marketing Sessions (December 2018 - February 2019)

The WSSOG conducted five social marketing planning sessions to define key project elements, including the campaign's focus on getting residents to reduce the use of traditional weed and feed on their lawns.

Initial Audience Research (December 2018)

Research was conducted to better understand the priority audience's perceived barriers, benefits, and motivators in relation to the desired behavior. A total of 212 people responded to the survey, with 164 falling within the priority audience parameters. Some of the key high-level findings were:

When asked "have you ever considered switching to ALL organic yard care products," 56% of the priority audience indicated they have considered making the change.

The top three concerns the priority audience had about using organics:

- 50% believe organic products cost more
- 27% do not think organic products would work as well
- 35% are not sure where they would purchase organic products

Creative Development and Testing (April-June 2019)

Based on research findings, creative concepts were developed then tested among the priority audience. The research results showed that the artwork of "Child and Puppy" performed the strongest overall and performed strong enough that no changes to the image or message were needed. The group selected this artwork for the pilot.

COVID-19 Delays the Pilot (January – June 2020)

WSSOG was prepared to pilot the program in spring 2020 and began planning in earnest. Event dates and a retail partner had been scheduled. Due to COVID-19, the 2020 pilot was delayed to 2021. While the pilot was delayed, WSSOG used that time to conduct additional marketing research to further refine planned campaign tactics and messaging. WSSOG worked with C+C to conduct focus groups to test the ad concepts, language, and the audience's readiness for online/virtual events.

Campaign Pilot (April 2021 – August 2021)

The pilot behavior change campaign was conducted in Poulsbo during peak fertilizer season in spring 2021, and included webinars hosted by WSU Kitsap County Extension's Master Gardeners; an organic fertilizer discount offered through a partnership with a local retailer; Valley Nursery, and campaign communications including a Facebook ad campaign, a postcard sent to 2,933 households, and government delivery channels such as e-newsletters, organic social media, and utility bill messaging.

The WSSOG chose the City of Poulsbo for the pilot based on several factors including the availability of Master Gardener outreach channels, the City's mix of representative demographics, and ease of access within the county. With roughly 4,126 households and a population of 10,602, Poulsbo makes up just 3.9% of the population - making it an ideal fit to pilot the campaign and build toward Kitsap County-wide implementation.

Campaign Implementation Strategy and Schedule (April 2022 – August 2022) WSSOG expanded the program to include all the jurisdictions – Kitsap County, and the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The format of the program followed the same parameters as the pilot – virtual webinars hosted by Master Gardeners, a retail discount and similar outreach strategies. Using the results and lessons learned from the pilot campaign, the 2022 program was modified to include a larger product discount and ability to use the discount at multiple retailers in different jurisdictions. Webinars were also expanded to include different topics.

A total of four webinars were offered. The two topics were "Lawn Alternatives" and "Nature Friendly Gardening for Beginners." For the product discount, four retailers with five physical locations offered a 25% discount off a bag of an organic lawn fertilizer.

Continued Implementation (January – December 2023)



In 2023, the Natural Yard Care campaign was implemented throughout peak fertilizer season. It included three webinars hosted by WSU Kitsap County Extension Master Gardeners, a product discount at six participating retailers, a tabling event with Master Gardeners at the Bremerton City Nursery and campaign communications including a

Facebook ad campaign, a postcard, and government delivery channels such as e-newsletters, organic social media, and utility bill messaging. In addition, WSSOG worked with a consultant to evaluate the effectiveness of the campaign and identify successes and/or develop recommended changes to the program in order to be more effective. The Natural Yard Care Final Evaluation report is included in Appendix E.

2023 Campaign by the Numbers:

- 94,144 people reached on Facebook
- 14,350 direct mail impressions
- 2,890 link clicks on Facebook webinar ad, and 3,801 link clicks for Facebook coupon ad
- 103 webinar registrations
- 29 webinar attendees
- 68 coupons redeemed in-store
- 1 Tabling event with Master Gardeners

Moving forward in 2024, the WSSOG will use lessons learned from the past two years to continue the webinars and a product discount. A detailed Natural Yard Care Campaign report for 2023 has been included in Appendix D.

Campaign Evaluation

Section S5.C.2.ii(e) of the 2019-2024 NPDES Permit requires that permittees, "evaluate and report on: 1. The changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy; and 2. Any planned or recommended changes to the campaign in order to be more effective; describe the strategies and process to achieve the results." To this end, the WSSOG contracted with Kathryn Owen Consulting to conduct a robust evaluation of the effectiveness of the Natural Yard Care campaign. The Natural Yard Care Campaign Evaluation Report is available in Appendix E.

The evaluation included a number of methods for gathering data including, surveys of households who had received direct mail through the campaign, surveys of households who had not received direct mail, surveys sent through digital channels used to promote the campaign, surveys of webinar participants and surveys of retail partners. Because actual observations of behavior were not feasible with this campaign, the evaluation focused on gauging changes in people's readiness to change their behavior.

<u>Key Findings</u>

- Roughly 20% of survey respondents have used weed and feed, moss killer, weed killer, or a nonorganic, slow-release fertilizer. Only 5% identified themselves as "not interested" in using organic fertilizer. Another third are not interested in using *any type* of fertilizer on their lawns.

- In all, 40% of the audience falls into the "willing to change" category. They have already thought about doing the target behavior, have planned to start doing it, or have started doing it at least some of the time. Among those who are willing to engage in the target behavior, the challenge of controlling weeds and/or invasive plants was the most frequently mentioned barrier. Among the audience as a whole, the most prominent barriers were a) the perception that organics don't work as well as chemical fertilizer, and b) the organic products are too expensive.

- Over a third of the audience said the Natural Yard Care campaign ads were "*likely*" or "*very likely*" to influence their lawn care practices. Not counting those who were *already* using organic exclusively, this translates to 19% of the audience showing intent to adopt a new behavior. This translates to a potential 3,457 pounds or 1.72 tons of nutrient runoff diverted from local waterways; if extrapolated to the entire audience reached (not just survey respondents) the figure comes to 23,673 pounds or 11.8 tons.

- The aspect of the ad campaign the audience found particularly compelling was the focus on things they cared about: protecting marine life and Puget Sound; protecting their children, pets, and families; and protecting nature in general. People also liked the use of direct and compelling words like "*healthy*" and "*safe*," and some appreciated the offers for fertilizer discounts and webinars.

- The three webinars offered in 2023 by a Master Gardener on natural yard care were attended by 29 individuals, out of 103 registering. While they reached a fairly small audience, most who attended said they were likely to recommend the webinars to others. Of people surveyed six months later, the majority reported having taken one or more steps towards natural lawn care.

    - In 2022, there were 139 attendees for four webinars. 60 attendees too took an immediate post-workshop evaluation. There were two different webinars offered in 2023, Lawn Alternatives and Nature Friendly Gardening for Beginners. In the Lawn Alternatives webinar, 48% of attendees reported they were "very likely" or "likely" to switch to organic fertilizer. In the Nature Friendly Gardening for Beginners webinar, 60% of attendees reported they were "very likely" or "likely" to switch to organic fertilizer. 19 webinar registrants took a follow up survey approximately six months later. Of them, five indicated that they had stopped using weed and feed and two indicated that they had tried using organic fertilizer since the webinar.

    - In the 2021 pilot campaign, there were 68 attendees for three webinars. 16 attendees took an immediate post-workshop evaluation. Of them, 79% reported that they were very likely to try organic fertilizer and an additional 16% reported that they were likely

to try organic fertilizer. In a six month follow up, survey two of 16 respondents indicated that they had tried using organic fertilizer since the webinar.

- In 2023, of the four out of six nurseries and garden centers interviewed, all were interested in participating in future campaigns. Suggestions from nurseries included changing the discount to a flat fee rather than a percentage, having discount coupons available on days that the nursery is holding a workshop or demo on natural lawn care, and collecting additional info to find out whether the coupon is generating a) new customers for the retailers, and b) new users of organic fertilizers.

Direct Mail Survey Results on Intended Behavior Change

The sample used for the calculations below is 1187, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 1187:

- 34% (401) said the NYC ads were "likely" or "very likely" to influence their own lawn care practices.
- Of these, 38% (n=152) s14aid they were already using only organic fertilizer or weren't using anything on their lawn.
- The other 62% (n=248) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, 17% of direct mail respondents can be described as showing intent to adopt the new behavior.

Social Media/Online Survey Results on Intended Behavior Change

The sample used for the calculations below is 875, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 875:

- 36% (315) said the NYC ads were "likely" or "very likely" to influence their own lawn care practices.
- Of these, 44% (n=135) said they were already using organic fertilizer exclusively or hadn't used any products on their lawn.
- The other 56% (n=175) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, 20% of online respondents can be described as showing intent to change their behavior to using organic fertilizer.

Webinar Impact on Intended Behavior

Prior to the webinars, just under half (47%) of those who registered (102 total registrants) said they were "thinking about" or "planning on" making the switch from weed and feed-type products to

natural/organic lawn products. Immediately after the webinar, the figure was 52%; however, respondents were much more likely to say they were "planning on" making the shift rather than thinking about it. Given the relatively small numbers of webinar participants (just half of whom completed the survey), it is not possible to say whether this reflects a statistically significant change.

Impact on Understanding of Behavior

In all, 40% of the audience falls into the "willing to change" category, meaning they have already thought about doing the target behavior, have planned to start doing it, or have begun doing it at least some of the time. This means that for a large portion of the audience their understanding of the behavior is already high and that increasing their understanding is unlikely to result in increased adoption of behavior.

Recommendations

- While there were people uninterested in the target behavior because they don't believe that nonorganic fertilizers pose a hazard – to their households or to Puget Sound – this group was quite small. We recommend focusing future efforts on moving beyond awareness to skill building. To address the needs of the audience most likely to engage in the target behavior, the campaign could offer follow-up activities that can help people learn how to treat areas of concern (weeds, invasive plants, moss) without using toxic chemicals. These are most likely to be successful if they feature one-on-one conversations, which are able to respond to individualized conditions (e.g., lawn size, slope, proximity to water) and can contextualize the behavior.

- If WSSOG wants to continue using a social marketing approach, we recommend revisiting the target behavior and identifying a behavior that is non-divisible (doesn't contain multiple steps) and end-state. That is, the behavior will produce the desired outcome for the audience without requiring additional action. If the desired outcome is caring for the lawn without chemicals, the current target works; we suspect, however, that the desired outcome among these households is for a lawn that looks good (weeds are under control, for instance).

- Continue and expand the use of social marketing tools, including social diffusion and norms, public commitment, and convenience.

- Clarify the intent of the fertilizer discount. The discount coupon for 25% off organic fertilizer was provided as a way to reduce the barrier of cost for people interested in switching to organic. But because the coupon is for one-time use, it may not maintain the behavior beyond one application. If unfamiliarity with the products and where to find them were the main barrier, simply introducing people to the products through a coupon would be helpful. But with a product consumers buy repeatedly the discount may be seen as having limited value. Our suggestions include a) collecting data during coupon redemption to find out the percentage of

a) first time customers to that retailer, and b) first-time organic users, to find out whether the coupon is having the desired effect. If WSSOG feels it would be helpful in convincing people of the benefits of organics, a cost comparison for customers showing organic and nonorganic costs over time could be helpful.

ILLICIT DISCHARGE DETECTION AND ELIMINATION (S5.C.5.d.ii)

REPORTING SPILLS

All WSSOG jurisdictions have a publicly listed hotline, telephone number and/or app for reporting spills and other illicit discharges. Kitsap County, Bainbridge Island, Bremerton, Poulsbo, and Port Orchard share the Kitsap1 phone number and SeeClickFix app.

WSSOG shares common branding and publicity through a tagline and graphics called *Spills Happen*. This catchy phrase and graphics are intended to bring awareness and encourage residents to report spills. Jurisdictions post their spills reporting phone numbers and app on their websites as well on print materials.



Stella Collier, Bainbridge Island, hosts a booth at the Bainbridge Island Farmers Market

WSSOG utilizes outreach methods, including:

- Display of the upright *Spills Happen* banners at events, in building offices and public spaces.
- Bainbridge Island offers *Spills Happen* magnets and hotline stickers at their City Hall front counter displays, events, and upon request.
- Bainbridge Island shared information at the Bainbridge Island Farmers Market in September 2023.
- Bainbridge Island has the spills hotline phone number on the back of staff business cards.
- Bremerton features the *Spills Happen* branding on their sweeper trucks.
- Bremerton distributed *Spills Happen* paint sticks.
- Gig Harbor distributed *Spills Happen* paint sticks and magnets at City Hall.
- Kitsap County displays the *Spills Happen* graphics on a total of three spills trailers. The phone number is also on a spill response truck.
- Port Angeles promoted the program in their October 2023 *Stormwater Rains* newsletter.

- Port Orchard handed out educational flyers, including spill, pressure washing, painting and IDDE pamphlets and 100 fridge magnets to interested parties, advertised the *Spills Happen* campaign on their website and posted banners within City Hall.
- Poulsbo distributes *Spills Happen* magnets at City Hall.
- Poulsbo stocks field vehicles with BMP pamphlets to hand to residents when an illicit discharge is spotted.

REPORTS RECEIVED

A total of 103 spill reports were received in 2023. Of those, 36 came in via Kitsap1 phone number, 18 via Kitsap1 email, and 25 spill complaints were reported through the SeeClickFix app or web-based reporting form. An additional 24 complaints were received by Kitsap County, through internal staff referrals or citizen complaints made directly to Kitsap County staff (Kitsap County – 77, Bremerton – 19, Bainbridge Island – 3, Port Orchard – 2, Poulsbo – 1).

SPILLS REPORTING AND RESPONSE TRAINING

Jurisdictions coordinate an ongoing training program and follow up trainings to their field staff on how to recognize, respond to and report spills (S5.C.5.d.iii). WSSOG reported the following trainings held in 2023:

- Bainbridge Island – Provided on-the-job training for operations and maintenance staff.
- Bremerton – A total of 112 employees completed the online training called "Municipal Storm Watch" consisting of a video and quiz became mandatory for all city employees. Fifteen employees completed online training "IDDE: A Grate Concern" consisting of a video and quiz.
- Gig Harbor – One training for 20 Public Works employees.
- Kitsap County – A total of 261 staff were trained in 2023, both online and in-person, which includes 30 Kitsap County Sheriff's officers who took the online training.
- Poulsbo Fish Park Committee hosted 20 restoration and planting work parties in Poulsbo's Fish Park, totaling 923.25 volunteer hours. The event was promoted on their Facebook page.
- Port Angeles – Provided one formal training to acquaint the Port Angeles Fire Department with their new tracking method for IDDE using Survey123.

GENERAL AWARENESS (S5.C.2.a.i)

General Awareness Through Puget Sound Starts Here

Puget Sound Starts Here (PSSH) is a regional effort to raise awareness about actions residents can take to reduce their impact and keep Puget Sound and the Salish Sea healthy (S5.C.2.a.i). Local

implementation of PSSH included a variety of outreach approaches, including the promotion of Puget Sound Starts Here Month in September.

While distribution of items took a break during the pandemic, jurisdictions are making a return to outreach events. Many jurisdictions distribute branded "swag" items with the Puget Sound Starts Here logo through outreach events, at front desk counters and other mechanisms.



Collectively, these efforts placed over 9,296 Puget Sound Starts Here-branded items in the hands of West Sound residents and visitors.

Jurisdiction	Coasters	Pens/ Pencils	Leash Bag Holders	Leash Bag Holder Refills	Bike Safety Lights	Other (Tote Bags, Paint Sticks, Stickers, etc.)	TOTAL Impressions
Bainbridge Island	1,340	0	240	0	0	450	2,030
Bremerton	10	20	20	0	0	0	1,290
Gig Harbor	0	0	10	0	0	0	10
Kitsap County	3,500	0	0	0	0	1,750	5,250
Port Angeles	0	5	425	20	95	143	688
Port Orchard	0	0	0	28	0	0	28
						TOTAL IMPRESSIONS	**9,296**

PUGET SOUND STARTS HERE MONTH DIGITAL CAMPAIGN

The regional Puget Sound Starts Here Committee coordinated PSSH Month in September. The committee coordinated a digital marketing campaign and jurisdictions were invited to financially participate in the campaign. Bainbridge Island, Bremerton, Kitsap County, Port Angeles, Port Orchard, and Poulsbo invested in the campaign.

This year's campaign focused on vehicle maintenance behaviors, Don't Wait to Inflate for Puget Sound Starts Here Month The digital campaign's goals were to drive people to the PSSH website landing page and encourage them to learn more about proper tire pressure and the importance of maintaining proper tire pressure.



The campaign combined a digital video and digital display ads and were shared on Facebook, Instagram and YouTube.

The campaign's audience were adults aged 18-64 in the Puget Sound region. The ads were run in English, Spanish, Korean and Vietnamese. A portion of the ad budget was allocated towards targeting overburdened communities using factors such as income, education, people of color and/or those who speak limited English.

Puget Sound Starts Here Theatre Advertising

Poulsbo continued their practice of running on-screen cinema ads featuring PSAs about stormwater best management practices. The ads focused on car care. The ads were run on eight screens at Regal Poulsbo Cinemas for three months. The ad was run at least two times prior to each feature film on every screen throughout the month, with number of impressions each month depending on how many ads were in the cycle. Theatergoers could expect to see the ad within six minutes or less before the start of each movie, and if they were there earlier, could view those ads every six minutes in rotation.

STEWARDSHIP (S5.C.2.a.iii)

CREATIVE WAYS TO ENGAGE

Each jurisdiction provided a variety of ways for residents to participate in activities and events.

- Bainbridge Island participated in Sustainable Bainbridge's annual Beach Cleanup event on September 30.
- Bremerton provided advertisement, guidance and supplies for the Sinclair Inlet Cleanup on September 30.
- Bremerton visited 4th and 5th graders at Kitsap Lake Elementary School where students were allowed to ask the team questions about stormwater, the water cycle, pollution, and pollution prevention.
- Gig Harbor partnered with Harbor Wildwatch to develop stormwater curriculum for school-age children.
- Port Angeles utilized their partnership with the Streamkeepers of Clallam County and their water quality monitoring program which uses trained volunteers to collect field data in Tumwater, Peabody, Valley, White, Ennis, and Dry Creeks.
- Port Orchard hosted a booth at the Port Orchard Farmer's Market.



Port Angeles attends sampling event with Streamkeepers of Clallam County

MAXIMIZING OUR REACH THROUGH PARTNERSHIPS

Kitsap staff continues to represent the County and WSSOG as partners in the larger regional efforts of STORM and Puget Sound Starts Here. In 2023, Kitsap staff provided input at STORM's quarterly meetings, within workgroups, and at the 2023 STORM Symposium. Significant accomplishments of the STORM group are summarized in Appendix A).

WORK GROUPS

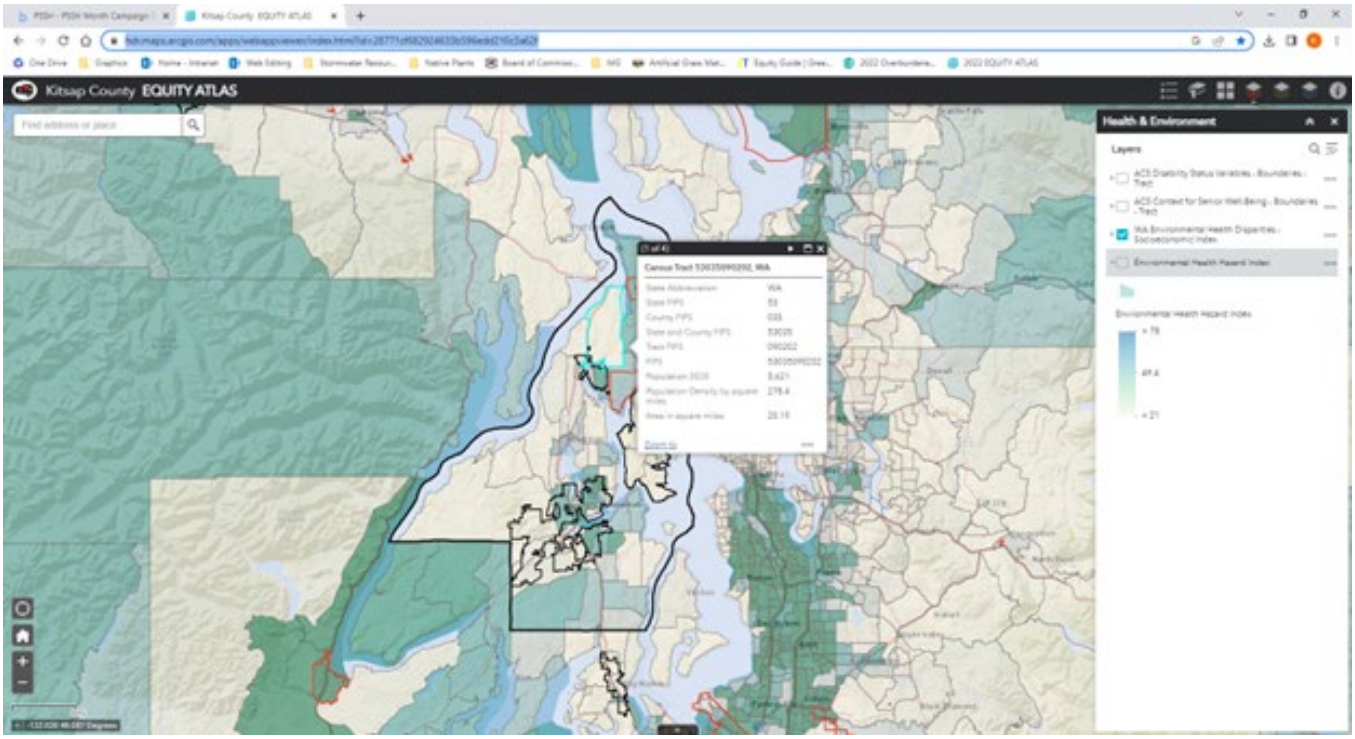
Kitsap staff participated in several work groups under STORM's umbrella in 2023 on issues of regional significance, including the Business Inspection Group (BIG). Kitsap staff also participate in work groups such as the Natural Yard Care and Pet Waste, which periodically meet as needed.

STORM STEERING COMMITTEE & PUGET SOUND STARTS HERE COMMITTEE

Kitsap County continues to represent the WSSOG partnership as a member of the STORM steering committee. This committee meets twice a month on tasks that guide the regional STORM group. Notable projects by the STORM and PSSH Steering Committees in 2023 included working with the Washington Stormwater Center to create a work plan for a new statewide E&O Coordinator position, planning and facilitating virtual quarterly meetings and the annual Symposium and coordinating a regional PSSH Month digital advertising campaign. The PSSH committee also hired a consultant under a National Estuary Program (NEP) grant to begin development of a social marketing campaign to encourage the proper inflation of car tires to potentially reduce the impacts of 6PPD. Work on this grant began in late 2022 and will continue through 2023.

GROSS GRANT

In July 2021, Kitsap County was awarded a $42K Municipal Grant of Regional or Statewide Significance (GROSS) from the Department of Ecology. The grant is intended to support the WSSOG's efforts in providing overburdened communities meaningful opportunities for public involvement and participation. Two of the three deliverables of the grant were achieved in 2022, with the third one completed in 2023.



In 2021, the County created a web-based story map designed to guide the County and partner agencies toward meaningful, inclusive, and equitable outreach. This tool is comprised of 23 demographic, socioeconomic and health/environment metrics (or indicators) from Federal, State, and private data sources and allows for community exploration down to a neighborhood level or census tract. Through the GROSS grant, Kitsap County updated the map in 2022 with the latest available data sources and enhanced usability with minor adjustments to the layout. The new tool also included the development of an Equity Atlas, which allows users to explore multiple data layers within one single map. WSSOG stormwater infrastructure data was included to provide jurisdictions with additional tools for decision-making.

The second deliverable of the GROSS grant was to coordinate a regional online training for WSSOG and STORM members on community engagement strategies to overburdened communities. Kitsap County contracted with Greenprint Partners to provide a virtual day long training on the topic of "centering community." A total of 34 participants received tools and resources to help them assess their current engagement practices and a framework for determining where to focus equity efforts in the future. The training was based on the Equity Guide for Green Stormwater Infrastructure Practitioners, which was published in 2022.

In 2023, the third deliverable of the GROSS grant, an outreach assessment with sixteen tangible recommendations, was completed. The WSSOG completed the first recommendation, committing to a set of guiding principles and values for outreach and engagement, to help guide decision making processes (e.g. choosing audiences and new focus areas for campaigns).

PLANNING FOR 2024

OVERVIEW

All WSSOG members renewed their inter-local agreements effective from 2023 through 2025. The WSSOG will continue to coordinate and sustain existing efforts. Additionally, the group will coordinate on new initiatives when appropriate, such as coordinating business inspection materials for Source Control Programs. The WSSOG 2024 work plan is provided in Appendix B.

In 2024, WSSOG will continue to work towards evaluating and reporting on the Natural Yard Care campaign and incorporating recommendations from that evaluation into future work. The Permit deadline to report on the campaign is March 31, 2024.

APPENDIX A: STORM 2023 ANNUAL REPORT

STORM

STORMWATER OUTREACH FOR REGIONAL MUNICIPALITIES

2023 ANNUAL REPORT

STORM Celebrates its 15th year as a collaborative!

STORM is…

- An efficient model of **smart government** with cities and counties working together on engagement.
- Improving the effectiveness of jurisdictions of any size by **sharing resources and messaging.**
- Working together to reach audiences, build skills, and **improve equity practices.**
- Using **social marketing approaches** to deliver and evaluate clean water action programs.
- Fostering jurisdiction and nonprofit teams that tackle grant projects totaling over **$5 million to date.**
- A **supportive collaborative** of folks sharing their skills and passion.
- An example of **civic engagement** that reaches local government, nonprofits, communities, educators, students and volunteers.
- Making a difference in awareness and environmental engagement to **improve outcomes for the Puget Sound Watershed!**

Everyone brings something to the STORM group and adds to our communities. Thank you!

- The STORM Steering Committee

About STORM

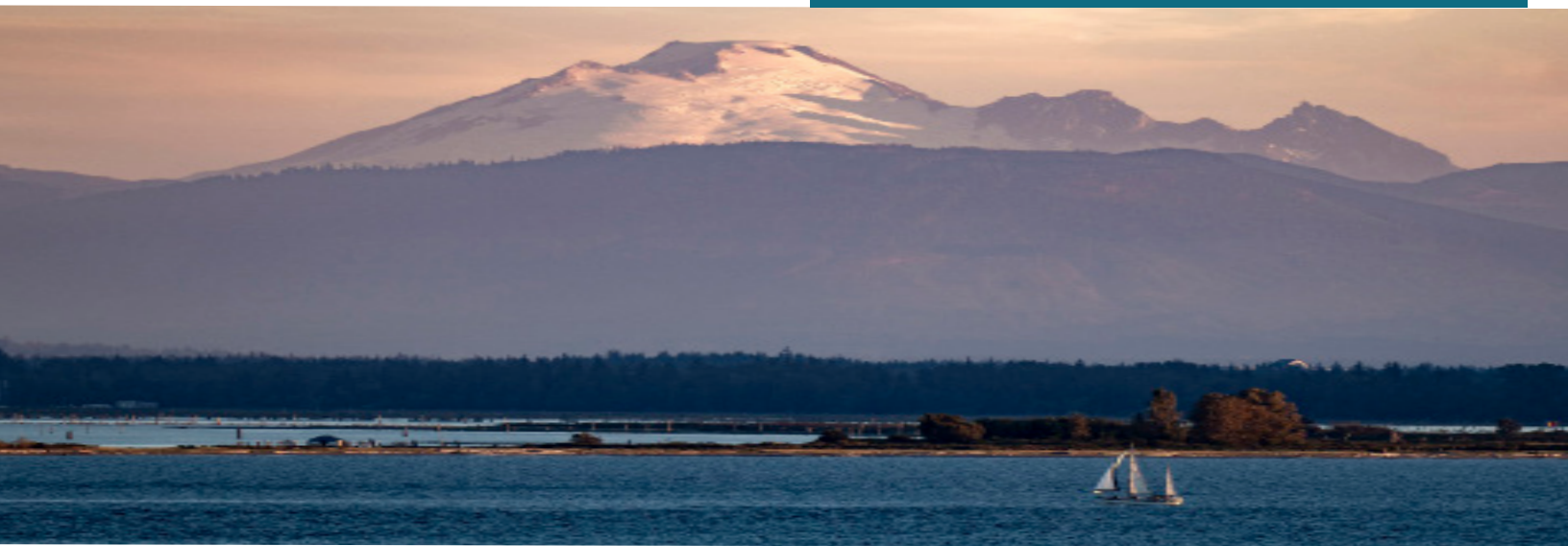
STORM is a coalition of city and county governments working together to improve water quality in our lakes, rivers, streams, and Puget Sound by meeting education and outreach requirements from the federal Clean Water Act and the WA Water Pollution Control Act.

STORM's Vision: People living and working in our communities take actions that protect water quality within the Puget Sound Basin.

STORM's Mission: Work together with regional partners to address polluted runoff and stormwater impacts by advancing broad-scale education & outreach and behavior change initiatives.

If your municipality would like to join STORM, or receive our updates, send your request to Anne Melrose, Statewide Municipal Stormwater E&O Coordinator, ***anne.melrose@wsu.edu***.

Check out the STORM Resource Reservoir at ***pugetsoundstormgroup.org***.



2023 STORM by the Numbers

205 attendees at STORM events

700 steering committee hours dedicated to STORM

1349 downloads from the Resource Reservoir

A New Face on the Steering Committee

Rebecca Bolettieri, Stormwater Education and Outreach Coordinator Kitsap County



Rebecca (Becca) Bolettieri (she/her), is the newly appointed Stormwater Education and Outreach Coordinator for Kitsap County's Stormwater Division.

Becca brings a decade of experience in marketing, communications, and creative writing, honed at the Art Institute of Chicago. Originally from Georgia, she has been recognized for her work in video projects, digital campaigns, and creative writing initiatives.

With a commitment to Diversity, Equity, and Inclusion (DEI) advocacy, Becca aligns with Kitsap County's values, focusing on amplifying the voices of underprivileged communities. As a recent transplant to the area, she is eager to contribute her skills and embraces the opportunity to learn and grow in her role. Becca aspires to bridge DEI advocacy with community engagement, contributing to a more inclusive and sustainable future in Kitsap County.

In her spare time, she enjoys spending time with her dog, Quinn, working on creative writing projects, and taking in the beauty of her new home. Becca is thrilled to be included in the STORM Steering Committee and can be reached at **rbolettieri@kitsap.gov**.

2023 STORM Symposium - Reunited and it felt so good!



It was wonderful to meet in-person once again for the 2023 Annual STORM Symposium! **Over 60 colleagues** came together to network, learn, share ideas, and inspire each other. The symposium offered an amazing line up of guest speakers. There were networking opportunities and a peer-to-peer tabling outreach show and tell. Thanks to the participating jurisdictions for sharing your fantastic work!

We kicked off the day with ***Jessica Branom-Zwick, Cascadia Consulting***. She shared her tips and resources for evaluating NPDES behavior change campaigns. Showing us how to plan a program evaluation from beginning to end. ***Ellen Kuwana, Kuwana Consulting***, shared best practices for plain language, inclusive language, and science communications. ***Elyssa Kerr, Beavers Northwest*** rounded off the morning. Sharing her passion for and knowledge of beaver behavior. We learned about the amazing habitats and eco-system services that beavers create. And the benefits of using effective beaver management devices.



In the afternoon we welcomed ***scientist and community activist, Emily Pinkney***. She shared how intersectional environmentalism brings underserved communities into decision making processes. Removing racial barriers and centering the voices of those most affected by environmental impacts. ***Lori Kothe, Kocreate & Poogooder,*** explained how to use a social media calendar. She showed us how social media campaigns can increase engagement and move audiences. We ended the day with inspiring closing remarks from ***Peggy Campbell and Cammy Mills***.

Thanks to King County for the incredible snack spread and STORM's 15th anniversary cupcakes! Although it was a trek for some, it was worth the drive. Kudos to everyone that carpooled!

2023 Trainings and Professional Development

In 2023 we had over 200 STORMers join our combined quarterly events. The May quarterly gave us our first opportunity to meet in-person since 2019. It was amazing!

Quarterly events throughout the year focused on providing networking opportunities, skill shares, and trainings covering a variety of topics. Thank you to all our presenters and to King County for their continued financial support for STORM trainings!



Thank you 2023 Quarterly Presenters!

- Using images for Outreach - **Kimberly Pleger.**
- 6PPD-q - Understanding the Tire Wear Particle Pollution Problem through Regional Collaboration - **Eli Mackiewicz.**
- Translation Service in the Field and Beyond - **Heidi Zarghami.**
- NPDES Permit Updates, Abbey Stockwell.
- Kirland Stormwater Awareness and Attitude & IDDE Postcard Study - **Aaron Hussmann.**
- Green Stormwater Infrastructure Tool Kit - **Alison Schweitzer.**
- Puget Sound Starts Here – Don't Wait to Inflate - **Julie Burke.**
- Plain Talk Communications - **Mary Kay Clunies-Ross.**

Skill Shares Make Information Sticky



Learning bite-size skills, and then getting a chance to chew on them with actual practice, improves how well the information sticks with us. This is why several Steering Committee members offered Skill Share presentations at 2023 Quarterly Meetings including: Low Tech Photo Editing (Laurie Devereaux), Plain Talk (Katherine Straus), Learn A Little Bit About Bitly (Aaron Hussmann), and Intercept Surveys (Laurie Devereaux, Susan McCleary, & Aaron Hussmann).

Did you apply any of these snack-size skills to your work? Do you have a skill you may be willing share with STORM members at an upcoming Quarterly? Are there topics you hope someone else might share? Reach out to a Steering Committee member and let us know!

2023 STORM Work Groups

STORM work groups are created on an ad hoc basis and facilitated by STORM members. They are member-driven and self-directed. The formation and focus of work groups often aligns with new permit requirements, initiatives of the STORM Steering Committee or from requests by STORM members.

Work group participation is voluntary and based on the interest of individual members. These groups tend to be task-oriented and may have end dates. Work group members determine their structure and function, meeting frequency, work plans and decision-making.

Pet Waste Work Group

The pet waste work group is currently comprised of 19 members representing 18 jurisdictions. The group met twice in 2023, starting in August. The group identified several goals for the group including to share lessons learned from various programs, to seek funding to update foundational research used by many of the programs, and to identify opportunities to save money by doing bulk orders together. The group will continue to meet in 2024. Contact Cammy Mills, **cmills@kitsap.gov**, to join.

Adopt-a-Drain (AAD)

The Adopt-a-Drain program made great progress in 2023. 16 Puget Sound jurisdictions have joined the AAD coalition. In two years, more than 1,400 Puget Sound individuals, families, and businesses have adopted more than 2,400 catch basins. In 2023, these volunteers reported that they had prevented more than 7,500 pounds of sediment, leaves, twigs, garbage, and other debris from clogging and falling into the MS4. We hope more of our neighbors will join in 2024, and are looking to expand the Washington AAD program to SW Washington and Eastern Washington. For more information, contact Anne Dettelbach at **adettelbach@redmond.gov**.

Puget Sound Starts Here



PSSH Month went into high drive with the completion of a two-month digital ad campaign focused on raising awareness around proper tire care to reduce tire wear dust.

Jurisdictions contributed $64,440 to the Puget Sound Starts Here "Don't Wait to Inflate" regional awareness campaign, that collectively reached over 8.4 million total media impressions in four languages.

This year's regional media campaign:

- Delivered almost 64K website clicks through the paid media campaign to the DontWaitToInflate.org website for tire care-specific information.
- Saw over 44K users produce 52K engaged website sessions (page views) with a 94.42% engagement rate; meaning website users went to the website and actively engaged with the tire care content.

Collectively, we were able to provide far more reach and key media performances across the region – which only increases the reach in our jurisdiction, too – than we could get doing something on our own.

Unlocking Behavior Change with STORM

Getting people to change their behavior isn't easy! Whether it's practicing natural lawn care, fixing car leaks, picking up pet waste, or closing dumpsters, it takes more than a brochure or social media post to get positive results.

So how do you convince someone to change their behavior? In the realm of behavior change, a one-size-fits-all approach is rarely effective. Messages that resonate with one group may not resonate with another. You need to build your program around factors that will motivate your priority audience while removing their barriers to action.

Social marketing campaigns are complex, requiring skill, time, and money to implement. We have to put our assumptions aside and dig into quantitative and qualitative research. Unlocking how your audience thinks, feels, and acts…where they hang out, how they get information and who they trust. Armed with his information you can develop the right tools, and the results can be rewarding.

How do STORMers embark on their behavior change journey? They gain skills and learn through STORM sponsored trainings. They network and collaborate with other STORM members. And, they use the Resource Reservoir to research past campaigns to learn what worked and what didn't. This is the advantage of being an active member of STORM.

STORM Steering Committee



Rebecca Bolettieri
Kitsap County



Laurie Devereaux
City of Bellevue



Aaron Hussmann
City of Kirkland



Bill Malatinsky
City of Seattle



Susan McCleary
City of Olympia



Mary Rabourn
King County



Anne Melrose
Washington Stormwater Center

Thank you all STORMers for a fantastic 2023!

APPENDIX B: WSSOG 2023 WORK PLAN

WSSOG 2023 Work Plan

Objectives from Exhibit "A" -
West Sound Stormwater Outreach Group Scope of Work & Budget for 2023-2025

Sustain successful efforts with pet waste outreach (Objective 2)

- Continue Pet Waste outreach *(2.2)*
    - Continue to implement Mutt Mitt E&O plan
    - Sustain Mutt Mitt program
    - Participate in the regional STORM Pet Waste workgroup as appropriate

Continue social marketing campaign development (Objective 3, 6)

- Continue Natural Yard Care campaign implementation *(3.1)*
    - Continue expansion of the Natural Yard Care campaign to all jurisdictions within WSSOG. Program to include three workshops in partnership with the WSU Master Gardeners in spring 2023 and a product discount
    - Coordinate efforts with WSU Master Gardeners on webinar topics, and dates
    - Coordinate follow up email outreach to be done by Master Gardeners including logistics, talking points, etc.
- With a consultant, identify metrics to evaluate success of the natural yard care campaign; begin developing a report on the changes in understanding and adoption of the targeted behaviors. This work will be done in preparation for the permit evaluation deadline of March 31, 2024 *(3.2, 3.3)*
- Monitor the progress of other jurisdictions' behavior change campaigns and adapt elements as appropriate *(6.4)*
- Participate in regional STORM natural yard care work group as appropriate *(6.4)*

Collaborate on joint outreach for the business inspection program (Objective 4)

- Develop a jointly branded rack card for all jurisdictions to use *(4.1)*

Collaborate on mutually beneficial outreach opportunities – these activities may be optional and vary by jurisdiction (Objective 5, 6)

- Continue to implement spills hotline outreach opportunities, including but not limited to *(5.2)*:
    - Distribution of paint sticks, when feasible
    - Promotion of the SeeClickFix application and spills reporting phone number in social media, print or digital
- Continue to participate in *Puget Sound Starts Here* outreach *(6.3)*
    - Promote PSSH Month

    - Distribute PSSH-branded merchandise, including but not limited to coasters and pet waste bag holders, when feasible
    - Participate in STORM-sponsored regional ad buys and/or place local ads
- Using the GROSS grant, hire a consultant to evaluate priority outreach programs agreed upon by WSSOG, and identify shared strategies to increase participation of underserved communities *(5.3)*
- Provide lessons for school aged children, for those jurisdictions that offer youth education *(5.2)*
- Pilot field monitoring programs with high school and elementary students if in-person schooling resume *(5.2)*
- Advertise via a variety of channels as appropriate: digital, print, or other media *(6.3)*
- Consider partnerships on stewardship opportunities as appropriate *(5.2)*

Strengthen coalition and represent WSSOG on regional efforts (Objective 6 and 7)

- Participate on the STORM Steering Committee and PSSH committee *(6.1)*
- Participate in STORM's regional workgroups as appropriate *(6.4)*
- Provide STORM and PSSH support and attend Quarterly meetings *(6.1)*
- Promote capacity building as needed *(6.2)*
- Provide annual summary of activities, track and maintain records, and report out on programs as appropriate *(7)*

APPENDIX C: PUGET SOUND STARTS HERE PROCLAMATION

CITY OF
BAINBRIDGE ISLAND

PROCLAMATION

A PROCLAMATION by the City Council of the City of Bainbridge Island, Washington, declaring September 2023, as "Puget Sound Starts Here Month."

WHEREAS, we resolve to protect Puget Sound and its tributaries which are the source of our community's well-being, health, economy, and quality of life; and

WHEREAS, we acknowledge that we are on the land of the Coast Salish People of the Water, who have stewarded this land from time immemorial; and

WHEREAS, a healthy and vibrant Puget Sound defines our Northwest and Island culture, as do our indigenous people's stories, our tribal treaty responsibilities, and our shared legacy for future generations; and

WHEREAS, the health of Puget Sound is declining, and creatures and plants great and small, from our bull kelp forests and salmon to our orcas and shellfish, are at risk from the human impacts of stormwater runoff, loss of natural habitats, and a changing climate; and

WHEREAS, we all have the power to protect our Puget Sound treasure by working together to discover and take clean water actions through the Puget Sound Starts Here Campaign; and

WHEREAS, in the month of September, the City of Bainbridge Island will join other governing bodies, organizations and community groups to strengthen stewardship of our shared watershed and encourage all to take action to improve the health of Puget Sound.

NOW, THEREFORE, I, Brenda Fantroy-Johnson, Mayor of City of Bainbridge Island, on behalf of the City Council, do hereby proclaim September 2023, as

"PUGET SOUND STARTS HERE MONTH"

in the City of Bainbridge Island and urge residents to support clean water and healthy habitat by joining us in this special observance to discover how to make a difference and be part of the solution!

SIGNED, this 12th day of September 2023.

Brenda Fantroy-Johnson

Brenda Fantroy-Johnson, Mayor

APPENDIX D: WSSOG 2023 NATURAL YARD CARE REPORT

12/1/2023

WSSOG NATURAL YARD CARE SOCIAL MARKETING PROGRAM

FINAL REPORT 2023

Prepared by: Cammy Mills
KITSAP COUNTY PUBLIC WORKS – STORMWATER DIVISION

1 TABLE OF CONTENTS

2 Overview and Summary 2
2.1 Background 2
2.2 2023 Overview 2
2.3 Comparisons between 2022 and 2023 campaigns 4
2.4 2023 Campaign Results By the Numbers 5
3 2023 Campaign 5
3.1 Master Gardner Webinar 5
3.1.1 Attendance and Participation 1
3.1.2 Publicity 2
3.1.3 Audience 2
3.1.4 Satisfaction 2
3.1.5 Use of lawn care products prior to webinar 3
3.1.6 Questions and concerns about healthy lawn care 3
3.1.7 Impact on intended behavior 4
3.1.8 Self-Efficacy in Lawn Care 5
3.1.9 Follow-up steps 6
3.2 Master Gardener Tabling Event 6
3.3 Retail Partnership and Partner Discount 6
3.4 Outreach Mechanisms 7
3.4.1 Postcard 7
3.4.2 County Website 9
3.4.3 Digital Campaign 9
3.5 Post-Campaign Evaluation Results 14
3.6 Recommendations 16
4 Appendix A – Campaign History 17
5 Appendix B – 2022 Campaign 23

2 OVERVIEW AND SUMMARY

2.1 BACKGROUND

The West Sound Stormwater Outreach Group, or WSSOG, is a multijurisdictional partnership between Kitsap County and the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The group works together to improve water quality by reducing pollutants in stormwater runoff, which are a major source of pollution to local waterways and the Puget Sound. The following report details results and findings from the second-year implementation of the Natural Yard Care campaign.

This program satisfies the current Western Washington Phase II Municipal Stormwater NPDES permit to affect behavior change (S5.C.2). Planning for the program began in 2018, and the pilot occurred in 2021. In 2022, the campaign was expanded to all the WSSOG-member jurisdictions and 2023 continued implementation throughout all WSSOG jurisdictions. The following activities were conducted through the multi-year effort:

- **Social Marketing Sessions/Campaign Planning** - The WSSOG conducted five social marketing planning sessions to define key project elements, including the campaign's focus on getting residents to reduce the use of chemical fertilizers on their lawns.
- **Initial Audience Research -** Research was conducted to better understand the priority audience's perceived barriers, benefits, and motivators in relation to the desired behavior.
- **Creative Development and Testing -** Based on research findings, creative concepts were developed then tested among the priority audience.
- **COVID-19 Pivot to Research -** Due to COVID-19, the 2020 pilot was delayed to 2021. While the pilot was delayed, additional research was conducted to further refine planned campaign tactics and messaging.
- **Pilot Campaign in Poulsbo –**A pilot was conducted in Poulsbo during peak fertilizer season in spring 2021, and included webinars hosted by WSU Kitsap County Extension Master Gardeners; an organic fertilizer discount offered through a partnership with a local retailer; and campaign communications including a Facebook ad campaign, a postcard, and government delivery channels such as e-newsletters, organic social media, and utility bill messaging.
- **Campaign Expansion** – In 2022 and 2023, the campaign was expanded to include all WSSOG jurisdictions. Natural lawn and yard care webinars were hosted by WSU Kitsap County Extension Master Gardeners; an organic fertilizer discount was offered at local nurseries locations; and campaign communications included a postcard mailer, Facebook ad campaign and local government delivery channels.

2.2 2023 OVERVIEW

In Spring 2023, Kitsap County Public Works in partnership with the West Sound Stormwater Outreach Group (WSSOG) conducted the Natural Yard Care campaign, building on the success of previous campaigns in 2021 and 2022. The campaign aimed to promote natural lawn care practices through a series of webinars, Facebook advertising, and coupon incentives. Here are the key highlights of the campaign:

Participation:

- Three webinars, titled "Growing a Healthier Lawn for your Kids and Pets," were presented by a Master Gardener from WSU Extension.
- 103 people registered for the webinars, with 29% (30 participants) attending.
- Most attendees stayed for the entire 20-minute presentation and participated in the Q&A session.

Campaign Promotion:

- The campaign strategies included offering coupons for organic lawn fertilizer and hosting webinars with Master Gardeners.
- Facebook advertising was a significant part of the campaign, reaching 94,144 people with 6,691 link clicks.
- The Facebook campaign achieved a cost-efficient average cost per link click (CPC) of $0.75, outperforming industry averages.

Publicity:

- Half of the webinar attendees learned about the event through Facebook ads, and a quarter through Kitsap County's email newsletter.
- 79% of those who registered were in the priority audience with households having children under 18 and/or pets with yard access.

Satisfaction:

- All 16 webinar survey respondents found the webinar to meet or exceed their expectations, with a mean score of 8.2 on a 1-10 scale.
- 71% of respondents were likely to recommend the webinar to others.

Use of Lawn Care Products:

- Most webinar survey respondents had used non-organic chemicals on their lawns, but a quarter had used natural or organic fertilizers.

Impact on Intended Behavior:

- 52% of respondents indicated they were planning to switch from weed and feed-type products to natural/organic lawn products after the webinar.
- Self-efficacy in lawn care varied, with some concerns related to controlling weeds without toxic chemicals, cost, and family buy-in.

Retail Store Outreach and Coupon Redemption Results:

- Six stores participated in the coupon promotion, resulting in 68 coupon redemptions.
- Coupons were received through digital ads, mailed postcards, Master Gardening events, and in-store.

- Some stores reported differences in fertilizer sales during the spring season.

Ongoing Behavior:

- Nearly half of the webinar attendees were interested in using the $25 off coupon for natural lawn fertilizer.
- Four people signed up for a follow-up email exchange with a Master Gardener for additional support.

Future Opportunities:

- Retail stores expressed interest in hosting future Master Gardener events to provide on-the-spot education during fertilizer purchases.

2.3 Comparisons between 2022 and 2023 campaigns

Workshop Attendance:

- In 2022, there were four webinars with a total of 318 registrants and 139 attendees. The average attendance per webinar was approximately 35 attendees. 44% of registrants attended a webinar.
- In 2023, there were three webinars with 103 registrants, and 30 attendees. The average attendance per webinar was approximately 10 attendees. 29% of registrants attended a webinar.

Reaching the Priority Audience*:

- In 2022, 65% of webinar attendees had kids or pets at home, and 18% of registrants indicated they used "weed & feed" products on their lawns. 46% of registrants indicated they did not use any products at all.
- In 2023, 79% of those who registered for the webinar were in the priority audience with households having children under 18 and/or pets with yard access, and 31% (5 of 15 respondents) of registrants reported using weed and feed prior to the webinar.

***** In 2023, questions about current use of lawn products were asked in a post-webinar survey whereas in 2022, these questions were asked in the webinar registration, leading to large differences in the response rate to these questions.

Intention to Change Behavior:

- In 2022, 48% of attendees in the Lawn Alternatives webinar and 60% in the Nature Friendly Gardening for Beginners webinar reported they were "very likely" or "likely" to switch to organic fertilizer.
- In 2023, 52% of respondents indicated they were planning to switch from weed and feed-type products to natural/organic lawn products after the webinar.

Intention to Use Coupon

- In both the Lawn Alternatives and the Nature Friendly Gardening for Beginners webinar, 55% of respondents said they were “very likely” or “likely” to use the coupon.
- In 2023 Nearly half of the webinar attendees were interested in using the $25 off coupon for natural lawn fertilizer.

Coupon Redemption:

- In 2022, the campaign offered a coupon for natural or organic lawn fertilizer, and a total of 70 coupons were redeemed at participating stores.
- In 2023, six stores participated in the coupon promotion, resulting in 68 coupon redemptions.

Retail Store Outreach and Coupon Redemption:

- In 2022, the campaign had four retailers and a total of five locations participating in the coupon promotion, resulting in 70 coupon redemptions.
- In 2023, six stores participated in the coupon promotion, resulting in 68 coupon redemptions.

Overall, the 2023 campaign had a slightly lower attendance at the webinars compared to the 2022 campaign, but it showed a higher level of satisfaction among participants and a similar or slightly higher intention to change behavior. The coupon redemption numbers were similar between the two years. Both campaigns showed success in reaching their target audience.

2.4 2023 Campaign Results By the Numbers

- 94,144 people reached on Facebook
- 14,350 direct mail impressions
- 2,890 link clicks on Facebook webinar ad, and 3,801 link clicks for Facebook coupon ad
- 103 webinar registrations
- 30 webinar attendees
- 68 coupons redeemed in-store
- 1 Tabling event with Master Gardeners
- Continued successful partnership with Master Gardeners

3 2023 Campaign

In 2023, the WSSOG continued the strategy implemented the previous year, with slight modifications. Because the WSSOG began an effort to evaluate the impact of the campaign in 2023, the decision was made to continue the strategy that had been implemented previously (the full evaluation will be complete in 2024). The content of the webinars was shifted to focus more directly on eliminating the use of weed in the feed with the goal of attracting more current weed and feed users. A tabling event with Master Gardeners was also added. In-store advertisements for the coupons were added at the request of retail partners. Changes were made to ads promoted on social media, based on how people responded to the previous ads.

3.1 Master Gardner Webinar

While attendance at webinars in the previous year were good, it was found that many attendees were already using organic fertilizer. Since this campaign is focused on encouraging people to adopt a new behavior, and because many were already doing the recommended behavior, the WSSOG wanted to focus more directly on those who might not already be engaged in the recommended behavior. To that end, instead of choosing two

topics with broad appeal as done the previous year, the WSSOG chose to focus the webinars specifically on natural lawn care.

WSSOG presented three webinars on natural lawn care in April and May of 2023, titled *Growing a Healthier Lawn for your Kids and Pets.* The webinars were presented by a Master Gardener affiliated with WSU Extension and consisted of a short (20 minute) PowerPoint presentation that outlined steps for improving lawn health through natural yard care.

People who signed up for one of the webinars were asked to complete a registration form that included a baseline question about their current attitudes and behavior when it comes to using natural/organic lawn products. Immediately after the webinar, those who attended received a follow-up survey, and in the fall of 2023, the same individuals were surveyed again to measure the extent to which the webinars resulted in behavior change - specifically, switching from weed and feed-type lawn products to organics. Just over half (53%, n=16) completed the immediate post-webinar survey. Results of the pre and post surveys will be discussed throughout section 3.1.1. Results from the fall follow up survey will be discussed in section 3.4.

3.1.1 Attendance and Participation

Webinar registrants and attendees came from all WSSOG jurisdictions or areas.

Zip	City or Area	# of Registrants	Zip	City or Area	# of Registrants
33480	West Palm Beach, FL	1	**98363**	Port Angeles	1
98110	Bainbridge Island	5	**98365**	Port Ludlow/Port Hadlock	1
98310	Bremerton/East Bremerton	7	**98366**	Port Orchard east of Hwy 16	9
98311	Bremerton/Silverdale	10	**98367**	Port Orchard west of Hwy 16	12
98312	Bremerton/West of 16	10	**98370**	Poulsbo	15
98329	Gig Harbor/Wauna	2	**98380**	Seabeck	1
98332	Gig Harbor/Purdy	6	**98383**	Silverdale	9
98335	Gig Harbor/Artondale	4	**98386**	Southworth	1
98337	Bremerton/Gorst	2	**99311**	Pasco (98311 typo?)	1
98346	Kingston	3	**99366**	Pasco (98366 typo?)	1
98359	Olalla	1			
Total		**102**			

Table 1 - Webinar registrants by zip code.

Webinar attendees also came from all WSSOG jurisdictions or areas.

Zip	City or Area	# of Attendees	Zip	City or Area	# of Attendees
98110	Bainbridge Island	1	**98346**	Kingston	1
98310	Bremerton	1	**98363**	Port Angeles	1
98311	Bremerton	6	**98366**	Port Orchard	2
98312	Bremerton	2	**98367**	Port Orchard	3
98332	Gig Harbor/Purdy	2	**98370**	Poulsbo	4
98335	Gig Harbor/Artondale	1	**98383**	Silverdale	5
98337	Gorst	1			
Total		**30**			

Table 2 - Zip codes of webinar attendees.

One hundred and three people registered, and 29% (n=30) attended a webinar, with an average of 10 people at each webinar. Nearly all participants stayed for the 20-minute presentation, and the majority stayed through the Q&A period as well.

3.1.2 Publicity

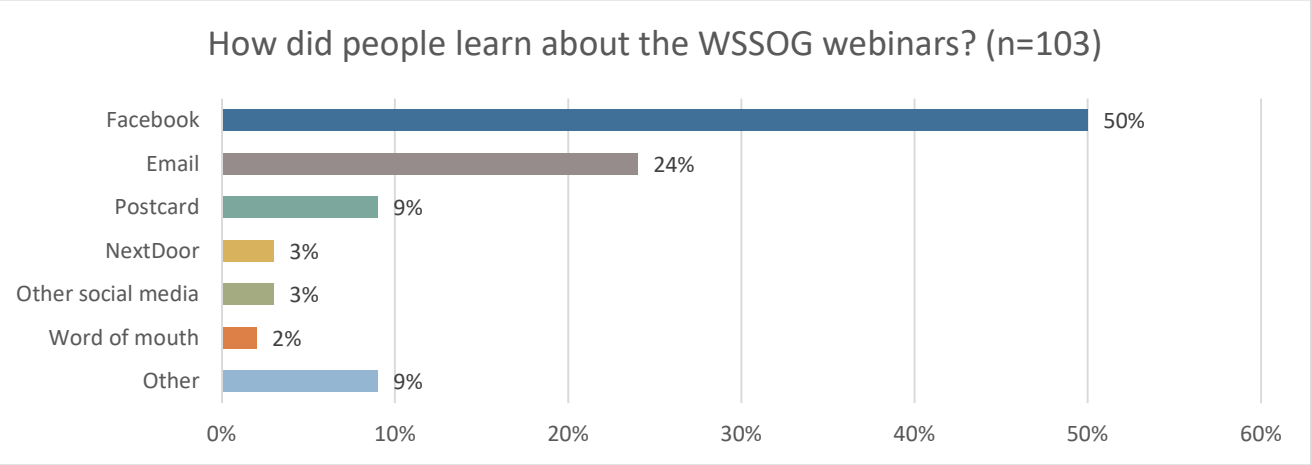


Figure 1 – How people learned about WSSOG webinars. (n=103)

As shown in Chart 1, half of the people who registered for a webinar heard about the event through the Facebook ads. Just under a quarter learned about them through the email newsletter sent out by Kitsap County, and 9% through the postcards mailed to area households.

3.1.3 Audience

Among people who registered for a webinar, 79% (n=81) were in the priority audience of households that have children under 18 and/or pets with access to the yard.

3.1.4 Satisfaction

All 16 respondents indicated the webinar met or exceeded their expectations, with a mean score of 8.2 on a scale of 1-10. None rated it below a six, and nearly a quarter (n=4) said it exceeded expectations.

When asked how likely they were to recommend the webinar to family, friends or coworkers, respondents gave it a mean score of 8.8 on a 1-10 scale, with 71% rating their likelihood of recommending a 9 or 10.

"I greatly respected the speaker's approach to lawn health. I'm very very pleased that your program is spreading this information. Our earth needs it, so thank you!"

(Webinar attendee)

3.1.5 Use of lawn care products prior to webinar

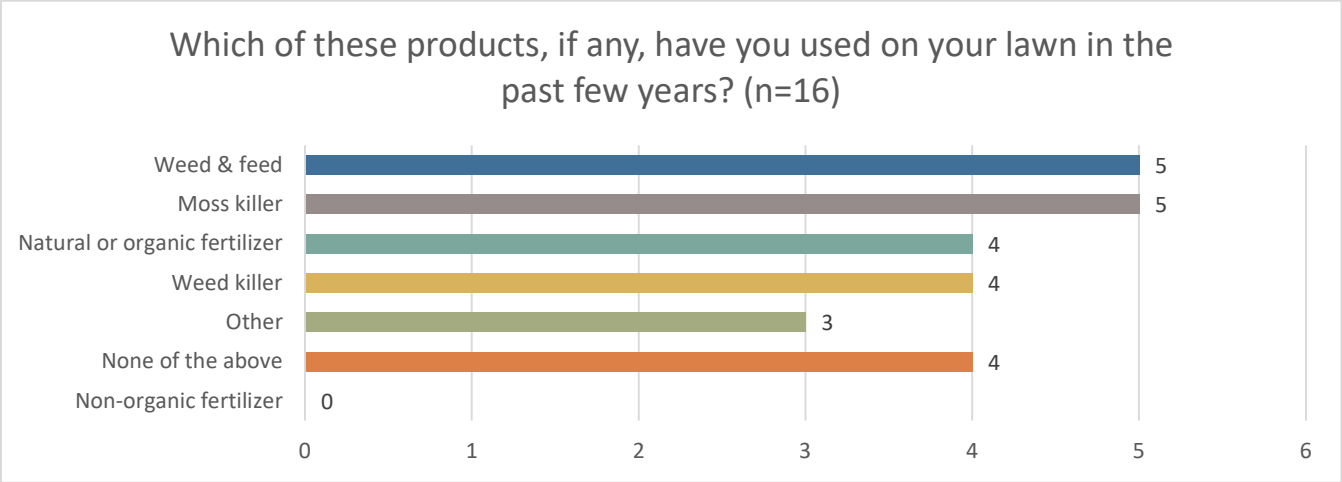


Figure 2 - Which lawn care products have people used in the past few years. (n=16)

As reflected in Chart 2, most respondents have used non-organic chemicals on their lawns within the past few years. A quarter (n=4) said they've used natural or organic fertilizer (one of these said they have also used weed and feed products, however) and a quarter have not used any lawn products. Three respondents said they've used other products on their lawn, including Tagro (two mentions) and Triazicide (an insecticide).

3.1.6 Questions and concerns about healthy lawn care

Prior to the webinar, registrants were asked to list any questions or concerns they had regarding natural lawn care. The most frequently raised topics included:

- How to control weeds without toxic chemicals
- How to control moss
- Lawn amendments or replacements
- How to handle wildlife

Many other topics were mentioned by small numbers (one to three people apiece). These included: tips on healthy brands to buy, whether organic labeling is reliable, how to repair a dog urine-damaged lawn, how to set up vermicomposting (worm composting), the best lawn mower blade length to discourage weeds, best lawn for "paw traffic," and questions from new homeowners looking for additional support/resources. E.g., *"I'm a new homeowner and have no idea what I'm doing."*

Question topics	% of questions	Sample quotes
How to control weeds without chemicals	34%	I use natural/organic lawn products, but I still have weeds! How can I get rid of weeds naturally? Our neighborhood has issues with various weeds & invasive grasses, and we live near water (that) I don't want to pollute.
How to control moss	20%	Getting moss out and the type of lawn that grows well so moss doesn't take over where there is partial shade. (Dealing with) moss and other "bad" kinds of grass.
Lawn amendments & replacements	15%	How to deal with clay soil. Thoughts about changing our lawn to clover in our area and climate? Can you talk about wildflower meadows?
How to handle wildlife (moles, voles & insects mentioned)	12%	How to get rid of moles! My yard is super moist and have a lot of moss. How to get rid of pests on my apple tree and in apples.
Other	20%	Smaller numbers of people (1-2 apiece) listed many a variety of additional questions. (See narrative for topics.)

Table 3 - Lawn care questions from webinar registrants.

3.1.7 Impact on intended behavior

To assess the impact of the webinar on participants' intent to switch from weed and feed to natural/organic lawn products, the survey included a question aimed at measuring progress in peoples' willingness to make this shift.

Prior to the webinars, just under half (47%) of those who registered said they were "thinking about" or "planning on" making the switch from weed and feed-type products to natural/organic lawn products. Immediately after the webinar, the figure was 52%; however, respondents were much more likely to say they were "planning on" making the shift rather than thinking about it. Given the relatively small numbers of webinar participants (just half of whom completed the survey), it's impossible to say whether this reflects a statistically significant change.

In both pre and post surveys, roughly 30% said they don't use any products on their lawn, and another 15% said they only use natural/organic lawn products.

After attending the workshop, respondents were less likely to say they were thinking about switching to natural/organic lawn products - and more likely to say they were planning to do so.						
In terms of using natural/organic products on your lawn, which of these best describes you?						
	Not interested	Thinking about it	Planning on doing it soon	Sometimes use natural or organic products	Only use natural or organic products	NA (Don't use anything on the lawn)
Pre-webinar survey	0	24%	23%	7%	14%	33%
Post-webinar survey	0	11%	41%	7%	15%	26%

Table 4 - Readiness to switch to natural lawn care before and after workshop.

3.1.8 Self-Efficacy in Lawn Care

Participants rated their confidence in their own ability to create a healthy lawn using natural/organic products somewhat lower than their satisfaction with the webinar, with an average of 7.0 on a scale of 1-10. Nearly half indicated they were fairly confident (score of seven or higher) just over half rated their confidence a six or lower.

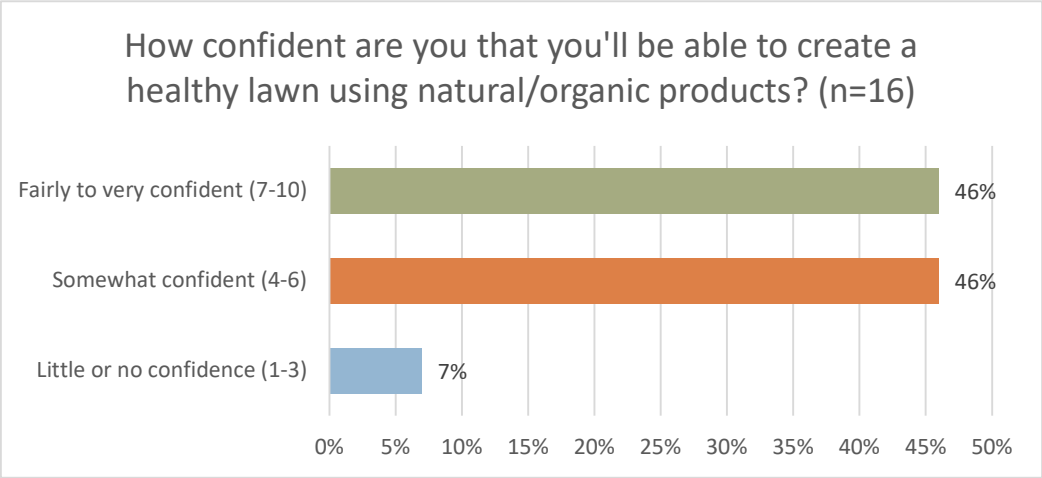


Figure 3 - Confidence of webinar attendees in using natural/organic lawn products. (n=16)

Among those who indicated they were *not* very confident, concerns included a) how to control weeds without toxic chemicals, b) the cost of natural/organic lawn products, and c) doubts about whether other household members would be on board.

3.1.9 Follow-up steps

Nearly half of the webinar attendees said they would "definitely" use the $25 off coupon for natural lawn fertilizer given to participants; another half said they would "maybe" use the coupon.

Attendees were given the opportunity to sign up for a follow-up email exchange with a Master Gardener a few months after the workshop to address any lawn care questions they might run into. Four people signed up for this follow-up support.

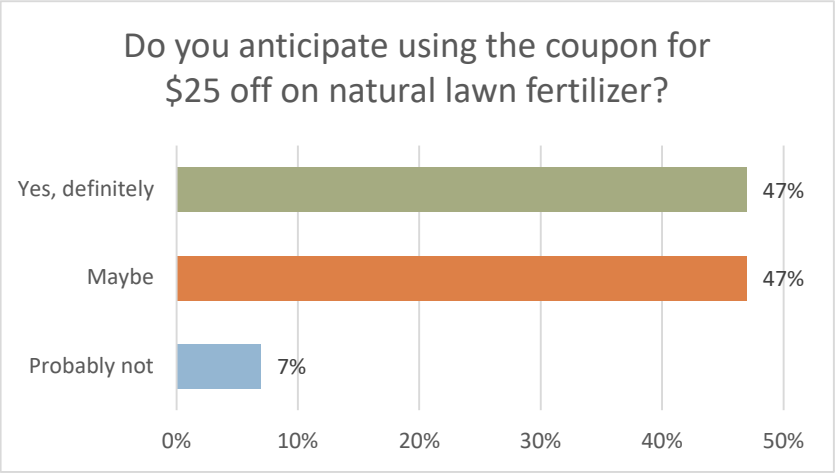


Figure 4 - Webinar attendees' intent to use fertilizer coupon.

3.2 Master Gardener Tabling Event

One of the strategies originally identified in planning the Natural Yard Care campaign was to partner with Master Gardeners to hold tabling events at local nurseries. This element of the plan was scrapped due to Covid restrictions and replaced with webinars. Even once Covid restrictions were lifted, many Master Gardener volunteers were uncomfortable with in-person events. However, by 2023, there were enough Master Gardener volunteers who felt comfortable doing in-person outreach to try a tabling event.

One event was held on April 15th at Bremerton City Nursery. Master Gardeners were on hand to answer lawn care questions, and WSSOG members were present to distribute coupons for discounts on organic fertilizer (Master Gardeners could not distribute coupons). Master Gardeners had a sign-up sheet available for people who wanted a follow up to help them make the switch to organic fertilizer. The event was advertised through Master Gardeners, WSSOG partners, and Bremerton City Nursery.

Though there was a steady number of people approaching to ask a question, there were no sign ups for natural lawn care help, and WSSOG staff present observed few or no questions related to yard care. A total of five coupons were redeemed during the event, representing 7% of total coupon redemptions.

3.3 Retail Partnership and Partner Discount

This year, six stores opted to participate in the Natural Yard Care campaign. Through these retailers, West Sound residents could receive a 25% discount on select natural or organic fertilizer. Coupons were available digitally, through the direct mail postcard, at events, and one retailer chose to print out the coupons and make them available to customers.

Store	Digital (Phone/Printed)	Postcard	Master Gardener Event	Printed In-store	Total
Airport Garden Center (Port Angeles)	1	1	-	17	**19**
Bay Hay & Feed (Bainbridge Island)	-	8	-	-	**8**
Bremerton City Nursery (Bremerton)	4	14	5	-	**23**
Gig Harbor Ace Hardware (Gig Harbor)	10	-	-	-	**10**
Walrath Landscape Supply (Gig Harbor)	-	-	-	-	**-**
Vern's Organic Topsoil (Poulsbo)	5	3	-	-	**8**
TOTAL	**20**	**26**	**5**	**17**	**68**
Percent of Total	29%	38%	7%	25%	

Table 5 - Partner businesses and coupon redemptions.

The period for coupon redemptions was increased from eight weeks in 2022 to 11 weeks (between April 1 and June 18) in 2023. Despite the increased amount of time to redeem the coupon, the number of redemptions was not higher than in 2022. There were 68 redemptions in 2022 vs 70 in 2023.

Halfway through the campaign, Gig Harbor Ace Hardware requested an in-store flyer. The consultant team developed and provided this flyer for every retail partner to put in their stores as another touchpoint for customers to see messaging related to the campaign. Gig Harbor Ace Hardware reported that six of their 10 coupon redemptions happened after the flyer was put up in-store, indicating it may have assisted in driving several coupon redemptions

Walrath Landscape did not have any coupons redeemed in their store. Store employees suggested that this could be due to the fact that they offer a unique brand of fertilizer that has not been popular with customers.

Retailers expressed interest in future Master Gardener events. Gig Harbor Ace Hardware, Bremerton City Nursery, Airport Garden Center and Bay Hay & Feed all reported interest in exploring the opportunity to host a Master Gardener event in the future. These events offer the opportunity for on-the-spot education when fertilizer purchases are top-of-mind.

3.4 Outreach Mechanisms

3.4.1 Postcard

To help facilitate the evaluation effort that was undertaken in 2023, the same mailing list was used for the postcard in 2022 and 2023. This was meant to make it easier for jurisdictions to identify a control neighborhood

that had not received the postcard against which results in the treatment neighborhoods could be measured. Full results from this portion of the evaluation will be available in 2024.

The full-color 6”x9” postcard was sent to 14,350 households throughout all the WSSOG jurisdictions. Each jurisdiction provided their own mailing list and set their own criteria. Allocation numbers were determined through the interlocal agreements and population percentages. The postcard conveyed the benefits of using safer products, encouraged residents to attend a webinar, and included the coupon. The postcard featured updated imagery and layout to match social media posts.



Image 1 - Postcard front.

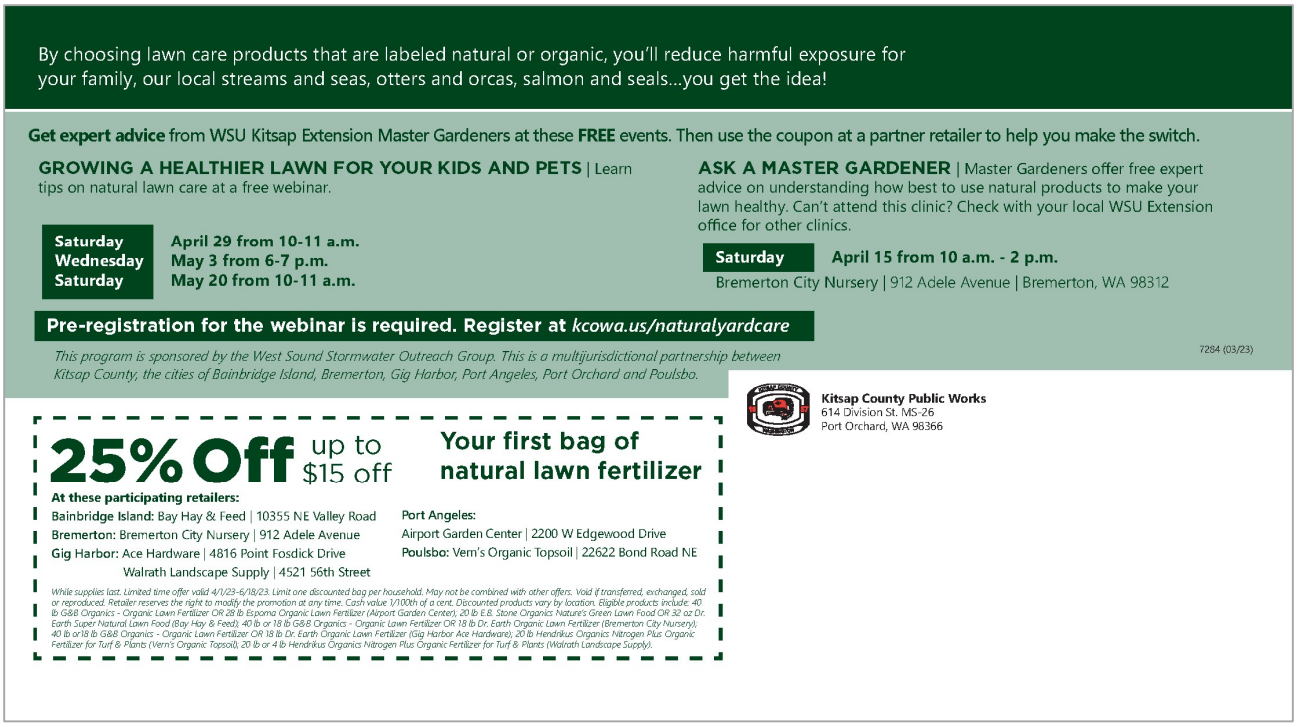


Image 2 - Postcard back.

3.4.2 County Website

One landing page was hosted on the Kitsap County government website, sharing information on the virtual events, the coupon, and more information about using only natural or organic lawn care products. An additional page served to promote just the webinars and registration. Both pages received strong traffic. The Natural Yard Care landing page (kcowa.us/naturalyardcare) received a total of 5,213 unique visitors during the second quarter of the year, during which time the campaign was active.

3.4.3 Digital Campaign

The Natural Yard Care paid social campaign ran on Facebook again in 2023, following the success of the 2021 pilot and 2022 campaign. Facebook continues to be one of the most effective ways to reach the priority audience of Kitsap County residents, with 63.7% of Americans over the age 13 exposed to Facebook ads.

In the 2023 Natural Yard Care campaign, the Webinar Ad featured updated copy with a new visual, and the Coupon Ad featured a new visual with the same copy from the 2022 campaign.

*3.4.3.1 **Results***

The Facebook campaign reached a total of 94,144 people and received 6,691 link clicks—nearly double the clicks of the 2022 campaign, with only an 11% increase in ad budget. The average cost per link click (CPC) was $0.75, which is more cost efficient than last year's average CPC of $1.33. The average CPC across all industries on Facebook is $1.72, meaning our campaign outperformed most other ads.

The Facebook campaign had a high frequency again this year, with people seeing the ads roughly 7 times on average. Research shows that people need to see most ads multiple times to recall them later. Below is a breakdown of how the ads performed separately.

Webinar Ad (April 12, 2023 to May 20, 2023)

- 2,890 link clicks
- Over 565,185 appearances on people's newsfeed
- 70,752 people reached*
- $0.78 cost per link click
- This ad received 10 comments, 94 reactions, 16 shares, and was saved 10 times by Facebook users
- On average, this ad was seen ~7 times by each person

Coupon Ad (April 5, 2023 to June 17, 2023)

- 3,801 link clicks
- Over 565,893 appearances on people's newsfeed
- 74,933 people reached (*51,541 people saw both ads resulting in 94,144 total people reached)*
- $0.72 cost per link click
- This ad received 15 comments, 149 reactions, 20 shares, and was saved 6 times by Facebook users
- On average, this ad was seen ~7 times by each person

Webinar Ad



Image 3 - Facebook webinar ad.

Coupon Ad

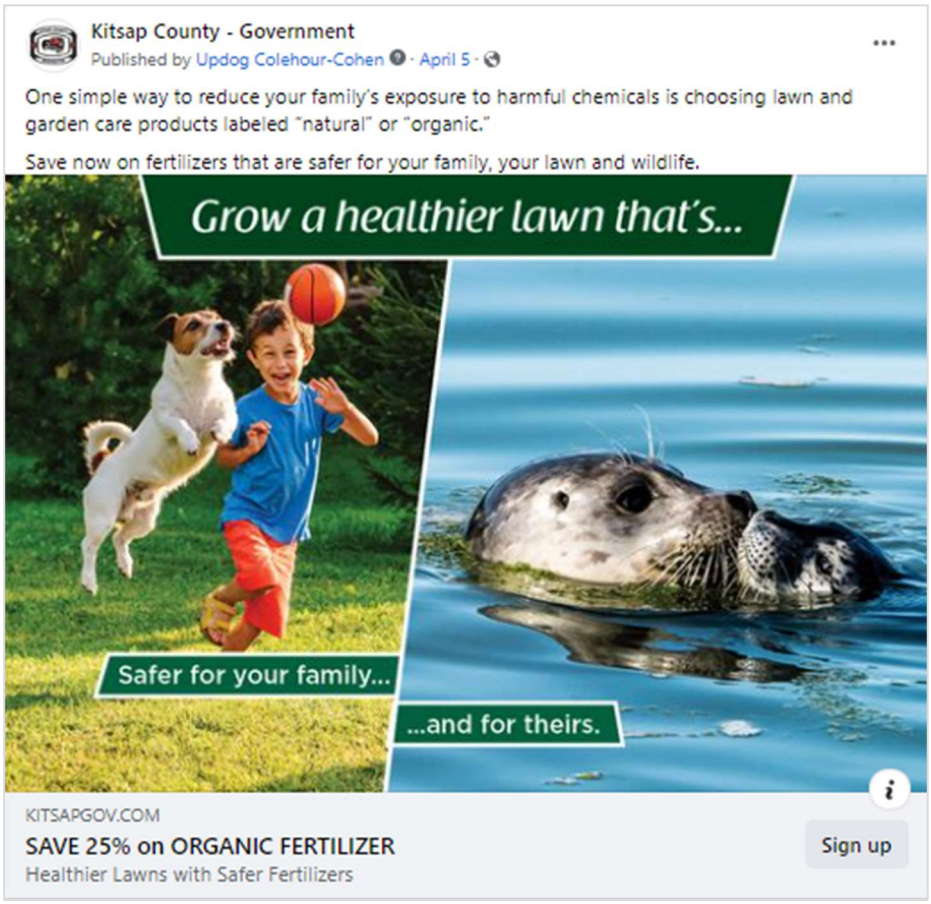


Image 4 - Facebook coupon ad.

*3.4.3.2 **2022 – 2023 Campaign Comparison***

This year's ad campaign budget was $5,000—an 11% increase over the 2022 campaign budget of $4,500. The audience targeting was the same as last year, however the ad run time was extended by about 3 weeks. The 2023 campaign drove almost double the amount of link clicks as last year, resulting in a significantly more cost-efficient CPC. This improvement is likely due to the longer run time, extra budget, and the updated ad visuals/copy being more engaging. Similar to last year, the Coupon ad had a slightly stronger performance than the Webinar ad.

The audience age and gender demographics were similar to last year's results. The 65+ audience was the most engaged with the ads, and women clicked on the ads the most.

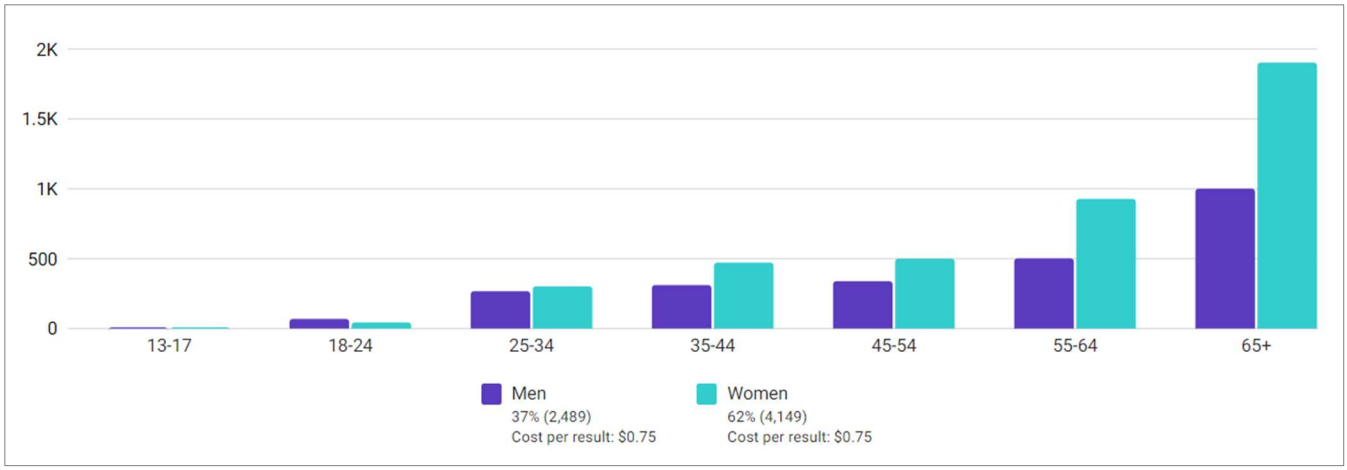


Figure 5 - Facebook advertising audience demographics.

The ads drove the most traffic to the website in mid-April through mid-May. In June, due to efficiencies in retailer outreach, the team was able to add $500 to the $4,500 ad budget. The coupon ad was extended for a week through June 17 for this extra $500, and drove a high number of link clicks during those final days of the campaign. This spike is likely due to the $500 running over a short run time of one week vs. the original $4,500 spend running over 2.5 months.



Figure 6 - Facebook performance overview.

3.4.3.3 ***Recommendations for Further Evaluation and Next Steps***

Facebook

- Continue to refresh the ad copy and visuals to keep the content relevant and engaging.
- A/B test the ads by running 2 versions of each ad with either the visual or messaging switched, to gain insight on what works best for the audience.

3.5 Post-Campaign Evaluation Results

Webinar registrants were sent a survey after the summer growing season had passed to assess their ability to implement changes they had learned about during the webinars. There were 12 total responses, 7 of which came from webinar attendees, and 5 from people who had registered but were unable to attend. Due to the small sample size, responses are not statistically significant and may not be representative of the entire population.

When asked why the attended the webinar, 3 of 5 respondents said they wanted to care for their lawn without the use of chemicals, 1 wanted to improve the health of their lawn, and 1 wanted to learn. This may indicate that these webinars did a better job than previous webinars of attracting people that wanted to discontinue use of weed and feed.

All respondents who had attended a webinar had already implemented at least one change to their lawncare practices. Respondents could select multiple changes. The most common was mowing higher. The goal of this campaign is to discourage use of weed and feed. It may be noteworthy that 60% said that they had stopped using weed and feed, even though the alternative behavior promoted by the campaign, using natural or organic fertilizer, was not reported by any respondents, however, the small sample size means that this may need further study. Two respondents said that there were additional changes they planned to make but had not yet been able to implement.

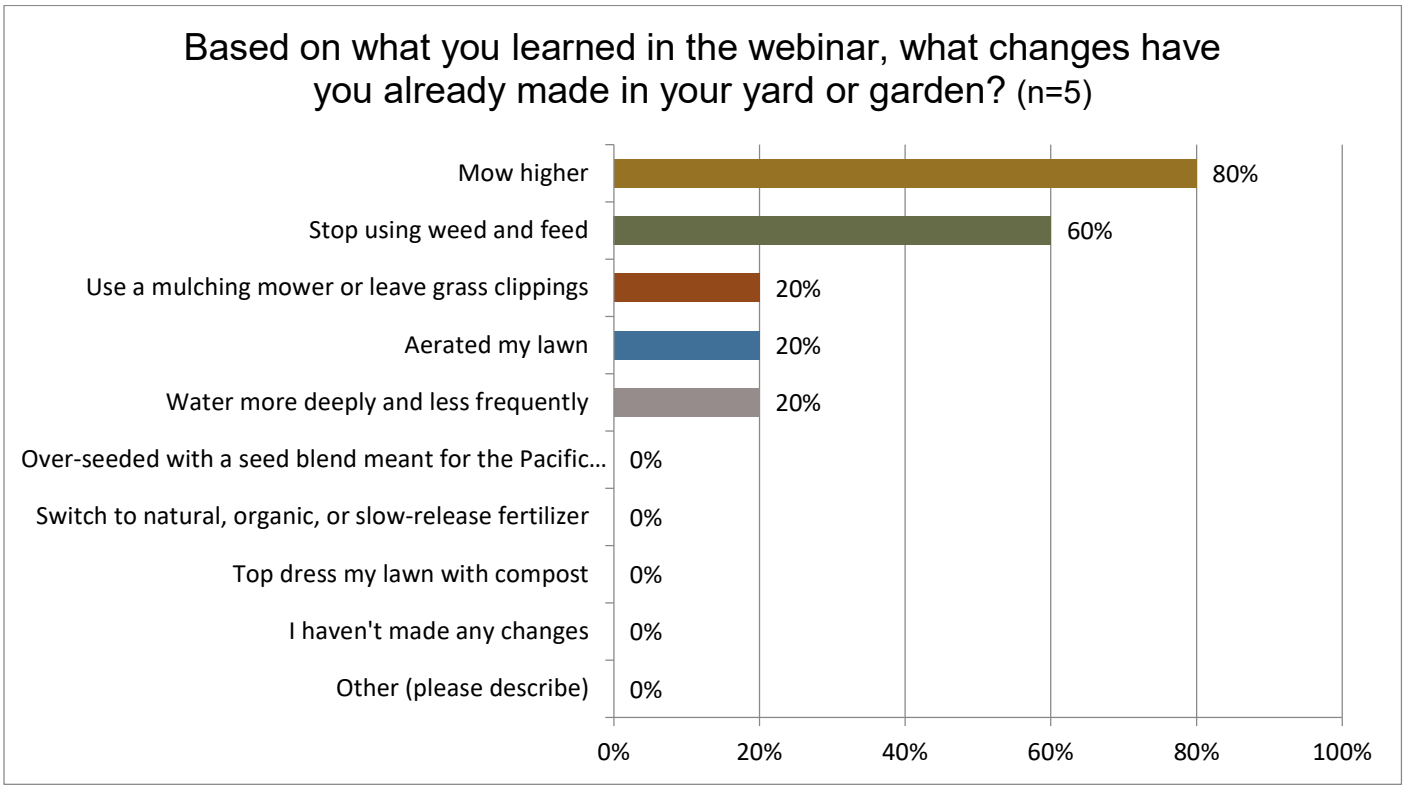


Figure 7 - Behavior changes of webinar attendees. (n=5)

All workshop registrants received an email with a link to the coupon for a discount on natural or organic fertilizer, regardless of whether they attended the workshop. None of the survey respondents reported using the coupon. When asked why they did not use it, most reported that they did not receive it, or did not remember receiving it. Of those who responded “other”, one said the location was not convenient, one didn’t get around to using it, and the last forgot about it.

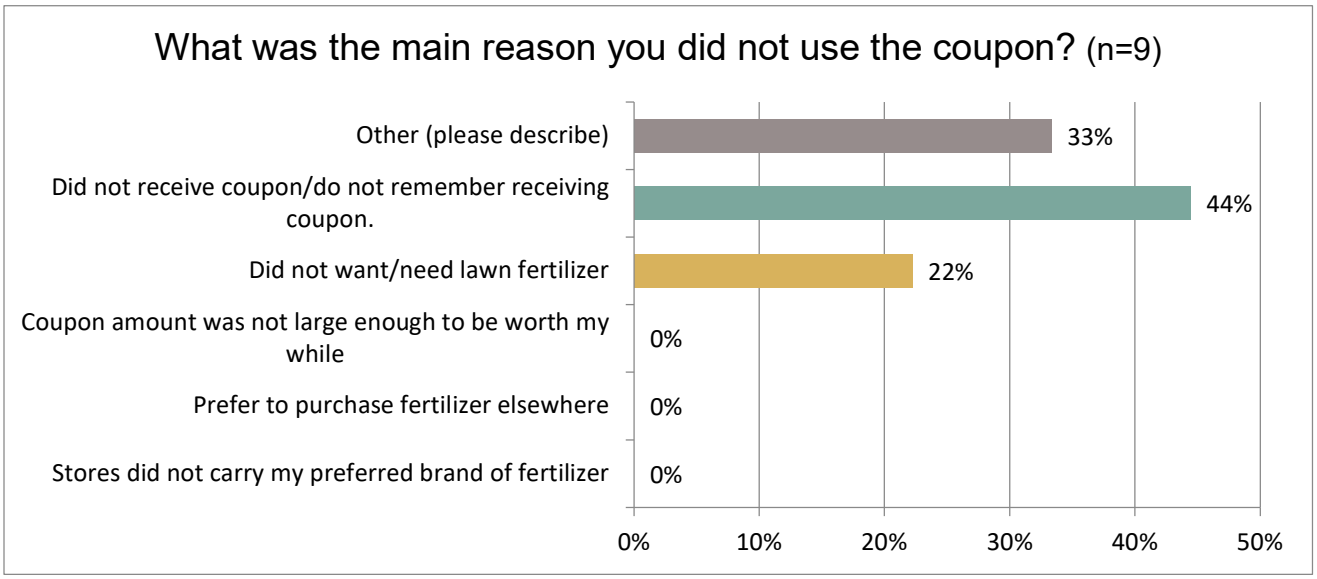


Figure 8 - Reasons for not using coupon. (n=9)

Respondents who did not attend were asked why they didn’t attend. With so few answers, there was no obvious trend as to why most people did not attend.

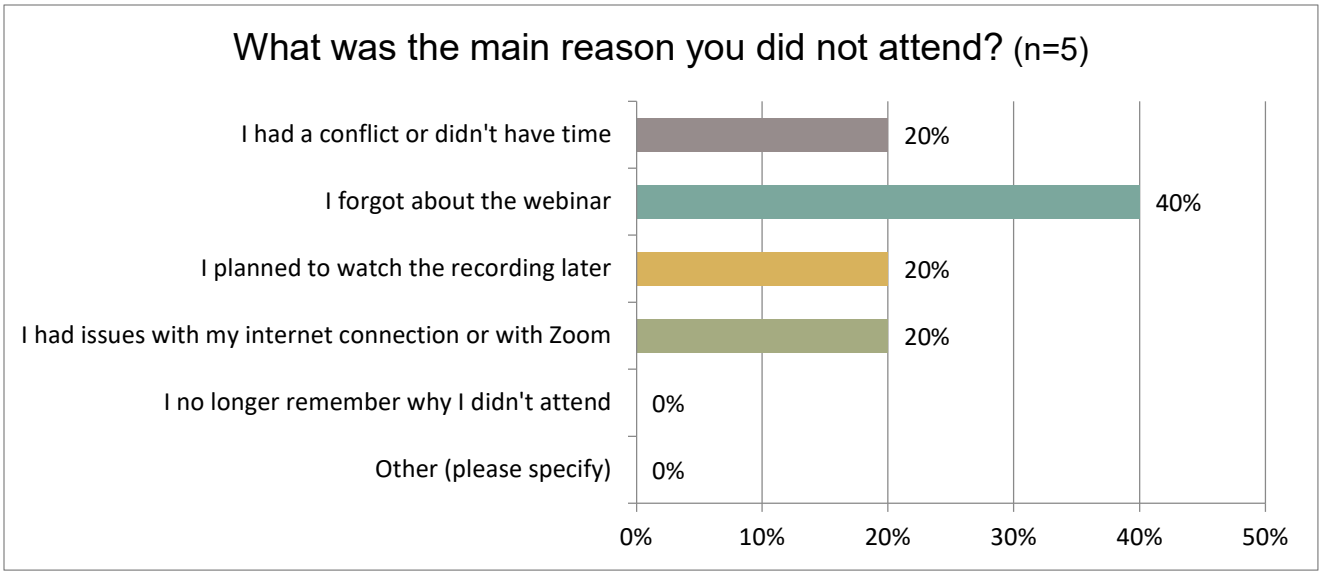


Figure 9 - Reasons registrants did not attend webinar. (n=5)

3.6 RECOMMENDATIONS

The WSSOG is working with a consultant to complete a thorough evaluation of the campaign's effectiveness. Results from that evaluation are anticipated in the first quarter of 2024. The timing of these evaluation results will not allow the recommendations to be implemented in the 2024 campaign. Therefore, recommendations for 2024 are based only on the results of the 2023 campaign. The recommendations are as follows:

- Work with Master Gardener Coordinator to identify ways to boost webinar attendance,
- Use common questions from 2023 webinar registrants to identify content for 2024 webinars and highlight that content in advertising,
- Continue social media advertising for both coupon and webinars,
- Consider A/B testing for social media ads,
- Identify new areas in each jurisdiction for postcard mailers,
- Expand tabling events at partner nurseries and garden stores, and
- Consider in-store advertising for webinars and coupons to boost webinar attendance and coupon use.

4 APPENDIX A – CAMPAIGN HISTORY

Social Marketing Sessions (December 2018 - February 2019)

Social marketing is a process that applies marketing principles and techniques to create, communicate, and deliver value to influence a priority audience's behaviors to benefit society. In line with social marketing best practices, the WSSOG participated in five social marketing planning sessions led by C+C Social Marketing Strategist Nancy Lee. Lee has over two decades of experience in social marketing, co-authoring 13 books on social marketing with Philip Kotler; teaching Introduction to Social Marketing at the University of Washington; and consulting with over 100 governmental agencies in Washington state.

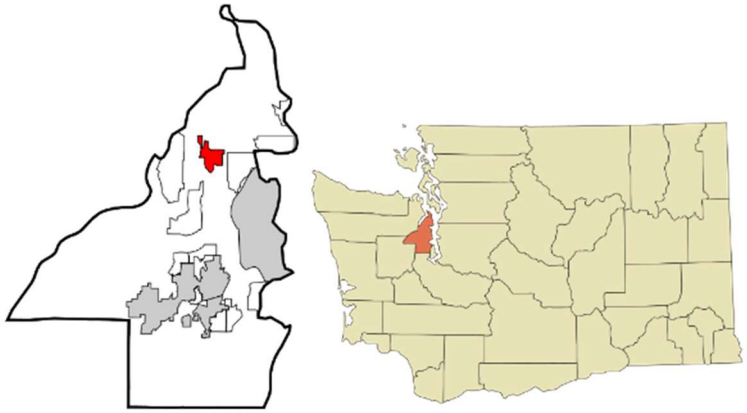
Each of Lee's sessions included an overview and presentation of a social marketing tenet, and a corresponding workshop to design each plan element. The purpose of the campaign was defined as: To reduce pollutants in stormwater runoff by increasing the amount of safe products used in yard care and decreasing the amount of harmful products used in yard care. The five sessions were as follows:

1. Background, Purpose, and Focus
2. Situation Analysis
3. Priority Audience
4. Desired Behavior Objectives & Goals
5. Priority Audience Barriers, Benefits, Motivators, Competition, and Influential Others

The result of the workshops was a complete social marketing plan, ready for pilot development and implementation. The following key elements were chosen:

Campaign "Ask" - To reduce pollutants in stormwater runoff, fertilize only with safer products, if you plan to fertilize your lawn.

Campaign Audience - Single family home or townhome residents with kids and/or pets who have "Do It Yourself" yards and are currently using harmful products.



Pilot Area - The WSSOG chose the city of Poulsbo for the pilot based on several factors including the availability of Master Gardener outreach channels, the city's mix of representative demographics, and its central location within the county. With roughly 4,126 households and a population of 10,602, Poulsbo makes up just 3.9% of the population - making it an ideal fit to pilot the campaign and build toward Kitsap County-wide implementation.

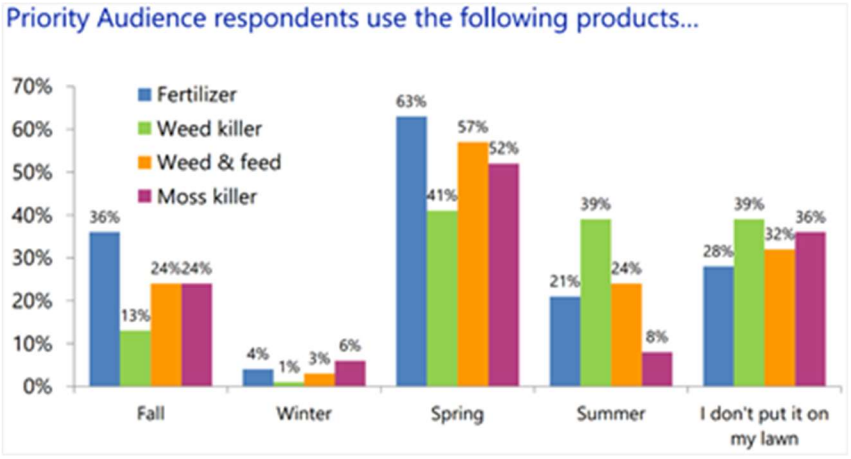
Initial Audience Research *(December 2018)*

Between social marketing sessions four and five, the WSSOG and C+C worked with Hardwick Research to gain a better understanding of the priority audience. A survey was designed to identify the perceived barriers and benefits related to lawn care and fertilizer usage by Kitsap County residents. The priority audience was defined as those who:

- Live in Kitsap County, Poulsbo, Bremerton, Port Orchard, Gig Harbor, Bainbridge Island, or Port Angeles
- Own a single-family home, townhouse, or duplex
- Have grass on their property
- Maintain the grass themselves
- Have at least one child under 18 years of age living in their household OR have a pet that goes out in the yard
- Uses a fertilizer on the lawn

The survey was promoted through Facebook, government communication channels, and digital neighborhood groups such as Nextdoor. A total of 212 people responded to the survey, with 164 falling within the priority audience parameters. Some of the key high-level findings were:

- When asked "have you ever considered switching to ALL organic yard care products," 56% of the priority audience indicated they have considered making the change.
- The top three concerns the priority audience had about using organics:
    - 50% believe organic products cost more
    - 27% do not think organic products would work as well
    - 35% are not sure where they would purchase organic products
- The priority audience said Master Gardeners are the spokespeople they believe most when it comes to using organic products. 43% believe Master Gardeners; 39% believe professional gardeners (groundskeepers, golf course managers, landscapers, etc.); 34% believe university researchers; 27% believe local nurseries or garden centers; Friends/neighbors, governments, celebrity gardeners, medical experts, major brands, veterinarians, and the internet all ranked below 17%



- 64% of priority audience respondents thought that free or discounted organic products or a list of what products to use would make them more likely to use organic products on their lawn.
- Spring is the peak season for participants who were putting chemical products on their lawns, followed by fall.

<u>Creative Development and Testing *(April - June 2019)*</u>

Once the social marketing plan was developed, the WSSOG worked with C+C to develop campaign creative and determine the best combination of imagery and messaging to resonate with the priority audience. Message testing with the priority audience helped determine which combination of image and text would be most motivating to get them to switch from using harmful products to using safer ones. The survey was conducted using the online tool Ask Your Target Market. For this testing effort, C+C and the WSSOG developed four separate adcepts (pictured below).



Figure 1: Four adcepts used for testing

Respondents answered questions to capture the following information:

- Open-ended (qualitative) questions regarding **understanding**
- Likert rating of each ad to determine success factors: **important, relevant, believable, motivating, engaging**
- Rank order from most motivating to least motivating
- Open-ended explanation of elements that contribute to most and least motivating
- Open-ended description of an ad that would be most motivating

Research Results:

- The "Child & Puppy" creative performed the strongest overall, and performed strong enough that no changes to the image and message were needed
- The "Child & Puppy" and "Otter" adcepts both scored very well in comparison to the group.

- "Otter" performed well, especially among those who already have some knowledge about the issues associated with natural yard care – as the audience becomes more aware/educated, "Otter" could be the "next generation" key message.
- All the messages were well understood, including the nuances beyond organic is better than chemical fertilizers.
- Images with children were ranked as engaging and relevant.

With research finding the "Child & Puppy" adcept was the strongest, the WSSOG finalized the campaign creative (pictured below).



Figure 2: Selected adcept for the campaign

COVID-19 Delays Outreach, Pivot to Research (January - June 2020)

Based on the results of social marketing sessions and research, in-person events with Master Gardeners at gardening supply retail stores were chosen as the main outreach tactic. Ahead of the spring fertilizing season, Master Gardeners would be on-hand to answer natural yard care questions from the priority audience, while organic fertilizer would be discounted and offered to store attendees.

Planning for the pilot program was well underway – a retailer was selected, and tabling dates were scheduled. Due to the impact of COVID-19, the WSSOG's natural yard care pilot campaign was unexpectedly postponed from spring 2020 until spring 2021. With a need to restructure pilot tactics for the pandemic, the team utilized the remainder of 2020 to conduct additional market research on the priority audience. Results and analysis from the research would be used to better inform the execution of the 2021 pilot.

Further Research - Tactics and Messaging in the COVID Environment (June– August 2020)

With the delay of the pilot campaign due to COVID-19, the WSSOG and C+C conducted additional surveying to refine the tactics within the campaign, such as interest in virtual versions of the events, and preferred

descriptions for virtual events. WSSOG also sought to narrow the pilot's Facebook ad strategy by testing which topics would drive the most engagement.

Respondents were recruited by placing two Facebook ads letting Kitsap residents know the WSSOG was seeking people who do their own yard care to participate in a paid research study. Residents who were interested clicked on a link that took them to a short survey to ensure they fit the target audience profile. If they did, they received information about how to participate.

This online research was conducted using the Revelation™ platform with 13 people – or the equivalent of two focus groups. Respondents spent about 1 hour over a 2-day period participating in the research and were compensated $80 each for their opinions. Select key insights were provided below.

Planned Pilot Insights:

- The target audience is very receptive to online Master Gardener events because they are more convenient. Although a few respondents complained of "Zoom fatigue," most respondents were excited about the idea of having lawn care education online, provided by Master Gardeners.
- Although cost is a significant barrier to purchase, the way a campaign expresses price reduction has potential to deter people from purchasing organic products.
- Keep focusing on kid / pet health and safety as a motivator. The majority of respondents are not connecting their lawn care practices to the health of the Puget Sound. However, a number of respondents were already concerned about the negative health implication of chemicals on their kids and pets.

Facebook Ad Strategy Insights:

- The Facebook ad that highlighted Master Gardener informational events was preferred over the Facebook ad that provided a coupon. The drivers were:
    - Respondents are eager to interact with Master Gardeners and believe they would learn useful information from them. Credibility is very high.
    - Those who said they would attend a Master Gardener event were motivated by the educational aspect. This also made some respondents believe that the ad wasn't just an advertising gimmick.
    - Respondents liked the idea of a coupon at the Master Gardener event, but that was not a significant driver for attendance.
    - Respondents would be more likely to click either ad if it was posted by a friend or trusted source.
    - Although some people loved the idea of coupons, many felt that coupons or discounted products, especially without a familiar brand name, signal lower quality products and/or products that have been sitting around and need to be sold.
    - The ads with coupons didn't promote a specific product, so respondents didn't feel confident that the coupon would be worthwhile.

- Additionally, when respondents found that they had to fill out a form to get a coupon mailed to them, they thought it wasn't worth the effort. Others were concerned that it would just get their name on a mailing list.

Pilot Activities (January – may 2021)

The pilot was timed for spring 2021, based on survey findings showing that the majority of the priority audience fertilized their lawns in the spring.

Virtual Events with the Master Gardeners

In spring 2021, the pandemic was still going strong, and the Master Gardeners were not doing in-person events. The project shifted from the original plan of tabling at lawn and garden retailers, to conducting natural yard care webinars. The events would cover the basics of natural yard care and would be led by a Master Gardener, with a WSSOG representative serving as the host. Based on the research, the events were titled "Natural Lawn Care with Master Gardeners: For Healthier Yards and Safer Families." A total of three webinars were held in late March and early April.

Retail Partnership and Product Discount



Valley Nursery in Poulsbo agreed to partner with the program. Residents would be able to purchase a 20 lb. bag of E.B. Stone Organic Lawn Food (pictured) with a 15% discount. The WSSOG would reimburse Valley Nursery for the cost of the discount. Valley Nursery also agreed to commit to stock organic fertilizer throughout the spring season (once the discount is over), an added benefit since other similar programs in the region have found that one barrier to these programs is that retailers may not keep organic product stocked throughout the popular spring fertilizing season.

Outreach Mechanisms

WSSOG partnered with C+C on several outreach strategies to reach the priority audience. All the strategies focused on the pilot's selected city of Poulsbo. Strategies included a paid social campaign on Facebook. Facebook was identified for the paid social campaign for its widespread usage, flexibility, and scalability. A large attention-getting 6"x9" postcard was mailed to 2,933 residents in Poulsbo and virtual events were promoted through the City of Poulsbo's monthly e-newsletter and monthly utility bill insert. Kitsap County also hosted two web pages to serve as a central source of information about the campaign and the webinar.

5 APPENDIX B – 2022 CAMPAIGN

In 2022, the WSSOG expanded the program to include all the jurisdictions – Kitsap County, Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The format of the program followed the same parameters as the pilot – virtual webinars hosted by Master Gardeners, a retail discount and similar outreach strategies. Using the results and lessons learned from the pilot campaign, the 2022 program was modified to include a larger product discount. Webinars were also expanded to include different topics.

Virtual Events with the Master Gardeners

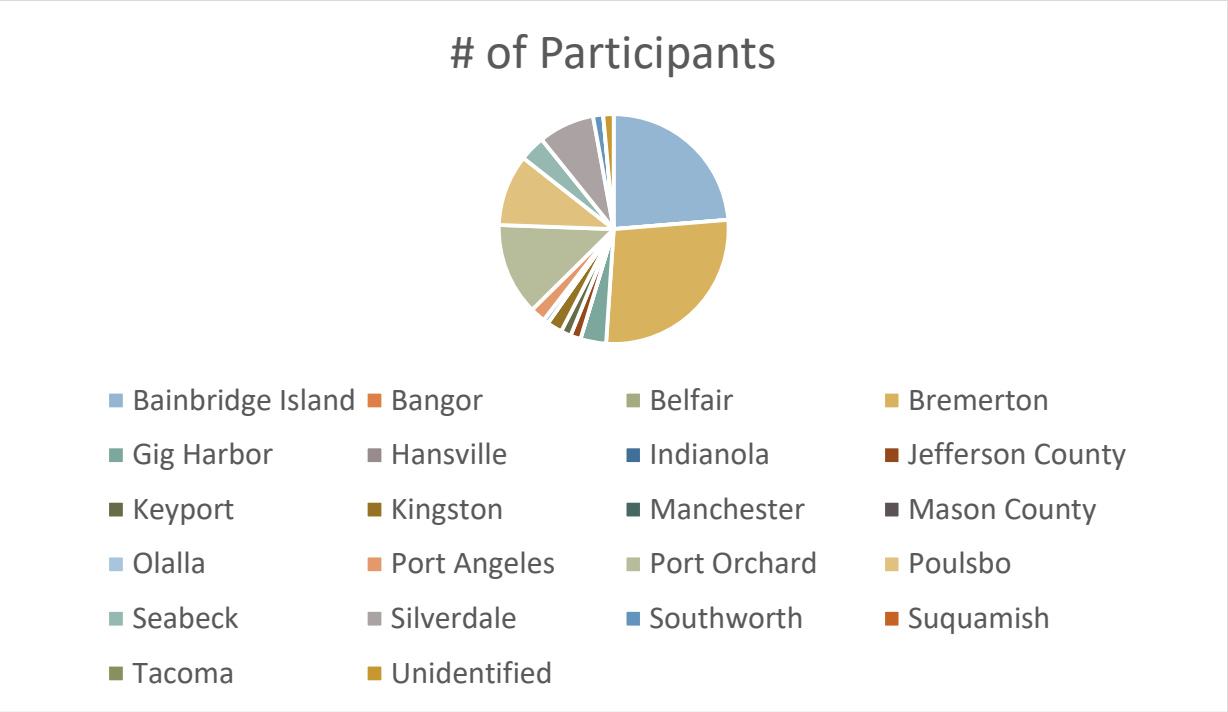
In 2022, two Master Gardeners volunteered to offer two different webinars. The topics selected were "Lawn Alternatives" and "Nature Friendly Gardening for Beginners." Each topic was offered twice, for a total of four webinars.

In total, 318 registered and 139 attended for an average of 35 attendees per webinar.

- 44% of people who registered attended a webinar
- 65% of people who attended one of the webinars had kids or pets at home
- Of the webinar dates and times, Saturday, April 16 at 10 a.m. was the most popular with 87 attendees.

Event Registration & Attendance				
Webinar Date	**# Registered**	**# of Registrants with Pets or Kids at Home**	**# Attended**	**# of Attendees with Pets or Kids at Home**
Lawn Alternatives, Saturday, April 16, 10 am	117	87	57	43
Lawn Alternatives, Friday, April 22 at Noon	79	47	37	17
Nature Friendly Gardening for Beginners, Saturday, April 23, 10 am	69	51	29	19
Nature Friendly Gardening for Beginners, Wednesday, April 27 at 6 pm	53	39	16	12
TOTALS	**318**	**224**	**139**	**91**

Attendees at the webinars were from all the WSSOG jurisdictions. The largest number of attendees reside in Bremerton (38 or 27%) followed by Bainbridge Island (33 or 24%).



Registrant Fertilizer Use

When asked, "What kind of fertilizer(s) do you use on your lawn currently?

- 58 of the 318 registrants (18%) indicated that they use a "weed & feed" product on their lawn.
- 147 of the 318 registrants (46%) indicate they do not use any products.
- 13 of the registrants (4%) do not have a lawn.

While the program was successful in reaching the priority audience of people with kids or pets at home (65% of attendees), it saw limited success in reaching those who use "weed and feed" products.

One sub-group stands out from this question – almost half (46%) of the registrants indicate they do not use any products at all.

Participant Engagement

The average time spent in each session was 52 minutes, with each webinar running between 45 minutes to one hour. This is a substantial amount of time to engage with the topic – much longer than a conversation an attendee might have in a retail store setting, and more in-depth than viewing an ad, postcard, or other communication.

43% of attendees took the post-event survey (60). A total of 14 respondents indicated they were interested in having a Master Gardener follow up with them.

Registrant Questions

A total of 106 questions were submitted by registrants, with many people asked questions pertaining to a variety of lawn and garden topics. Many questions submitted pertained to the topic of lawns, as well as the

types of chemicals that could be used to treat lawns and common lawn problems. Moss, for example, was a recurring topic.

- "My lawn area is about 8000 square feet, which I find to be a little overwhelming. My big concern is water usage. I do not water during the summer, but the lawn suffers. **Moss** is a "problem" although I like moss well enough. If I were to seed areas with meadow type plants, can I do that over a drain field. I have a concern, unsupported by any data, that deep roots might be a problem. I'm also curious if there are any Bainbridge Island ordinances about planting meadow versus lawn. How do I keep the lawn barely alive without hurting the property value?"
- "I don't use any **chemicals** because I have a seasonal pond that I don't want getting toxic & I usually have a dog. I have an acre in the country, so it is mostly black berries & dandelions...not a lot of grass, but I have a hill that has to be mowed or the grass gets very long. I want to know what to do to take over the grass...wildflowers, ground covers, etc.? Do I need to cover/kill it first? I've tried planting some wildflowers, but the grass always takes over. Part of it has the drain field, too so it is thick. Also, how can I get rid of the blackberries?"
- "Interested in learning about alternative, low maintenance ground covers. **We don't water or fertilize the grass**; it sort of dies back in the summer, but we still mow it. I am wondering about alternatives that can be walked on."
- "Are **organic lawn fertilizers safe** for use near the salt water of Puget Sound?"
- "How to **remove moss** from lawn. One lawn is over the septic field area. Also, how to eliminate moss growing on patio pavers and to remove green from driveway."

Post-Event Survey Results

60 respondents took the post-event survey (43%), which showed up on-screen immediately post-event and was also emailed to attendees.

In the Lawn Alternatives webinar, 48% of attendees reported they were "very likely" or "likely" to switch to organic fertilizer. In the Nature Friendly Gardening for Beginners webinar, 60% of attendees reported they were "very likely" or "likely" to switch to organic fertilizer.

Lawn Alternatives					
How likely are you to switch to using organic fertilizer?					
Very likely	Likely	Neither likely nor unlikely	Unlikely	Very unlikely	N/A I already use organic fertilizer
11	8	6	0	2	13
28%	20%	15%	0%	5%	33%

48%	Percent either "very likely" or "likely" to switch to organic				

Nature Friendly Gardening for Beginners					
How likely are you to switch to using organic fertilizer?					
Very likely	Likely	Neither likely nor unlikely	Unlikely	Very unlikely	N/A I already use organic fertilizer
6	6	2	0	0	6
30%	30%	10%	0%	0%	30%
60%	Percent either "very likely" or "likely" to switch to organic				

In both the Lawn Alternatives and the Nature Friendly Gardening for Beginners webinar, 55% of respondents said they were “very likely” or “likely” to use the coupon.

- Very Likely -16
- Likely - 17
- Neither likely nor unlikely - 12
- Unlikely - 7
- Very unlikely - 8

Retail Partnership and Product Discount

With two-thirds of the priority audience saying free or discounted products were their top motivator to try the desired behavior, the WSSOG sought to again offer a discounted product. Organic lawn fertilizers range between approx. $20-$70 per bag or carton, so they are not a small, inexpensive "giveaway item". Further, a small sample amount would not be a strong behavior-change incentive, since it would only cover a very small part of the lawn and would be used next to synthetic fertilizer, and organic fertilizer may take longer to get results. Due to these factors, the WSSOG sought a way to conduct an innovative partnership to provide free or discounted product as part of the pilot project.



In 2022, the WSSOG conducted robust outreach to solicit retailer participation. Ultimately, four retailers and a total of five locations across the West Sound participated in Kitsap's Natural Yard Care coupon promotion, providing coverage across the entire WSSOG region. Through these retailers, customers could receive 25% off (or up to $15 off) select natural or organic lawn fertilizer.

Each retailer identified an organic lawn fertilizer and the bag size. All products ranged in retail price from $38.99 up to $68.99. For example, Bremerton City Nursery provided two options – an 18-pound bag for $38.99 or a 40-pound bag for $68.99.

During the eight-week period the coupon was active (between April 1 and May 30), 70 total coupons were redeemed at participating stores:

- Airport Garden Center in Port Angeles redeemed **7 coupons**
- Bay Hay and Feed on Bainbridge Island redeemed **20 coupons**
- Bremerton City Nursery redeemed **35 coupons**
- Wilco in Bremerton redeemed **7 coupons**
- Wilco in Gig Harbor redeemed **1 coupon**

This year, retail stores reported a mix of physical coupon redemptions as well as digital coupon redemptions with customers showing the coupon on their phone from the website.

The program team received valuable insight from retail stores about spring sales overall for 2022, with many saying that poor weather in April and May kept customers out of their gardens and therefore out of the nursery/retail stores, causing a slower year overall for lawn fertilizer sales.

Key insights from retailers:

- Bay Hay and Feed reported that, "It was a cold spring so grass seed and fertilizer was not as good as previous years, we sold half of what we normally sell in April," and in general, "Nursery sales are incredibly dependent on good weather…you cannot do much about that."
- Bremerton City Nursery told us that, "This was the coldest, wettest Spring we have had in over 70 years (according to the weather experts!), so I would say our lawn fertilizer sales were slow."
- Airport Garden Center said, "We are having an unusually busy June and July...I believe the weather [in April and May] was the culprit to our low overall spring sales this year.

Outreach Mechanisms

Postcard Mailer

A large, attention-getting 6”x9” postcard was sent to 14,350 households throughout all the WSSOG jurisdictions. Each jurisdiction provided their own mailing list and set their own criteria. Allocation numbers were determined through the interlocal agreements and population percentages. The postcard conveyed the benefits of using safer products, encouraged residents to attend a webinar, and included the coupon.

Jurisdiction	Relative Population	Postcard # Allocated	# Actual
Unincorporated KC	59.20%	8880	8513
Bremerton	14.00%	2100	2071
Bainbridge Island	8.20%	1230	1230
Port Angeles	6.50%	975	1031
Port Orchard	4.80%	720	560
Poulsbo	3.70%	555	561
Gig Harbor	3.60%	540	565
TOTAL	**100%**	**15000**	**14531**



Figure 3: Front of Postcard



Figure 4 Back of postcard

Government Delivery Channels and County Website

One landing page was hosted on the Kitsap County government website, sharing information on the virtual events, the coupon, and more information about using only natural or organic lawn care products. An additional page served to promote just the webinars and registration. Both pages received strong traffic. The Natural Yard Care landing page (kcowa.us/naturalyardcare) received a total of 2,497 unique visitors during the campaign period spanning April 1, 2022, through May 31, 2022. The webinar registration page received a total of 121 unique visitors for a combined total of 2,618 unique visitors. This is double from the 2021 pilot number (with a total of 1,325 unique visitors from March 1, 2021, through April 30, 2021).

Kitsap County also sent out an email bulletin to a total of 14,207 recipients. The bulletin had 3,616 unique opens and 229 total clicks on the various hyperlinks included in the bulletin. The top link clicked was the webinar registration page with 61 total clicks.

Digital Campaign

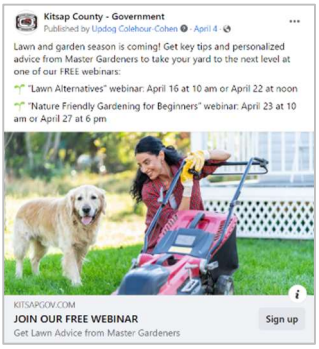
A paid social campaign was once again used to promote the virtual events and the campaign overall. With the success of the campaign's social ads in the 2021 pilot, and roughly two-thirds of U.S. adults (68%) reporting that they are Facebook users (Pew), Facebook was again utilized as the main advertising vehicle for the campaign based on its widespread usage, flexibility, scalability, and affordability.

The 2022 campaign utilized the same imagery as the 2021 pilot, with updated text to reflect the 2022 campaign events, coupon, and other parameters.

In total, the Facebook campaign reached 123,360 people and received 3,391 link clicks - a strong showing for the audience area in Kitsap County. The average cost per click (CPC) was $1.36, which is in line with other campaigns running in Q1/Q2 2022.

The Facebook campaign also had a high frequency, with people seeing the ads roughly 4 times on average. Research shows that people need to see most ads multiple times to recall them later. Below is a breakdown of how the ads performed separately:

<u>Webinar Ad (April 1, 2022, to April 26, 2022)</u>



- 1,039 link clicks
- Over 274,951 appearances on people's newsfeed
- 71,520 people reached*
- $1.44 cost per click
- This ad received 6 comments, 96 reactions, 27 shares, and was saved 11 times by Facebook users
- On average, this ad was seen ~4 times by each person

<u>General Campaign/Coupon Ad (April 1, 2022, to May 24, 2022)</u>



- 2,352 link clicks
- Over 490,379 appearances on people's newsfeed
- 98,752 people reached*
- $1.28 cost per click
- This ad received 42 comments, 338 reactions, 69 shares, and was saved 23 times by Facebook users
- On average, this ad was seen ~5 times by each person

**46,912 people saw both ads leading to *123,360 total people reached*

<u>Ad Comparison While Both Ads Were Running (April 1, 2022 – April 26, 2022)</u>

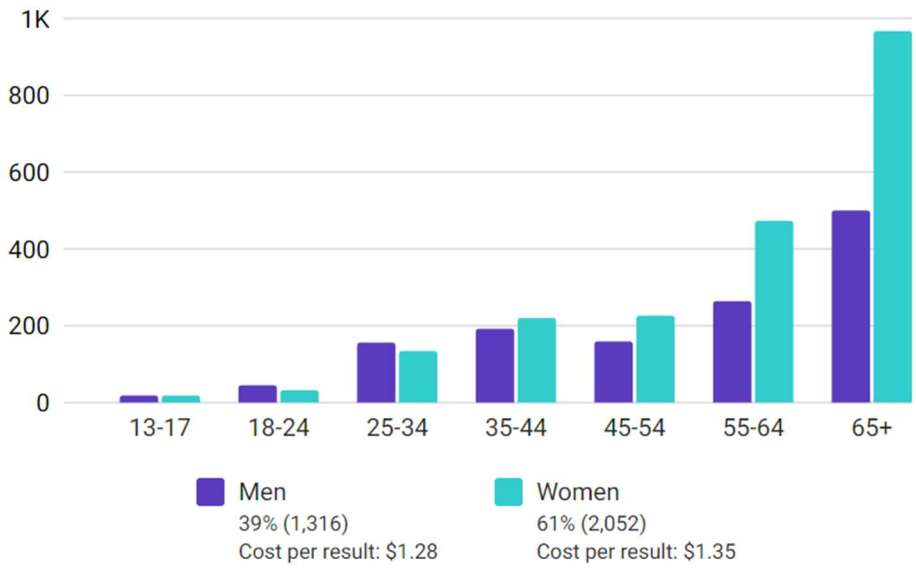
The webinar ad run time was a few weeks shorter than the general campaign/coupon ad since the campaign ended later than the last webinar. While both ads were running, the general campaign/coupon ad had a slightly stronger performance than the webinar ad.

- The coupon ad drove 757 link clicks, spending $686.06 in this period, while the webinar ad drove 1,039 link clicks, spending its budget in its entirety of the allocated $1,500.
- The coupon ad had higher post engagement indicating it was the more relevant ad for the target audience, garnering 62% of the engagement, 78.5% of the comments, and 57% of the post shares during this period.
- The webinar ad had a higher frequency, meaning the ad was shown more times to the same people than the coupon ad—being seen 4 times per person, compared to the coupon ad frequency of 5.

Both the general campaign/coupon and webinar ads performed well in Kitsap County, receiving an above average quality ranking for both ads, meaning the ad experience and post-ad experience were ranked highly

when competing with other ads targeting the same audience. The expanded geotargeting area (compared to the 2021 pilot in Poulsbo) proved to be a successful optimization, reaching over 123,000 people. With a wider audience, this year's campaign was able to reduce ad fatigue (versus the pilot), which helped maintain the audience's interest.

The audience skewed towards people ages 65+, who made up 43.5% of total link clicks. Within this age group, men delivered 500 link clicks while women delivered 967 link clicks.



Post-Campaign Evaluation Results

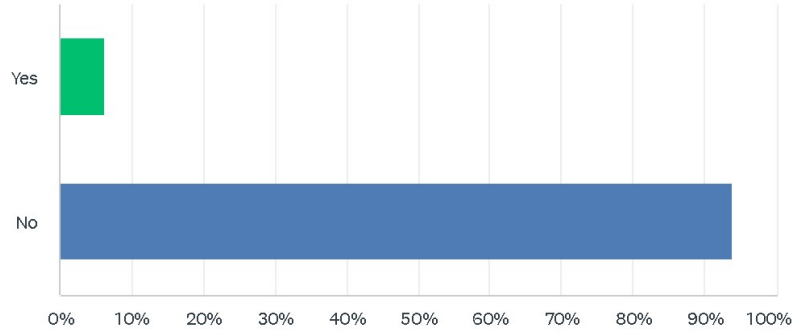
In September 2022, approximately three months after the campaign's conclusion and to coincide with the summer gardening season, a qualitative post survey was distributed to all registrants, regardless of whether they had attended a webinar or not. There was a total of 19 respondents, made up primarily of webinar attendees (Appendix A).

A total of 5 respondents indicated they have "stopped using weed and feed on existing lawn." All these respondents attended the "Lawn Care Alternatives" webinar.

The survey asked respondents if they redeemed the coupon for natural lawn fertilizer. Only one respondent affirmed they used the coupon.

Q19 Workshop registrants were given a link to a coupon for 25% off of natural lawn fertilizer. Did you redeem this coupon?(Image Description: Coupon for 25% off your first bag of natural lawn fertilizer. Up to $15 off.)

Answered: 16 Skipped: 3

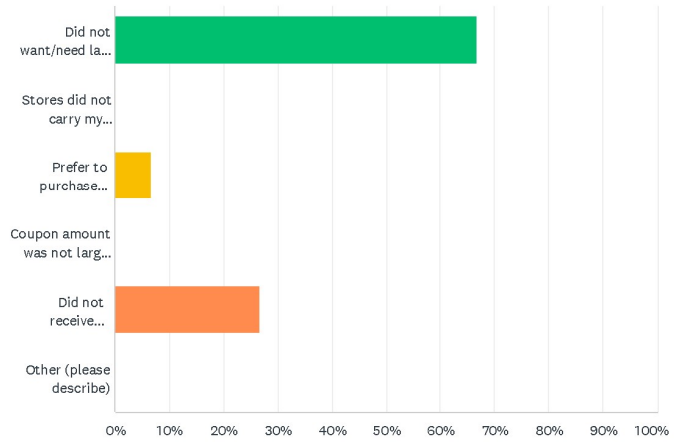


ANSWER CHOICES	RESPONSES	
Yes	6.25%	1
No	93.75%	15
TOTAL		16

For those that responded they did not redeem the coupon, over half (66.67%) indicated they did not need or want lawn fertilizer. Another 26.67% of respondents indicated they did not receive the coupon/or did not remember receiving the coupon. While each webinar briefly mentioned the coupons and the coupons were included in a follow-up email, the coupon does not appear to be drawing much attention from webinar registrants. The coupon may be more effective in its physical form, such as when mailed or handed out.

Q20 What was the main reason you did not use the coupon?

Answered: 15 Skipped: 4

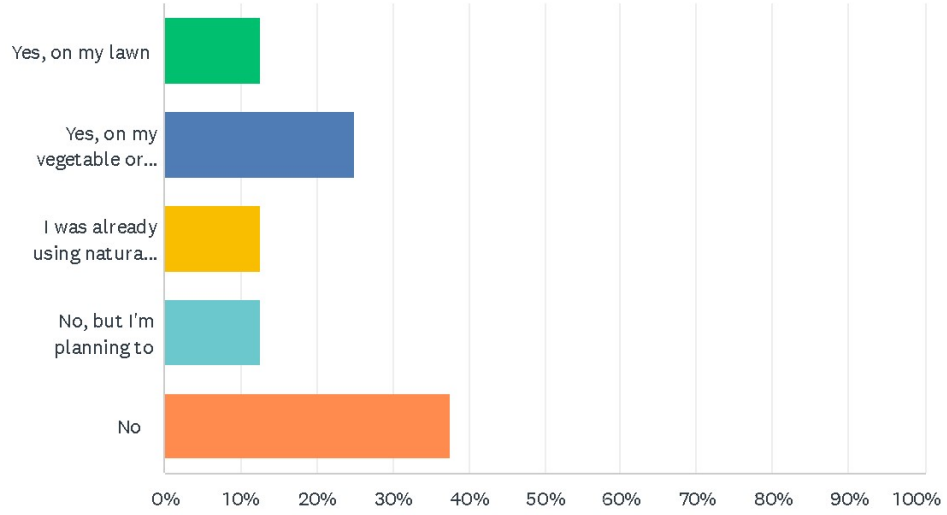


ANSWER CHOICES	RESPONSES	
Did not want/need lawn fertilizer	66.67%	10
Stores did not carry my preferred brand of fertilizer	0.00%	0
Prefer to purchase fertilizer elsewhere	6.67%	1
Coupon amount was not large enough to be worth my while	0.00%	0
Did not receive coupon/do not remember receiving coupon.	26.67%	4
Other (please describe)	0.00%	0
TOTAL		15

Finally, the survey asked respondents to indicate if they tried using natural or organic fertilizer. There were mixed results with 12.5% indicating they had tried using natural or organic lawn fertilizer. 37.5% or respondents indicated they did not try using natural or organic fertilizer. However, we do not know what, if any, chemicals those respondents use.

Q21 Did you try using natural or organic fertilizer?

Answered: 16 Skipped: 3



ANSWER CHOICES	RESPONSES	
Yes, on my lawn	12.50%	2
Yes, on my vegetable or flower garden	25.00%	4
I was already using natural or organic fertilizer prior signing up for the workshop	12.50%	2
No, but I'm planning to	12.50%	2
No	37.50%	6
TOTAL		16

APPENDIX E: NATURAL YARD CARE CAMPAIGN EVALUATION REPORT

Natural Yard Care
Social Marketing Campaign
Evaluation Report

Prepared for:

WSSOG

February 2024

Final report

Kathryn Owen Consulting LLC

Table of contents

Executive summary	3-5
Background	
History of Natural Yard Care Social Marketing Campaign	6-7
2023 Campaign Elements & Outputs	7-8
Evaluation Methods	8-9
Findings	
Direct Mail Results	10-18
Social Media / Online Results	19-27
Respondent Comments About Their Lawn Care Practices	28-30
Webinar Results	31-35
Results from Retailer Interviews	36-38
Potential Impact on Nutrient Runoff	39-42
Conclusions and recommendations	43-48
Appendices	
Appendix A: Results broken down by jurisdiction	49-58
Appendix B: Verbatim comments on learning/resource needs	59-70
Appendix C: Instruments	71-77

WSSOG
Natural Yard Care Social Marketing Campaign

Summative Evaluation

Overview

Project purpose & evaluation goals

Kitsap County contracted with Kathryn Owen Consulting LLC to conduct a summative evaluation of the Natural Yard Care Social Marketing Campaign carried out by the West Sound Stormwater Outreach Group (WSSOG), a multi-jurisdictional partnership between Kitsap County, the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The aim of this campaign was to help reduce nutrient runoff - a major source of pollution to local waterways and to Puget Sound as a whole.

The target behavior for the Natural Yard Care (NYC) campaign was to encourage homeowners to switch from weed-and-feed type products to natural or organic fertilizer.[1] The target audience was initially identified as households who a) have a lawn, b) maintain the lawn themselves, and c) have children or pets with access to the yard as part of the household.

This evaluation summarizes findings from the most recent year of this multiyear campaign, which began in 2018. The evaluation centered on exploring the campaign's impact on audience receptivity to the messages, intent to engage in the target behavior, and actual engagement in the target behavior. Towards this end, we surveyed 2481 households within WSSOG jurisdictions. We also conducted in-person and phone interviews with partners (i.e., nurseries and garden centers involved in distribution of a discount coupon for organic fertilizer).

Evaluation findings

In spite of significant challenges posed by the COVID 19 pandemic, this campaign was able to produce a compelling ad campaign that spoke to the target audiences' interests and concerns and that many said would influence their behavior; to hold a series of webinars on natural lawn care that participants found valuable and that encouraged the target behavior; and to begin developing successful partnerships with local nurseries and other retailers. Key findings include:

- Roughly 20% of survey respondents have used weed and feed, moss killer, weed killer, or a nonorganic, slow-release fertilizer. Only 5%, however, identified themselves as "*not interested*" in using organic fertilizer.

- In all, 40% of the audience falls into the "willingness to change" category. They have already thought about doing the target behavior, have planned to start doing it, or have started doing it at least some of the time. Among those who are willing to engage in the target behavior, the challenge of controlling weeds and/or invasive plants was the most frequently mentioned barrier. Among the

[1] The campaign used the phrase "natural/organic" in most of its marketing literature, which has been shortened to "organic" for readability, unless quoting campaign materials.

audience as a whole, the most prominent barriers were the perceptions that a) organics don't work as well as chemical fertilizer, and b) are too expensive. Respondents – whether from the direct mail or social media survey – were equally likely fall into the "willingness to change" category.

- One-third of survey respondents said they were not interested in using *any type* of fertilizer on their lawns, and there was significant interest in alternatives to grass lawns.

- Over a third of the **entire** audience said the NYC campaign ads were "*likely*" or "*very likely*" to influence their lawn care practices. Not counting those who were already using organic exclusively, 19% of the audience showed intent to adopt this new behavior. This translates to a potential 3,457 pounds or 1.72 tons of nutrient runoff diverted from local waterways; if extrapolated to the entire audience reached (not just survey respondents) the figure comes to 23,673 pounds or 11.8 tons.

- The aspect of the ad campaign the audience found particularly compelling was the focus on things they cared about: protecting marine life and Puget Sound; protecting their children, pets, and families; and protecting nature in general. People also liked the use of direct and compelling words like "*healthy*" and "*safe*," and some appreciated the offers for fertilizer discounts and webinars. In addition, we found that households with and without children or pets were equally likely to find the ad campaign compelling.

- The three webinars on natural yard care offered by a Master Gardener were attended by 29 individuals, out of 103 registering. While they reached a fairly small audience, the webinars had a high satisfaction rate, and the majority of attendees said they were likely to recommend the webinars to others. Of the attendees surveyed six months later, the majority reported having taken one or more steps towards natural lawn care.

- All of the nurseries and garden centers were interested in participating in future campaigns. Retailers' suggestions included changing the discount to a flat fee rather than a percentage, having discount coupons available on days when there is a workshop or demo on natural lawn care, and collecting additional info to find out whether the coupon is generating a) new customers for the retailers, and b) new users of organic fertilizers.

Recommendations

- While there were people who *were not* interested in the target behavior because they don't agree that nonorganic fertilizers pose a hazard – to their households or to Puget Sound – this group was quite small. For this reason, we recommend focusing future efforts on moving beyond awareness to skill building. To address the needs of the audience most likely to engage in the target behavior, the campaign could offer follow-up activities that can help people learn how to treat areas of concern (weeds, invasive plants, moss) without using toxic chemicals. These are most likely to be successful if they feature one-on-one conversations, which are able to respond to individualized conditions (e.g., lawn size, slope, proximity to water) and can contextualize the behavior.

- If WSSOG wants to continue using a social marketing approach, we recommend revisiting the target behavior and identifying a behavior that is non-divisible (doesn't contain multiple steps) and end-state. That is, the behavior will produce the desired outcome for the audience without requiring additional action. If the desired outcome is caring for the lawn without chemicals, the current target works; we suspect, however, that the desired outcome among these households is for a lawn that looks good (weeds are under control, for instance).

- Continue and expand the use of social marketing tools, including social diffusion and norms, public commitment, and making the behavior convenient. If the campaign were to adopt a non-divisible and end-state behavior, some of these additional tools could be employed more effectively. For instance, if the campaign were to encourage the behavior of adjusting lawnmower height to crowd out weeds, households could make a public commitment and help establish norms by putting up a small yard sign. Or the behavior could be prompted through reminders placed in nurseries and garden centers and take-home stickers.

- Clarify the intent of the fertilizer discount. The discount coupon for 25% off organic fertilizer was provided as a way to reduce the barrier of cost for people interested in switching to organic. But because the coupon is for one-time use, it may not maintain the behavior beyond one application. If unfamiliarity with the products and where to find them were the main barrier, simply introducing people to the organic options through a coupon would be helpful. But with a product consumers buy repeatedly, the discount may be seen as having limited value. If WSSOG feels it would be helpful in convincing people of the benefits of organics, a cost comparison for customers showing organic and nonorganic costs over time could also be helpful.

  In addition, because the participating nurseries focus on organic products already, it was unclear whether the discount coupons were encouraging first-time customers or first-time organic users – rather than people who already use organics and appreciate the discount. Our suggestion is to collect data during coupon redemption to find out the percentage of a) first time customers to that retailer, and b) first-time organic users, to find out whether the coupon is having the desired effect.

Campaign background

Kitsap County contracted with Kathryn Owen Consulting LLC to conduct a summative evaluation of the Natural Yard Care Social Marketing Campaign carried out by the West Sound Stormwater Outreach Group (WSSOG), a multi-jurisdictional partnership between Kitsap County, the Cities of Bainbridge Island, Bremerton, Gig Harbor, Poulsbo, Port Angeles, and Port Orchard. The aim of this campaign was to help reduce nutrient runoff - a major source of pollution to local waterways and to Puget Sound as a whole.

The target behavior for the Natural Yard Care (NYC) campaign was to encourage homeowners to switch from weed-and-feed type products to natural or organic fertilizer.[2] And the target audience was identified as households who a) have a lawn, b) maintain the lawn themselves, and c) have children or pets as part of the household.

Campaign history

From 2018-2022, WSSOG contracted with the communications and marketing firm C+C[3] to conduct social marketing training for the group, carry out audience research to inform the campaign, develop creative concepts, implement a pilot campaign in one jurisdiction (the City of Poulsbo) and then expand the campaign throughout the WSSOG jurisdictions. Comprehensive reports on the earlier stages of the campaign are available upon request, so won't be repeated in detail here. In brief, planned key campaign elements included:

- Coupons offering a discount for organic fertilizer which could be redeemed at one of six nurseries in Kitsap County, Port Angeles, and Gig Harbor. The coupons were a response to the finding in front-end research that cost was a major barrier to using organic fertilizer.

- Outreach conducted presented by Master Gardeners, volunteers with Washington State University's Extension program, at nurseries and garden supply stores. Audience research had found that this group was a trusted information source.

- A variety of communication channels were used to advertise the webinars and coupons including direct mail, social media, email and – in 2023 – an event held at one of the participating nurseries. A prominent feature of campaign communications was a series of ads (tested and refined after the pilot). (See p. 3)

With the start of the global COVID 19 pandemic entering the spring 2020 gardening season, the campaign was obliged to the initial plan for in-person outreach was tabled and the campaign was postponed until the following spring. Additional audience research was commissioned from C+C, in the form of an in-depth online survey completed by 13 respondents. This additional research informed the next iteration of the campaign, which substituted webinars presented by Master Gardeners instead of in-person outreach. Participants could sign up to receive a follow-up email from a Master Gardener a month or so after the webinar if they were interested in getting individual guidance.

[2] The campaign used the phrase "natural/organic" in most of its marketing literature, shortened to "organic" for this report.

[3] https://cplusc.com/



2023 campaign elements and outputs

The same campaign elements listed above (with the substitution of webinars for in-person outreach) were implemented by C+C and WSSOG:

- Social media campaign via Facebook, featuring two ads. The first, advertising the NYC webinars, ran from April 12-May 20, 2023. (See image below, left.) The second, offering the discount coupon, ran from April 5-June 17. (See image below, right.) The Facebook campaign reached an estimated 94,144 people and received 6,691 link clicks in all; on average, each ad was seen seven times per person. The campaign ran for three weeks longer than in 2022, resulting in almost double the number of link clicks.





- A coupon for natural or organic fertilizer offering 25% off (or up to $15 off) to be redeemed at one of the six retailers. The offer was active between April 1 and June 18, with 68 coupons redeemed.[4]

- A postcard featuring the same content as the Facebook ads was mailed to 14,347 households across the WSSOG jurisdictions.

- Three webinars on natural yard care were offered between April 29-May 20 with the advertised title, *"Growing a Healthier Lawn for your kids and Pets."*[5] Each consisted of a short (20 minute) PowerPoint presentation followed by a question/answer period.

Evaluation methods

We used a mixed-methods approach to assess the effectiveness and impact of the campaign that included the following:



Online surveys publicized by WSSOG members through various communication channels, each jurisdiction's Facebook, Instagram, Twitter sites, NextDoor in target communities and GovDelivery.[6] (See example on next page.) The online survey was active for three weeks, starting July 5. Results were compared to baseline data collected in December 2018 during initial audience research.



Postcards were mailed out to target audiences in each jurisdiction advertising the campaign, as described above, at the end of March. In early June, a follow-up letter was sent inviting the recipients to participate in an online survey. At the same time, a mailing was sent to a control group of households meeting similar characteristics (same zip code, majority single family households) by five of the seven jurisdictions.



People who registered to attend one of the three webinars were asked to answer a few questions about their lawn care practices as a pre-survey. Another survey was conducted of webinar attendees immediately after the webinar, and a follow-up survey was sent out six months later to explore any lasting impact.



The six participating nurseries were asked to participate in a brief interview about their experience with the campaign. Four of the six participated.

[4] The previous year, a similar number of coupons (70) were redeemed at participating retailers.
[5] The webinars took place on two Saturday mornings (April 29 and May 20) and Wednesday, May 3rd in the evening.
[6] That is, email lists of people who have signed up to receive County updates and alerts.

Evaluation roles

- Data on social media reach, and coupon redemptions, was gathered and reported by C+C.
- Pre-post webinar surveys were conducted by Kitsap County Public Works Dept., with input into survey design and analysis conducted by Kathryn Owen Consulting.
- Online surveys (direct mail follow-up and social media surveys) and nursery interviews were conducted and data analyzed by Kathryn Owen Consulting.

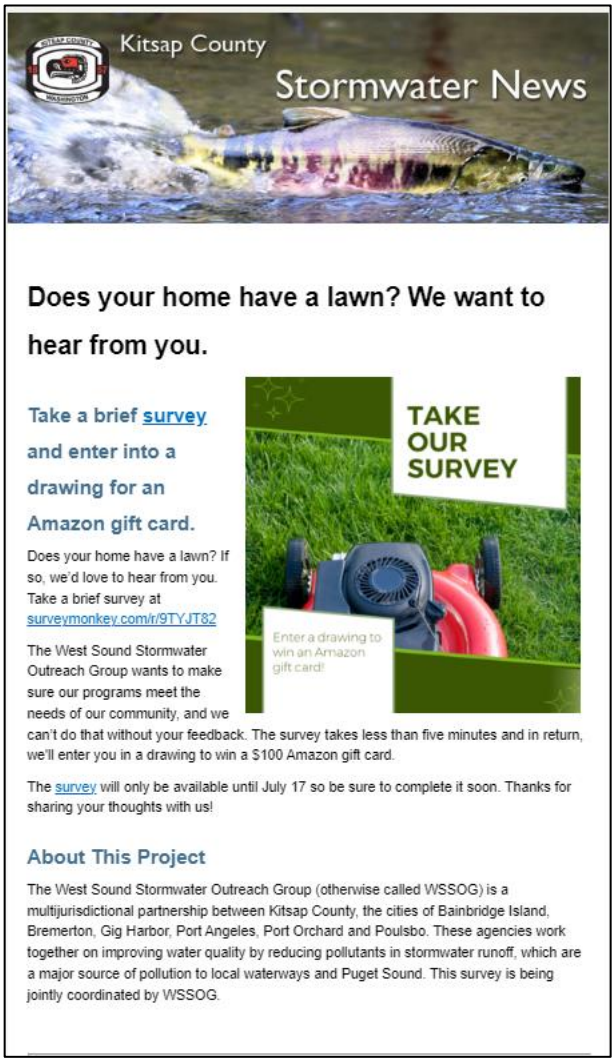
To encourage participation in the online surveys, incentives were offered. Respondents could choose to provide their email to enter a drawing to win one of 10 Amazon gift cards in the amount of $100.

To gain additional insight into the impact of the campaign, we used a control group design for the survey of postcard recipients, in which all but two of the WSSOG jurisdictions sent the survey invite to a) households who had received the postcard, and b) households who had not, but reflected the same general characteristics (e.g., same zip codes, focus on single family households). One jurisdiction (Gig Harbor), however, decided to use their campaign budget to send additional postcards rather than on a control group mailing.

All surveys yielded both quantitative and qualitative data. Quantitative data including frequencies and between-group comparisons were analyzed through SPSS software. To check for differences between samples, significance was set at p = 0.05.[7]

Qualitative data (responses to open-ended questions) were coded based upon emergent themes. Themes were identified by two evaluators working separately, and the coding frameworks were compared for degree of interrater reliability.[8]

Finally, we used the Transtheoretical Model of Change (also known as Stages of Change Model) to analyze audience readiness to engage in the targeted behavior.[9]



[7] A significance level of 0.05 indicates that the risk of concluding a difference exists when there is no actual difference is 5%.
[8] Interrater reliability (IRR) refers to the consistency in which two or more people apply the same coding framework to qualitative data, like answers to open-ended questions.
[9] A brief overview can be found at https://sphweb.bumc.bu.edu/otlt/mph modules/sb/behavioralchangetheories/behavioralchangetheories6.html

Findings

Part 1. Direct mail survey results

Note: Because survey questions were modified slightly between the direct mail and social media surveys, we analyzed and present the results separately, with one exception. (See

In this section:

- Survey response rates
- Characteristics of sample
- Current and intended engagement in target behavior
- Self-reported likelihood that campaign will influence behavior
- Perceived barriers to organic fertilizer

Response rates

Postcards featuring the NYC campaign messages and offers (e.g., webinars and fertilizer discount) were sent out to 14,347 households at the end of March 2023. When contacted again at the start of June, 10% (n=1408) responded to the request to take a follow-up survey.[10] As reflected below, the response rate was highest in Poulsbo, where a quarter responded. Eighty-five percent (n=1202) were in the treatment group (had received the survey) and 15% (n=205) in the control group (had not).

Table 1. Response rates by jurisdiction

Jurisdiction	# of postcards sent	# of responses	Response rate	Includes control group
Bainbridge Island	1226	206	17%	Yes
Bremerton	2052	276	13%	Yes
Gig Harbor	521	23	4%	No
Port Angeles	1029	106	10%	Yes
Port Orchard	542	77	14%	Yes
Poulsbo	511	115	23%	Yes
Unincorporated Kitsap County	8466	581	7%	Yes

[10] This response rate reflects a 3% margin of error at a 95% confidence level. That is, if everyone who received the direct mail survey request had responded (14,347 people) results are 95% likely to lie within 3% plus or minus.

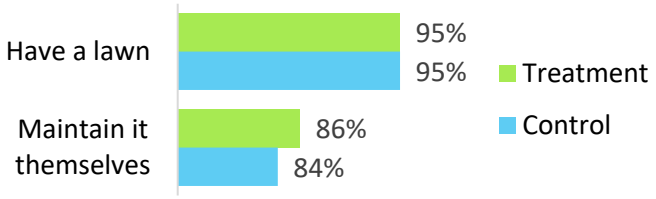
Sample characteristics

Lawn ownership & maintenance

Of those responding to the survey, 95% have a yard with grass at home, and 87-88% maintain the lawn themselves. Treatment and control groups were nearly identical in this respect.

The percentage of households with a lawn varied little by jurisdiction, with nearly all falling between 95-98% of lawn owners. The exception was Gig Harbor, where 82% of respondents owned a home with a lawn.

Chart 1. Nearly all households have a lawn & most maintain it themselves (n=1408)



Between-group comparisons

- Treatment and control groups were equally likely to own a lawn, with treatment group members slightly more likely to maintain it themselves.
- Lawn ownership and maintenance varied little by jurisdiction except for Gig Harbor, where 82% of households had a lawn and just 40% maintained it themselves.

Lawn size

Among those who have a grassy lawn in their yard, the mean or average lawn size for the entire sample was 6865 square feet. Not surprisingly, there was a significant difference in lawn size between those who maintained their own lawn vs. those using a lawn company; the mean lawn size for the latter was twice as large.

The rest of the results apply only to those who meet the criteria of having a lawn and maintaining it themselves.

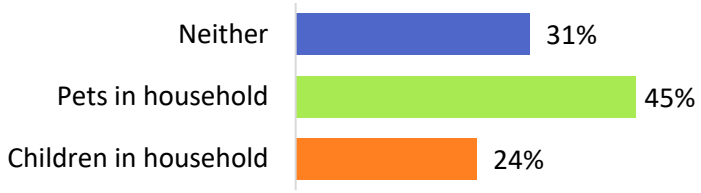
Household composition

Front-end research for the campaign identified households that included children and/or pets as the target audience for the campaign. Sixty-nine percent of respondents fell into this category.



Twenty-seven percent of respondents have children under 18 living in the household. (This compares to 26% in the most recent census data for Kitsap County. [11]

Chart 2. 69% of respondents have children under 18 and/or pets with access to their yard (n=1137)





Over half of all respondents have pets who have access to their yard. (This compares to an estimated 63% of Washington state households with pets according to the latest figures.[12])

Between-group comparisons

- The treatment and control groups were identical in percentage of households with children under 18.
- The control group was somewhat more likely to have pets at home.
- Households in Port Angeles were the most likely to have children and/or pets at home; households in Gig Harbor were the least likely to do so.

Including households without pets or children in the analysis

We have included households without children or pets in the analysis, as we found that this audience is equally likely to have been receptive to and influenced by the ad campaign, and to show willingness to using organic fertilizer rather than weed and feed-type products. We will, however, report observed differences *between* households with and without children/pets.

Lawn size

- **For the purposes of the report,** we have classified lawns as small (**< 1500** square feet), **medium**(**1500-8000** square feet) **and large** (**8000**). Those with large lawns were somewhat more likely to use a lawn care company than those with medium or small lawns.

[11] https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53_050XX00US53035&tid=ACSDP5Y2022.DP02
[12] https://worldpopulationreview.com/state-rankings/pet-ownership-statistics-by-state

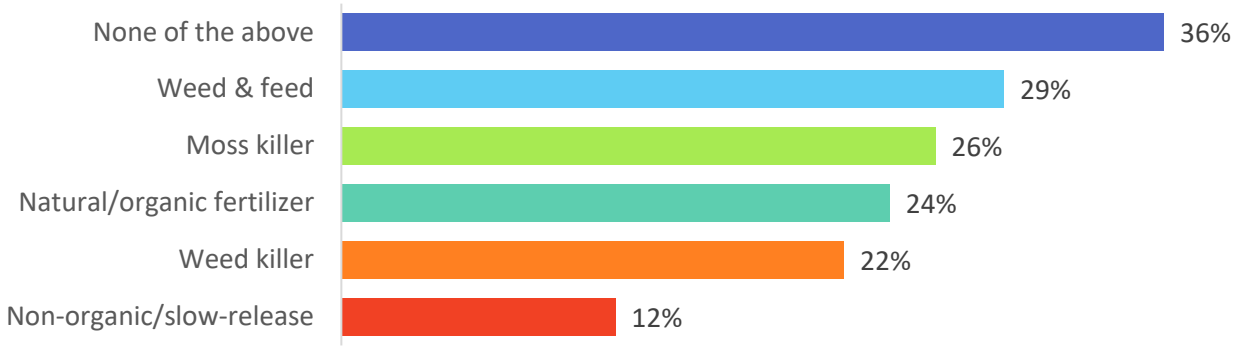
Current and intended participation in target behavior

Respondents were asked to indicate which, if any, products they have used on their lawn over the past few years. As reflected below, the most frequent response was "none of the above." Of those who *have* used lawn products, 16% have used natural/organic.

Respondents were also asked to list any other products they used on their lawn. Five percent listed other products. Lime and vinegar were both mentioned by a quarter of respondents, and between 5-10% apiece used baking soda, pesticides, and iron. [13]

- Lime (28%) Vinegar (26%)
- Pesticides (7%) Baking soda (7%) Iron (4%)

Chart 3. Many do not use any products on their lawns. If they had, they were slightly more likely to have used weed & feed than other products. (n=1137)



Between-group comparisons

- Households with children were significantly more likely to say they used natural/organic fertilizer than those without (p = 0.05).
- Households with pets were significantly less likely to have used moss killer, weed & feed; they were more likely to say they didn't use any products on their lawn (p=0.03).
- The treatment and control groups did not differ significantly in use of lawn products.

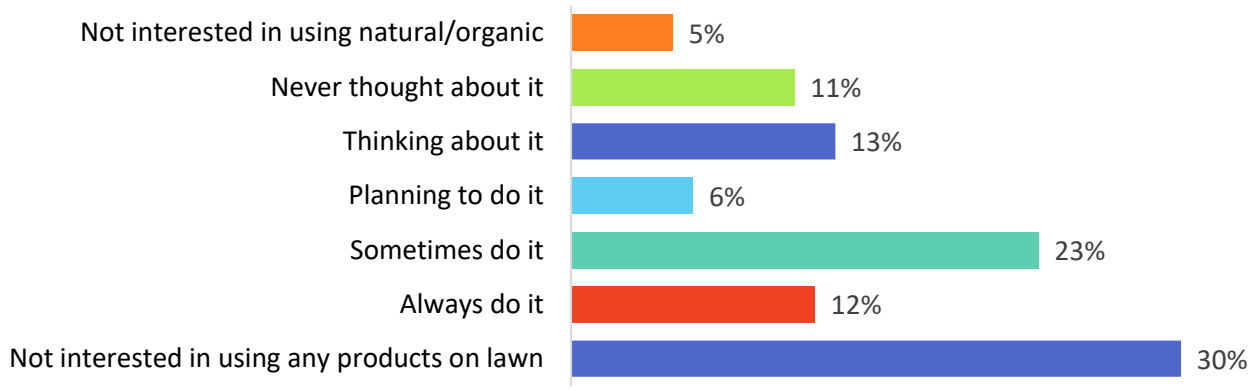
[13] Other products were mentioned 1-2 people apiece, including corn gluten, chicken manure, and Epsom salts.

Current behavior in regard to organic fertilizer

Respondents were asked to indicate their current behavior and attitudes towards using organic lawn fertilizer by selecting from a list of options ranging from *"I'm not interested in using natural/organic*" to *"I only use organics."* They also had the option of marking if they weren't interested in using any products on their lawn.

Few were in the "not interested in this behavior" bucket (5%). For another 30%, the action wasn't relevant (they weren't interested in using lawn products).

Chart 4. 42% of respondents are either considering using natural/organic or sometimes do it already, though not consistently (n=1137)



Comments on willingness to change

Respondents could make additional comments in response to this question, and 10% did. Of these, the most frequent topics were:

- Comments on what prevents them from using organic fertilizer, with concerns about effectiveness, availability and cost cited. E.g., *"I would love to (use organic) but my household can't afford it with how much more it is. They also don't kill the weeds as well as non-organic."*

- Comments about wanting to reduce or remove their lawn. E.g., *"I don't like the grass. Do as little with it as possible. Want lawn alternative."*

- Comments describing how or when they use nonorganic. Nearly all who raised this topic were in the "sometimes use organic" group, who described the conditions under which they have used nonorganics. E.g., *"I spot treated a small area with Ferti Lome weed-free zone when we first moved in but otherwise don't use nonorganic products in the yard."*

Treatment & control

We were interested in whether receiving the campaign postcard a couple of months prior would result in people being more likely to say they were thinking about, planning, or starting to do the target behavior of switching from weed and feed to natural/organic fertilizer.

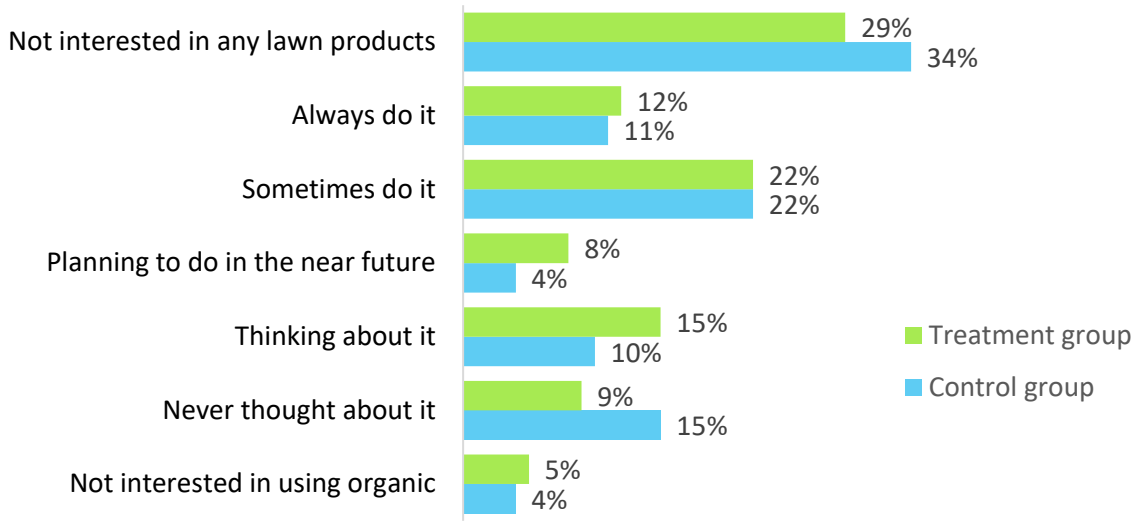
As reflected below:

- 43% of the treatment group fall into the "willingness to change" category; that is, thinking about it, planning to do it in the near future, or did it some of the time already.
- 36% of the control group indicate willingness to change, representing a statistically significant difference between treatment and control.
- The treatment group was also less likely to say they had "never thought about it" before.

Difference between those who did and didn't recall receiving the postcard

This potential relationship – between receiving the postcard and being open to change – was likely mediated, however, by whether or not the person received the postcard. And in fact, when we compared postcard recipients who recalled receiving it with those who did not, the first group was significantly more likely to fall into either the "*thinking about it"* or "*planning to do it in the near future*" categories (p = <.001). It may be that those who noticed the postcard were encouraged to consider using organic because of the postcard; on the other hand, it may be that those who noticed the postcard were people who were already interested in the topic, so more likely to take notice.

Chart 5. In terms of using natural/organic products on your lawn, which of these best describes you right now? (n=1137)



Other between-group comparisons in willingness to change

- There were no significant differences on this measure based on whether the household included children under 18.
- Households with pets were significantly more likely to say they a) *weren't interested in using any lawn products* (p = 0.03) or b) *always use organic* (p = <.001).
- Bainbridge Island households were the most likely to say they *always use organic*. In terms of being open to adopting the behavior *(thinking about it, planning to do it or sometimes doing it already)* respondents from Unincorporated Kitsap County, Port Orchard, Poulsbo and Bremerton were somewhat more likely to fall into this category than those from Port Angeles and Gig Harbor.
- There were no significant differences based on whether the household had a small, medium, or large lawn.

Recall of Natural Yard Care postcard

Members of the treatment group were asked whether they remembered getting the postcard in the mail in the past couple of months. (An image of the postcard was included to jog peoples' memories.)

Over a quarter remembered receiving. Forty-two percent didn't, the remaining 30% weren't sure. There were no significant differences in recall rates by jurisdiction.

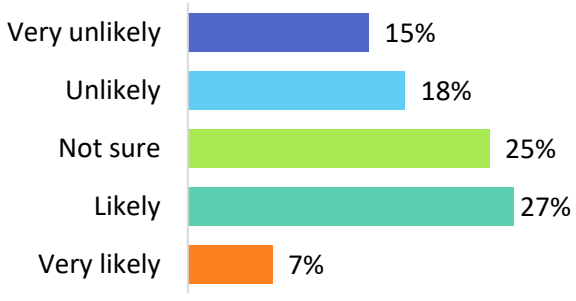
Of the 28% who remembered seeing the postcard (n=269):

- 49% said they had read it
- 37% had skimmed it
- 12% had either used the coupon (4%) or planned to (8%)
- 3% had signed up for a webinar
- 9% hadn't done any of the above (they had tossed it or set it aside and lost it)

Chart 6. Over a quarter recalled receiving the campaign postcard (n=966)



Chart 7. 34% say the campaign ad is likely to change their lawn care practices (n=1137)



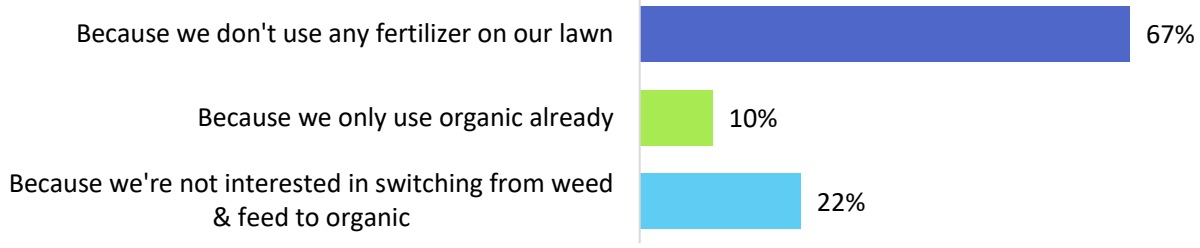
Twenty-six people made additional comments about the postcards. Of those who did, most (31%) said they had wanted to use the coupon or attend a register but had missed the deadline; tossed it because they thought it was junk mail (27%), didn't need it because they don't fertilize their lawn or had already used fertilizer that spring (19%). The remainder gave other responses (< 5% apiece); e.g., *"Brought it work and someone picked it up from the 'free' table."*

Likelihood ad will influence lawn care practices

Both treatment and control groups were shown images of the two postcards, and asked to rate how likely it was that they would influence their lawn care practices.

- 34% said it was either "likely" or "very likely" to change their lawn care practices.
- Of those who said it was "unlikely" or "very unlikely" to influence them, the main reason given was that they didn't use fertilizer of any kind on the lawn.

Chart 8. Why is this message *unlikely* to influence your household's lawn care practices? (n=341)



Comments on the ad's influence on their behavior

Respondents could list additional reasons they didn't think the ad would influence their behavior; 18% did so. Of these:

- 29% commented on the ad itself. Most of these said they ignored or disliked ads or wouldn't change their behavior because of an ad. Five percent of these said they didn't find the ad interesting.
- 14% said it was unlikely to influence them because they use nonorganic rarely or only when 'necessary'
- 13% raised concerns about organics, such as price, effectiveness or convenience
- 10% said they didn't feel nonorganic fertilizers were a problem
- 5% said it was because they don't have control over the decision (i.e., another household member or their HOA guidelines prevented them from using organic)
- 5% gave "leave me alone/none of your business" responses
- The remainder gave other responses, none mentioned by more than a few people apiece.

Influence of postcard on willingness to change

As mentioned above, we compared postcard recall with willingness to take part in the target behavior. We explored this further by comparing those who recalled receiving the postcard AND had taken any action (read it, skimmed it, signed up for a webinar, used or planned to use the coupon) vs. those who had taken no action. Since only 9% said they tossed it without looking at it, the numbers aren't large enough to determine significance. But the results suggest, not surprisingly, that people who read the postcard were

more likely to be using organics already – and people who weren't interested in using lawn products were the most likely to have ignored it.

Barriers to organic fertilizers

Finally, we asked those who said that the campaign ad would not influence their behavior were asked to identify their main issues with organic fertilizer, offering a list of potential reasons. Nearly a quarter cited the increased cost of organics; other reasons were cited by 15-17% apiece, including concerns about effectiveness of organics and the belief the products they used weren't harmful. The remainder gave other reasons, described below.

Additional barriers

Just over a quarter gave additional reasons, including (in order of frequency):

- I don't use chemical products often (E.g., *"Only use it sparingly.")*
- I use them per instructions (E.g., *"I use per directions. Pesticide safety was my career at one point."*)
- I'm using up a supply. (E.g., *"We have a bunch on hand still.")*
- I don't have control over the decision (These respondents cited somebody else in the household who made the lawn care decisions or HOA rules. E.g., *"Wife is set in her ways.")*
- We're just used to what we've been doing. (E.g., *"I'm happy with the results of what I'm using.")*

Chart 9. Interest in behavior by whether they read the postcard (n=966)

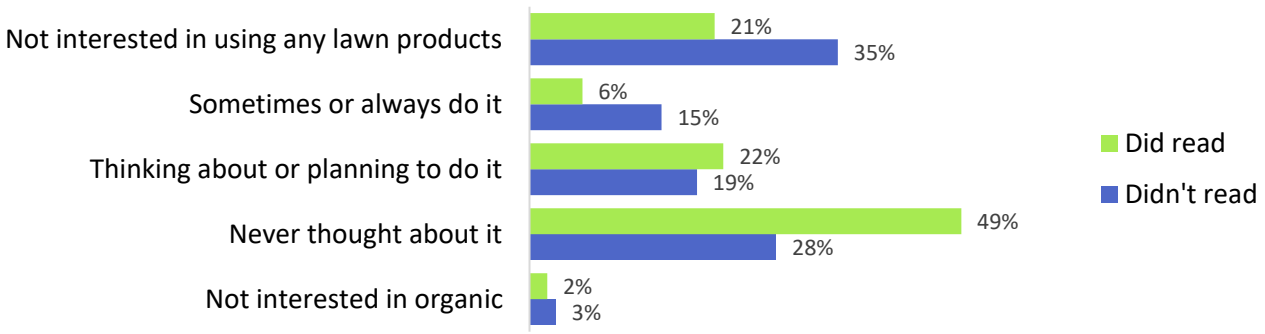
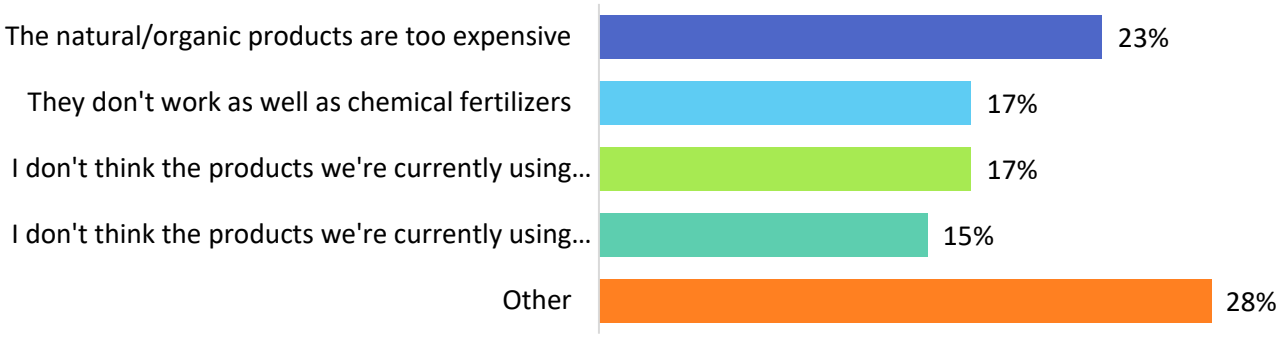


Chart 10. Primary reasons given for not planning to switch to organic fertilizer (n=250)



Findings
Part 2. Social media / online results

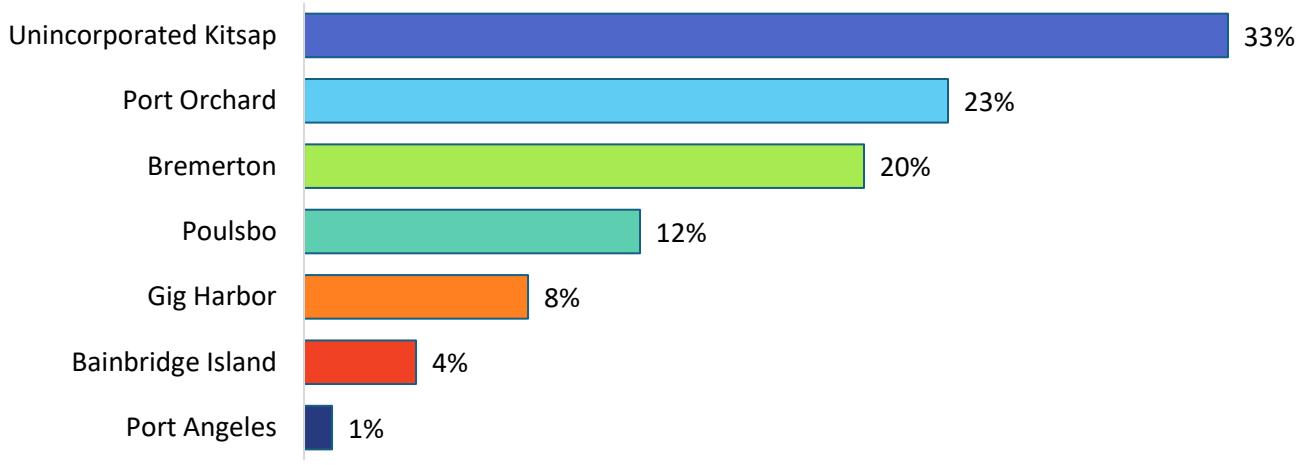
In this section:
- Survey response rates
- Characteristics of sample
- Current and intended engagement in target behavior
- Self-reported likelihood that campaign will influence behavior
- Perceived barriers to using organic fertilizer
- Questions and comments from both direct mail and online survey respondents

Response rates

The Natural Yard Care social media ads ran on Facebook in April-June 2023. Data provided by C+C indicates that 94,144 people were reached through the two ads, with 6,691 link clicks. After eliminating spam responses and zip codes outside of the target area, there were 994 valid responses.[14]

As reflected below, the largest number of respondents came from Unincorporated Kitsap County, followed by Port Orchard and Bremerton, the county's two largest cities.

Chart 11. Respondents by location (n=994)



[14] The survey gathered 12,000 responses in all, but the vast majority of these were eliminated as "survey bots," or computer programs designed to automatically complete online surveys.

Between-group comparisons

- In all jurisdictions but one, upwards of 95% had a yard with grass at their home; 88% of Port Orchard households did so.
- In roughly 90% or above of households with lawns, the respondent said they maintained their own lawn. The exception is Gig Harbor, where 78% maintained their own lawn.
- As with the direct mail survey, households who use a lawn care company were more likely to have a large lawn (over 8,000 square feet).
- Households in Gig Harbor were the least likely to have either pets or children at home.

Sample characteristics

Lawn ownership & maintenance

Of those responding to the survey, 98% have a yard with grass at home, and 90% of these maintain the lawn themselves.

The average lawn size was quite a bit larger than the direct mail sample: 18,527 square feet compared to 6875 square feet. This may be because a greater percentage of respondents to the online survey came from Unincorporated Kitsap County, which has lower housing density than more urban areas like Bremerton.[15]

Chart 12. 98% have a yard with grass (n=994)

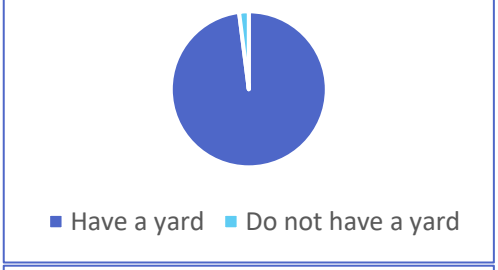


Chart 13. 90% maintain their own lawn (n=994)



Household composition[16]



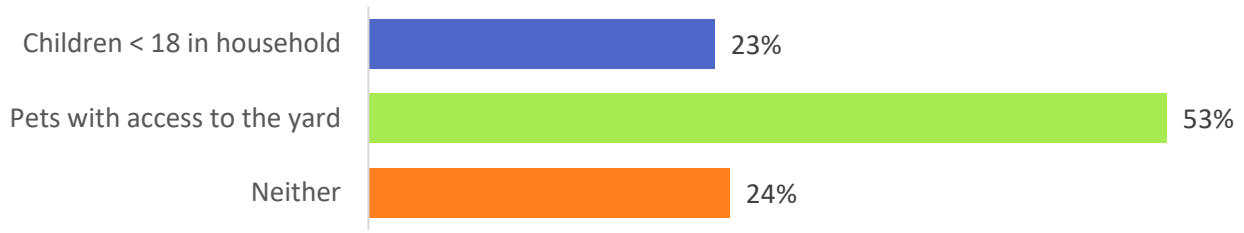
Of those who meet the criteria of having a yard and maintaining it themselves, 96% live in a single-family home.[17] One quarter have children under 18 living at home. (This compares to 26% in the most recent census data for Kitsap County.[18]



53% have pets who access their yard. (This compares to an estimated 63% of Washington state households with pets according to the latest figures.[19])

[15] The chart at right uses the same breakdown for lawn sizes as used in the direct mail, which split lawn size equally into the same three categories.
[16] Respondents to the online survey were reluctant to answer the question about their household members, resulting in a smaller n or sample size.
[17] An additional 3% live in a townhome or duplex, and 1% in a multi-unit condo or apartment.
[18] https://data.census.gov/table/ACSDP5Y2022.DP02?g=040XX00US53_050XX00US53035&tid=ACSDP5Y2022.DP02
[19] https://worldpopulationreview.com/state-rankings/pet-ownership-statistics-by-state

Chart 14. Three-quarters of respondents have children and/or pets in the household (n=290)



Sample for remaining findings

As with the findings from the direct mail campaign, we have compared those with and without children and pets for each survey topic but have included households with neither in the study sample.

Current and intended participation in target behavior

For this survey, the list of products was broken down further to compare results with those gathered in the 2018-2019 online survey. As indicated below, most respondents said they had not used use any of the product types listed. Of those that did, they were most likely to have used fertilizer, with roughly equal percentages having used organic fertilizer vs. nonorganic (chemical/non-organic or slow release/non-organic).

Table 2. Use of lawn care products within past few years (n=849)

Type	Fertilizer	Weed killer	Weed & feed	Moss killer
Chemical/non-organic	10%	13%	17%	14%
Organic	16%	5%	5%	5%
Slow release/non-organic	7%	7%	3%	5%
Don't know what type	6%	8%	4%	7%
Don't use on my lawn	61%	67%	71%	69%

Respondents were also asked to list any other products they used on their lawn; 4% did so, listing:

- Lime (20%)
- Vinegar (27%)
- Pesticides (13%)
- Manure (13%)
- Other products (27%; each mentioned by 1-2 people apiece, including corn gluten, baking soda, Epsom salts and iron)

Between-group comparisons

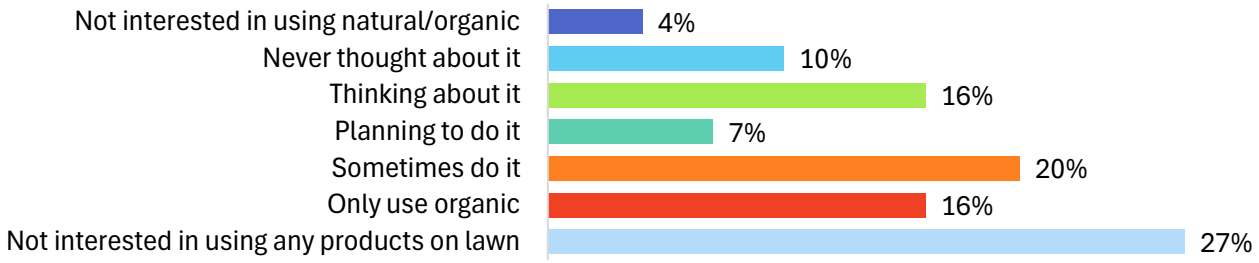
- Households with children were significantly more likely to say they used natural/organic fertilizer than those without ($p = 0.05$).
- Households with pets were significantly more likely to say they didn't use any products on their lawn ($p = <.001$).

Current and intended participation in target behavior

Respondents were asked to indicate their current behavior and attitudes towards using organic lawn fertilizer by selecting from a list of options ranging from *"I'm not interested"* to *"I only use organics."* Similar to findings from the direct mail survey, the most common response was *"not interested in using any products on my lawn."* Twenty percent said they "*sometimes use natural/organic*" and 16% that they *"only use organic*."

In all, 43% could be considered as falling into the "open to change" category, including a) people who are thinking about or planning to use organic lawn fertilizer in the future, or sometimes – but not always – use organic, indicating room for growth.

Chart 15. In terms of using natural/organic products on your lawn, which of these best describes you? (n=849)



Comments on willingness to change

Respondents could make additional comments in response to this question; 7% did so. The most common "other" responses, in order of frequency. were:

- Comments about barriers to using organic fertilizer, with concerns about effectiveness, availability and cost cited. E.g., *"My big box store doesn't carry it;" "If there was an organic that worked well against moss, I'd use it."*

- Comments describing how or when they use nonorganic. Nearly everyone who fell into this category had said they "*sometimes*" used organic fertilizer. E.g., *"Minimal usage (of chemical);" "I would prefer to not use products but do when I need to."*

- Comments about wanting to remove/reduce the lawn. E.g., *"I would like to get rid of my grass lawn because it is costly and wasteful;" "I'm actually thinking about replacing my lawn with more eco-friendly ground cover."*

- Motivations for using organics – or nothing. E.g., *"I have elderly dogs who enjoy eating grass and dirt in the yard. I don't want to use any lawn products that might make them sick;" "We are a wildlife and native plant friendly property and grown edible/food stuffs on our lot."*

Recall and impact of Natural Yard Care ads

A quarter of respondents recalled seeing one of the ads on social media; another 14% weren't sure, and the majority (61%) did not recall seeing them. Among those who did remember seeing the ads (n=218), 14% had acted as a result, either using the coupon for a discount on organic fertilizer or signing up for one of the natural lawn care webinars. (Three percent did both.)

Chart 16. Within the past couple of months, do you remember seeing either of these ads on social media? (n=849)

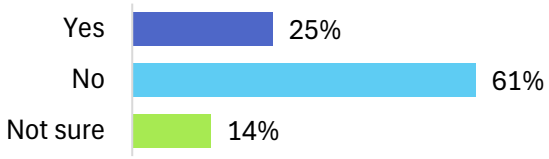
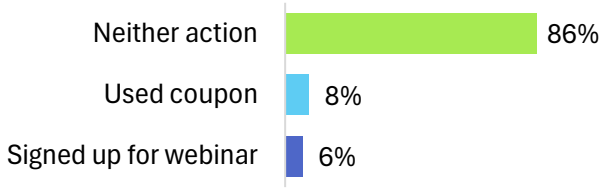


Chart 17. After seeing the ad(s), did you take either of these actions? (n=212)

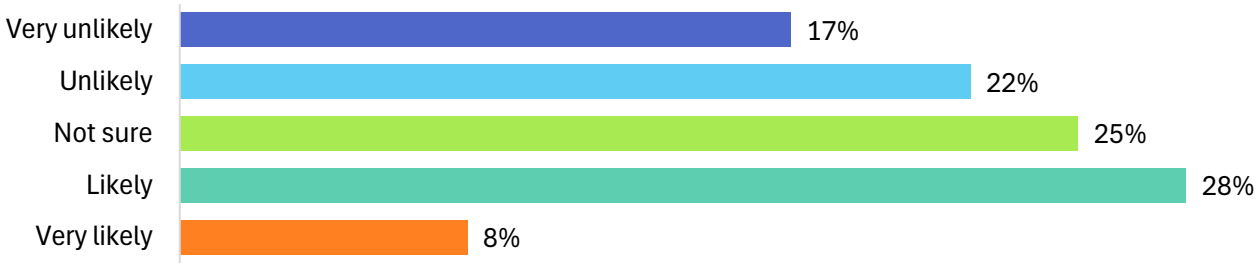


Likelihood ad will influence lawn care

Whether or not they had seen the original ads on Facebook or elsewhere, respondents were asked to take a look at them again and indicate how likely it was that the ad would influence their lawn care practices.

Thirty-six percent described it as either "*likely*" or "*very likely*."

Chart 18. Looking at the ads now, how likely is it that this messaging will influence your lawn care practices? (n=849)

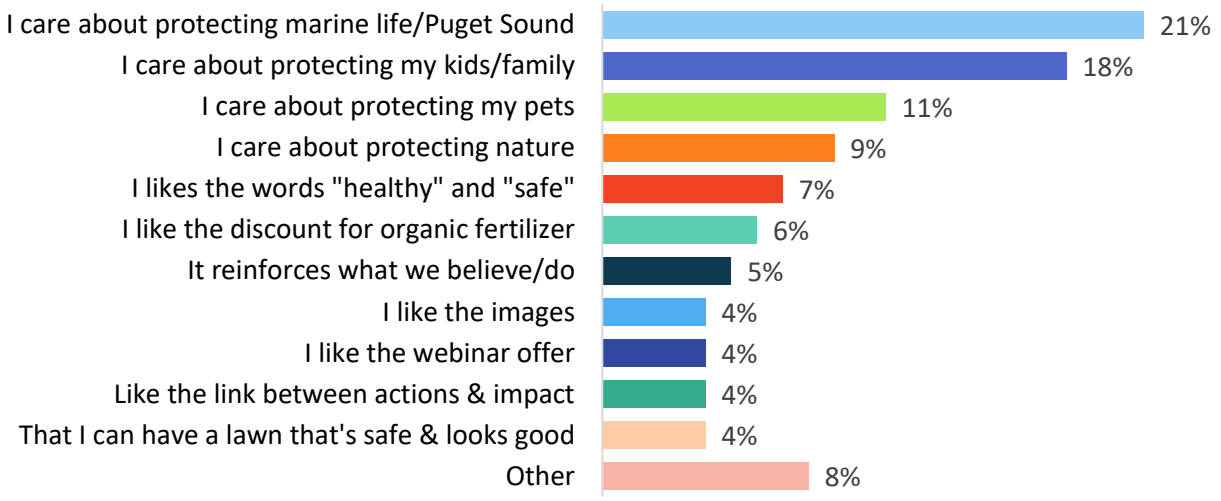


Positive influence of ads on intended behavior

Respondents who said the ads were likely to influence them were asked to describe *what it was* about the ads they felt would influence their household's lawn care practices. As reflected below, over half said the ads focused on what they care about: protecting marine life and Puget Sound, protecting their children and family, protecting their pets, and protecting nature in general. For example:

> *Family - I know that toxics might harm my pets (and one day kids), so I would prefer to avoid them if I can.*
>
> *We don't have children or outdoor pets that live with us but the picture of the seals influences me as I worry about the wildlife.*
>
> *The thought of making the waters surrounding Kitsap safer for animals and people. Showing the animals in the sound affected by poisons applied to our lawns.*

Chart 19. What is about the messaging that will influence your household's lawn care practices? (n=305)



Other aspects of the ads that people appreciated included:

- Use of powerful words such as "healthy" and "safe"
- The coupon for discounted fertilizer
- Reinforcement for their own beliefs/actions. *E.g., "The messaging reminds me that we are doing the right thing by not using weed & feed on our lawn."*
- The images used in the ads – in particular, the image of the seal pup and mother, which was most often singled out as compelling. E.g., *"The heartfelt images: mom and baby seals and the families. Also good wording…tugs at the heartstrings."* A few respondents also mentioned other images. E.g., *"I appreciate the representation in the photo because she looks like me!"*
- The webinar offer. E.g., *"I like the idea of a free webinar. I don't know a lot about lawn care and a webinar tailored to my area/climate/soil/grass types would be very helpful."*
- The connection between the actions we take and their impact. E.g., *"It's my responsibility to ensure that my yard is a safe place to play and so that Puget Sound remains that way as well;" "Seeing the kids and wildlife with action words that say I affect their health."*

- The idea that they can have a lawn that is both safe *and* looks good. E.g., *"How (fertilizer) affects ground water, and that it actually will work and kills weeds (IMPORTANT)."*

Other "likes" mentioned by less than 4% apiece included the local focus (e.g., "*The seal being more specific to this area (versus) somewhere else (Spokane, for instance),"* the info provided (e.g., *"I just never realized there were organic lawn treatments*"), and the ads as a reminder (e.g., "*…reminds me I should talk to my husband about buying more organic products instead of chemical ones*").

Those who feel the ads are *unlikely* to impact their behavior

The respondents who said the ads were unlikely to impact their household's lawn care practices (39%) were asked to indicate why. In response to a set of three reasons, the most frequent was because they did not use fertilizer of any kind on their lawn.

Chart 20. Why is the ad unlikely to have an influence on your lawn practices? (n=331)



Respondents also had the option of listing any additional reasons they were unlikely to switch; 17% did so. The most common "other" reasons, in order of frequency, were:

- They dislike or ignore ads. E.g., "*I ignore ads for the most part;" "I would never switch because of an ad;" "It is not grabbing my attention."*[20]
- Challenges with organics. E.g., "*The organic stuff doesn't work as well or requires more use."*)
- We are planning to remove our lawn anyway.
- A lack of control over lawn care decisions. E.g., *"I live with my BF and do not purchase our lawn care items."*
- Need more info. E.g., *"The message isn't providing information about pet-safe products."*
- Disagree with message. E.g.," *I'm not interested in opinions about my lawn care or lawn care products. I would skip right over that ad."*
- Already agree with organic messaging. E.g., *"I'm a cancer survivor. I will never use chemicals around my house."*

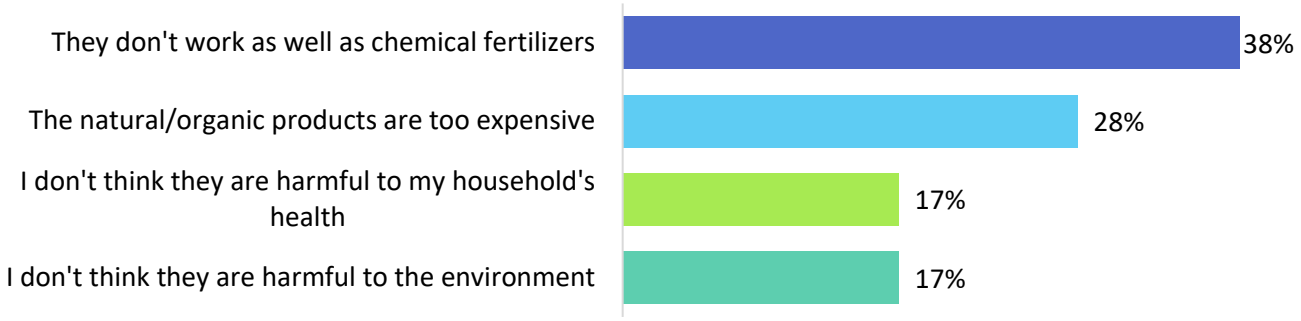
[20] Of comments focusing on the ads, nearly all cited one of the first two: I ignore ads/Ads don't influence me.

Barriers to using organic fertilizer

Finally, we asked those who said that the campaign ad would not influence their behavior because they were not interested were asked to identify their main concerns about organic fertilizer. From a list of reasons we provided, the most frequently selected was the concern that organics didn't work as well as chemical fertilizers, followed by the concern that organics are more expensive.

Respondents were again given the opportunity to write in any additional reasons that were important to them, but only two people did so.

Chart 21. Perceived barriers to organic lawn fertilizer (n=46)



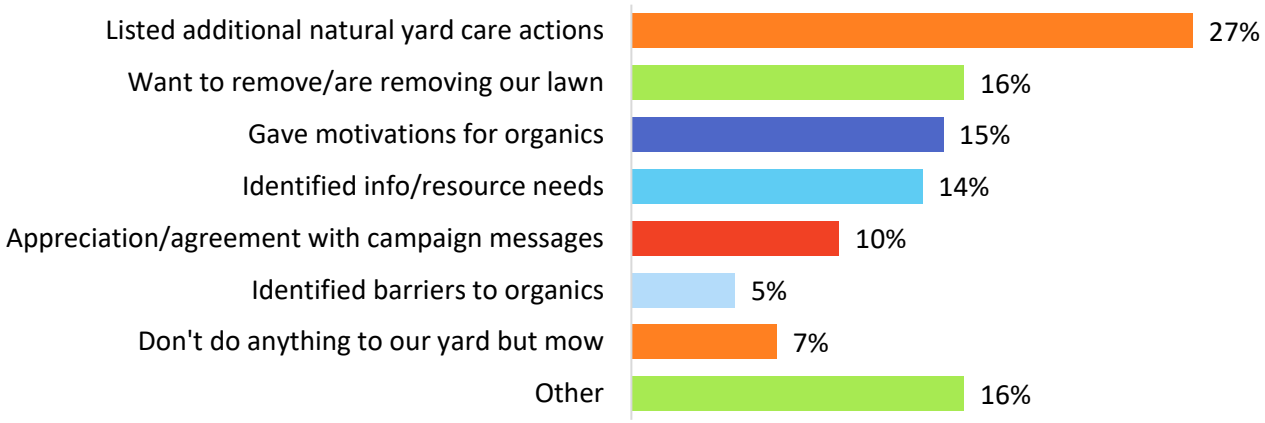
Additional comments from both direct mail and online survey respondents

Additional comments from survey respondents

Respondents to both the direct mail and online survey were asked, at the end of the survey, whether there was anything else they wanted to share about their lawn care practices – or about natural yard care in general.

Thirty-one percent of total survey respondents did so. In our experience, this is a high percentage of responses to an "*Anything to add?*" question. It's also worth noting that nearly all were substantive and related to the topic.

Chart 22. Is there anything else you'd like to tell us about your lawn care practices, or about natural yard care in general? (n=597)



Response categories

As reflected above, the most common response was to cite additional lawn care practices they engaged in, aside from fertilizing. In order of frequency, practices that were mentioned included: leaving the lawn dormant and not watering in the summer, weeding by hand, using native plants, mulching, setting the lawn mower higher, seeding with clover, and using compost.

> *Besides not using any products, we also mow to the maximum height of our mower and leave the clippings on the lawn.*
>
> *I have, over the past four years, been building my soil by aerating and mulching.*
>
> *Planning in bringing in soil amending compost to build the soil so fertilizer can be eliminated. We physically pull weeds. Only clover is too difficult. We leave that for the rabbits.*

The next most frequent response category was comments about wanting to reduce or replace their grass lawn:

> *A workshop on how to tear up the grass and appropriately install native plants would be more useful to me. The grass is way too labor intensive, especially the older I get!*

Would love to learn how to have a non-grass yard for the dogs to play in.

Please provide information to residents on plants that are a good alternative to grass, when planning to turn a lawn into a meadow. Thanks!

Many respondents cited motivations for using organics, with equal numbers citing backyard wildlife (especially pollinators), healthy environments for people and pets, and concerns about local water quality from chemical runoff.

I don't use any chemicals because I have honeybees. I think that using pollinators for an advert like this could also be very effective.

We love our pollinators and are happy to have a lawn with clover and some weeds if it helps the insect population.

It takes a lot more time and effort to create a healthy organic space with community HOAs. But I know I have a safe place for my grandkids, animals, and wildlife.

Fourteen percent identified information and/or resources they would like. The most frequent topic within this category was the need for advice on dealing with weeds/invasive plants organically. Some also asked for materials to convince others (HOAs or neighbors), and for advice on how to know what "natural" or "organic" actually means when it comes to advertising products.

I don't do much to my yard for actual lawn health, but I do treat for moles because that is an issue. I am concerned about what that does to the environment and streams from runoff. Still, I have to treat (it) because they are causing sinking around sewer drain lines, and other issues.

I'm nervous about using anything on my lawn since it seems like "natural" and "organic" are sometimes used for products that are really unsafe. I use a weed puller and let the lawn grow without any additives, but I do wish I knew a way to make it look better without risk.

We think natural lawn care (including chemical free weed management) is VERY important, but we live in an HOA that sprays roundup on every common surface. We need resources to share with the HOA board to convince them that there are better alternatives that will work.

I do not use spray weedkillers and wish to avoid toxins as much as possible. I pull weeds by hand but what an ongoing pain. Tips on keeping weeds at bay naturally are much appreciated!

Ten percent gave comments of appreciation and agreement for the messaging in the ads.

I appreciate that Kitsap County offers these types of resources for homeowners! They are not only good for homeowners but for our environment as well!

I'm already fish aware and focused so you're preaching to the choir.

Seven percent of comments fell into the category of, "I don't do anything to my yard but mow." For example, *"We are the only home in our cul de sac that receives baggies with landscapers' business cards. I arrange them artistically."*

Only 5% made comments about barriers to using organics, likely because earlier questions had explored this topic already. The barrier mentioned most often by this 5% was the challenge of dealing with weeds/invasives without toxic chemicals. E.g., "The n*atural yard care that I have tried does not kill weeds or moss and doesn't keep grass as green. If something great exists I'd love to know about it;" "I don't have kids, and I love how wildlife is safe to use my yard. Although I do mow, I have dandelions, daisies, clover, etc. instead of lush grass, mainly because I prefer to have frogs and deer. HOWEVER, lately I have gotten a bunch of Herb Robert and how do I get rid of it without products? It's everywhere."*

Other topics mentioned by multiple people (fewer than 5% apiece) included comments reflecting lack of agency (i.e., someone else makes the decisions), opinions about what the County/town should do,[21] and unrelated responses (2%), and negative comments, made by just 1%. E.g*., "How about the County take care of fixing the roads, and I take care of my lawn?"*

Differences by jurisdiction

While comments did not vary greatly by jurisdiction, there were a few differences:

- Respondents from Bainbridge Island were the most likely to share additional NYC steps they have taken, and to make comments of agreement or appreciation for the campaign.
- Respondents from Gig Harbor and Port Orchard were the most likely to make comments reflecting lack of agency. I.e., referencing their HOA's rules – or a housemate's control – as barriers to taking action. (See p. 58 in the Appendix for a comprehensive breakdown by jurisdiction.)

[21] Most of these were concerns about whether Kitsap County was spraying herbicides and/or pesticides along roadways, along with a few comments about jurisdiction-specific actions they'd like to see. E.g., *"We should have a rule in Gig Harbor that houses can't require lawn. Would rather have low-water native landscaping."*

Findings
Part 3. Webinar results

In this section:
- Registration and attendance rates
- Publicity avenues
- Satisfaction with webinar and likelihood of recommending
- Current and intended engagement in target behavior
- Questions about natural lawn care
- Changes reported by participants since attending the webinar

Background
Each of the three workshops was presented by a Master Gardener affiliated with Washington State University's Extension program. The PowerPoint presentation lasted 20 minutes, followed by a question-and-answer period, which ran from 15-30 minutes, depending on the session. Nearly all participants stayed through the PowerPoint and the majority stayed for the Q&A as well.

Audience & publicity
One hundred and three people registered for one of the webinars, and 29% of these (n=30) attended, with an average of 10 per session.

Among people who registered for a webinar, 77% (n=77) were in the priority audience of households that have children under 18 and/or pets with access to the yard. Registrants lived in all seven WSSOG jurisdictions, with the largest percentage coming from Unincorporated Kitsap.

Facebook was by far the primary route through which people heard about the webinars. Another quarter learned about them through the email newsletter sent out through GovDelivery and 10% through the campaign postcard mailed to area households.

Chart 23. Workshop registrants came from all 7 jurisdictions (n=103)

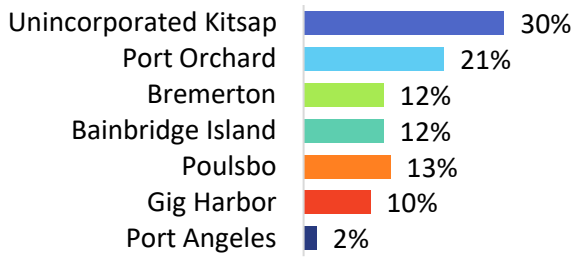
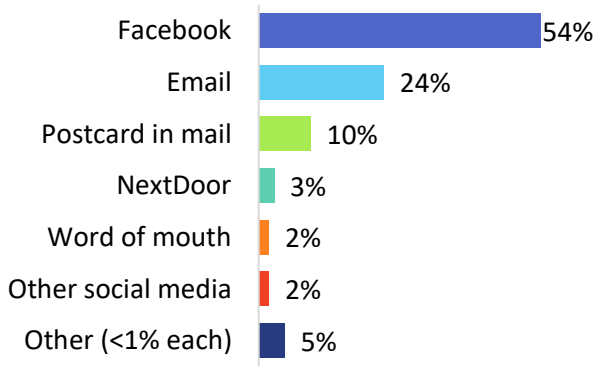


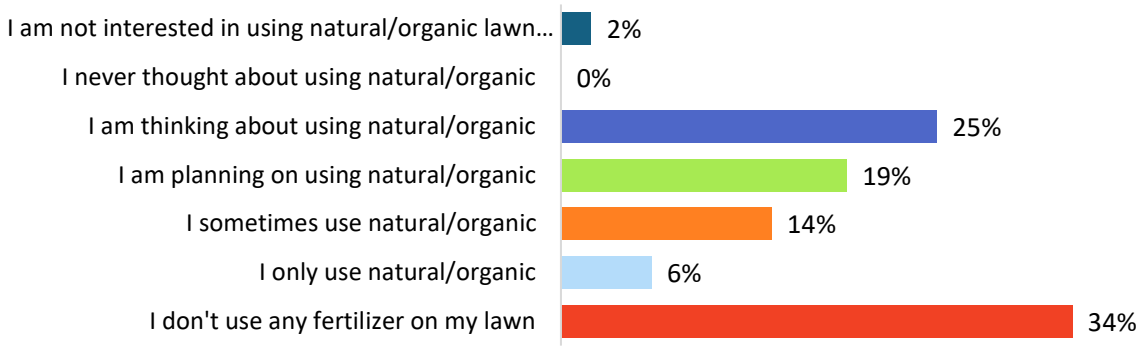
Chart 24. Over half heard about the events on Facebook (n=103)



Current practice regarding target behavior

The largest percentage of registrants said they don't use any fertilizer on their lawn (organic or otherwise). Another 39% were considering using organic (thinking about it or planning to do so in the near future), and 20% used organic lawn products some or all of the time.

Chart 25. Most registrants were either considering using natural/organic lawn care products, or did so some of the time already



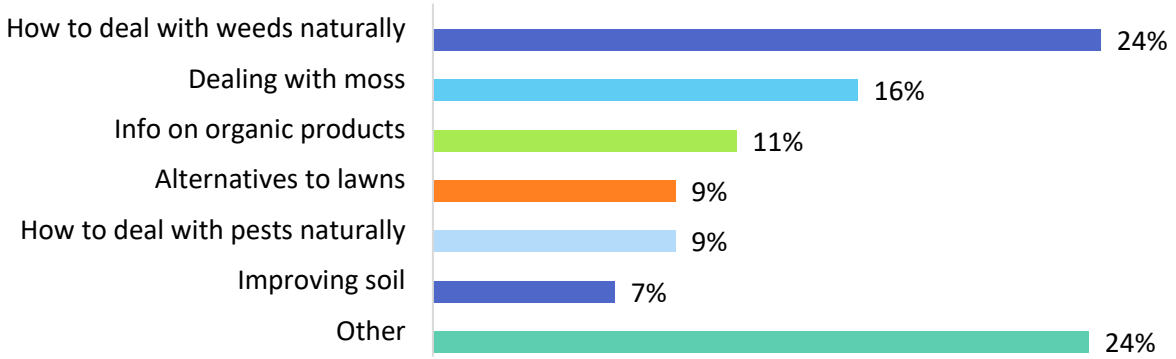
Participant questions about lawn care

Prior to the webinar, those who had registered were asked to write down any questions or concerns they had about natural lawn care. Forty-one percent wrote in questions, with the most frequent being ways to deal with weeds/invasive plants and pests naturally, how to control moss, info on organic products and alternatives to lawns.[22] For example:

> *How do natural lawn products help existing lawns? Do they help reduce weeds?*
>
> *How to get rid of sticker bushes and moss in my grass naturally/safely, as moss has taken over and I have a dog.*
>
> *Can you talk about short wildflower meadows?*
>
> *What is a safe weed and feed product for lawns and growing fruit trees?*
>
> *Our neighborhood has issues with various weeds and invasive grasses, and we live near water (so) I don't want to pollute.*

[22] Many other topics were mentioned by one or two people apiece, ranging from how to repair a dog urine-damaged lawn, the best lawn mower blade length to discourage weeds, best lawn for "paw traffic," and general questions asking for info or resources. E.g., *"I'm a new homeowner and have no idea what I'm doing."*

Chart 26. Over 40% identified topics they hoped to learn about at the webinars (n=41)



Immediate post-webinar survey

Satisfaction

Immediately after the webinar, respondents were asked to fill out an online survey about their experience. Sixteen people (55%) completed the survey.[23]

- 100% of attendees said the webinar met (75%) or exceeded (25%) expectations.
- When asked how likely they were to recommend the webinar to family, friends or coworkers, respondents gave it a mean score of 8.8 on a 1-10 scale (1 low, 10 high). The Net Promoter Score is 56%; scores above 50% are generally considered very good to excellent.[24]

Six of 16 respondents made comments at the end of the survey; all of these were positive. One person made a request: recommendations for the best tools for manually removing weeds. Sample quotes:

> *It was very well run, jumped right in, information was very helpful, and I greatly respected the speaker's approach to lawn health. I'm very very pleased that your program is spreading this information. Our earth needs it so thank you!*
>
> *This was great for me since I just moved to the PNW and this is a much different growing climate than where I moved from.*
>
> *It was well done with the background support. The speaker's knowledge was supported by others which was nice. I was surprised (speaker) did not know about Tagro.*

[23] The survey was set to appear immediately after the webinar, but due to a logical glitch, not everyone saw the pop-up. So, some of these respondents took the survey immediately; others did so after an email request following the webinar.

[24] The Net Promoter Score (NPS) aims to measure the % of customers for a business or other organization who would be considered active promoters, based on their likelihood of recommending. See https://www.bain.com/consulting-services/customer-strategy-and-marketing/net-promoter-score-system/

Target behavior

As reflected at right, most respondents have used non-organic chemicals on their lawns within the past few years. A quarter (n=4) have used natural or organic fertilizer; one of these had also used weed and feed. Three respondents had used other products including Tagro (two mentions) and Triazolide, an insecticide.

Table 3. Which of these products, if any, have you used on your lawn in the past few years?	Responses (n=16)
Weed & feed	5
Moss killer	5
Natural or organic fertilizer	4
Weed killer	4
None of the above	4
Nonorganic / slow release	0
Other products	3

Impact on intended behavior

To assess the impact of the webinar on participants' intent to switch from weed and feed to natural/organic lawn products, the survey included a question aimed at measuring progress in peoples' willingness to make this shift.

Changes pre-post survey

Those who attended a webinar were compared to those who completed the survey soon afterwards.

Table 4. In terms of using natural/organic fertilizer, which best describes you?	Pre (n=103)	Post (n=16)
Not interested	0	0
Never thought about it	0	0
Thinking about it	13%	21%
Planning on doing it soon	28%	33%
Sometimes do it	7%	7%
Always do it	14%	27%
Not interested in using any lawn products	31%	20%

While participants were more likely to say they were planning to do the target behavior after the webinar, they were also more likely to say they already used exclusively organic. Given the relatively small number of webinar participants (n=29, half of whom completed the post-survey), it's impossible to say whether this reflects a statistically significant change.

Self-Efficacy in Lawn Care

Participants were also asked to rate their confidence post-webinar in their ability to create a healthy lawn using natural/organic products.

- On a scale of 1-10 (1 being low, 10 being high) the mean confidence score was 7.0 with 15 responding.
- Seven of the 16 rated themselves as confident (7 or higher); another 7 were unsure or somewhat confident (5 or 6) and 1 as not confident (3).

Asked what would help boost their confidence, those who rated themselves a 6 or lower cited:

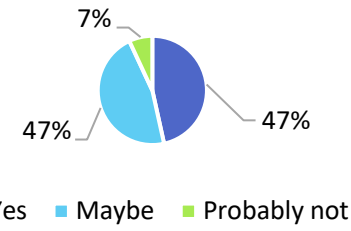
- Questions about whether they could control weeds without toxic chemicals. E.g., *"I like having a well-groomed lawn but I'm concerned about weed control, especially larger type weeds…ie: dandelion."*
- Concerns about cost. E.g., *"Not certain it will be effective without costing a lot more."*
- Doubts about whether other household members would be on board. E.g., *"Unsure if spouse will comply."*

Intent to use coupon for organic fertilizer discount

Respondents who had attended a webinar were roughly split between those who said they intended to use the coupon for 25% off natural/organic fertilizer, and those who said they would "maybe" use it.

Attendees were given the opportunity to sign up for a follow-up email exchange with a Master Gardener a few months after the workshop to address any lawn care questions they might run into. Four people signed up for this follow-up support.

Chart 27. Do you plan to use the discount coupon?



Six-month post follow-up survey

Six months after the webinar, a survey was sent to everyone who had registered. Twelve percent (n=12) responded; seven of the 12 had attended the webinar.[25] When asked what motivated them to attend, one person said they attended "just to learn a little, get some information." The rest said they attended to learn how to take care of their lawn without toxic chemicals. For example:

> *Wanted to find out about ways to keep the lawn nice without putting chemicals in the water.*
>
> *Advice to take better care of my weeds and grass in an environmentally safe way.*
>
> *To learn how to naturally take care of my yard without harsh chemicals.*

<u>Key Findings</u>

Among those who registered but didn't attend, the primary reasons for missing the webinar were: forgot to watch the webinar, had a time conflict, had issues with the internet or Zoom, or had planned to watch the recording later.

None of the respondents had used the coupon for 25% off natural/organic lawn fertilizer. The main reason given for not using the coupon was that they didn't remember receiving the coupon, followed by *"Did not want/need lawn fertilizer."*

In terms of intent to do the target behavior, approximately 30% apiece said: *"never thought about it," "am thinking about/planning to do it;"* and *"I sometimes/always use organic fertilizer."*

When asked what if any changes they had made since attending the webinar, five of the seven attendees had taken one or more steps:

- 4 had adjust their lawn mower higher
- 3 had stopped using weed and feed
- 1 apiece had used a mulching mower or left clippings; begun watering more deeply and less frequently; and had aerated their lawn.

[25] One attendee was from Poulsbo, the rest from Unincorporated Kitsap County.

Findings

Part 4. Interviews with participating nurseries

In this section:

- Coupon redemption numbers and locations
- Satisfaction with webinar and likelihood of recommending
- Nurseries' perspectives on logistics & impact of NYC campaign
- Suggestions for the future

Background

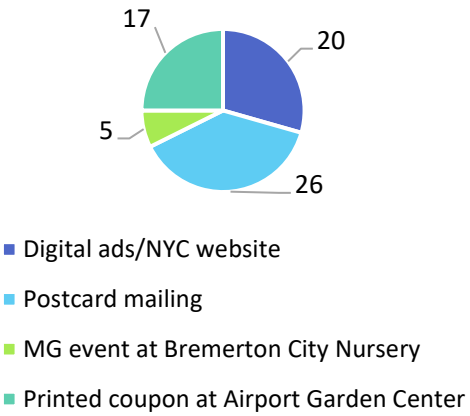
Six retail establishments across the West Sound participated in the Natural Yard Care coupon promotion during the spring of 2023. The coupons offered a 25% discount (or up to $15 off) on select natural or organic lawn fertilizer products. (See coupon below.)

Table 5. Participating nurseries	# coupons redeemed	Nursery location
Airport Garden Center	19	Port Angeles
Bay Hay & Feed	8	Bainbridge Island
Bremerton City Nursery	23	Bremerton
Gig Harbor Ace Hardware	10	Gig Harbor
Vern's Organic Topsoil	8	Poulsbo
Walrath Landscape Supply	0	Gig Harbor
Total coupons redeemed	68	

Coupons were active from April 1-June 18, 2023, and could be downloaded from the digital ads, NYC website or the NYC postcard sent by direct mail. In addition, one nursery (Airport Garden Center) printed out coupons and shared them with customers during their visit.

Info provided by communications and marketing firm C+C, who created the coupons and tracked redemptions, found that the printed coupon that Airport Garden Center staff handed out was responsible for almost as many redemptions as the digital campaign.[26]

Chart 28. Source of coupons (n=68)



Interviews with nurseries

Four of the nurseries (Airport Garden Center, Bay Hay & Feed, Bremerton City Nursery & Walrath Landscape Supply) participated in short interviews (phone or in-person) following the campaign.

[26] C+C also noted that Gig Harbor Ace Hardware began using the same method (an in-store flyer) halfway through the campaign.

Because of the anomalies in recent years (the COVID pandemic and an unseasonably late spring in 2022), the nurseries noted the challenges of seeing distinct patterns in overall fertilizer sales over the past three-four years. However, three of the four reported that sales were strong during this most recent year. Airport Garden Center, for instance, was up 15% in fertilizer sales compared to 2022.

Logistics of coupon redemption

All four retailers felt the coupon redemption process worked fine for their staff. Staff at Bay Hay and Feed suggested that having a specific dollar amount off (rather than a percentage) would make the process even simpler for both staff and customers; the other three nurseries agreed. But none felt the process was arduous. *"We're pretty versed in coupons,"* says Betsy Matthews, co-owner of Airport Garden Center, *"and one of our trainings for new staff is coupons."*

Matthews also shares that she made a log for staff to use listing what the coupon was for, customer's first name (so there weren't duplicate redemptions), and type of coupon – whether from the postcard, social media, in-store copies, etc. Next time around, says Matthews, she's planning to add two questions to the log: 1) whether the customer is a first-time visitor, and 2) whether they're a first-time organic fertilizer user, to see if the coupon promotion influenced these.

Another logistical challenge was that the product one company (Walrath Landscape Supply) ordered for the promotion was, says Jami Burke (soil consultant at Walrath), *"A very good product, but it's more expensive than some and the instructions aren't as clear as they could be. In the future, I'd get a brand where the instructions are less complicated."*[27] While they are interested in participating in a coupon redemption again next year, she notes that they have a lot of product still on hand. She hadn't been aware, she says, what the goal was for coupon redemptions, so in retrospect, she over-ordered.

As noted above, both Gig Harbor and Airport Garden Center ended up printing out coupons and handing them to customers. The other two were asked if this was something they'd consider in future. Els Heijne, manager at Bay Hay and Feed, noted that while they weren't opposed to this, this approach wouldn't enable WSSOG to measure the success of the digital/postcard campaigns.

Impact on interest in organic fertilizer

We also explored whether the ad campaign and coupon generated any conversations with customers – such as first-time buyers - about using organic fertilizer, like how to apply it, how often, etc. All four of these nurseries highlight organic products as part of their regular practice, however; as a result, none recalled getting questions from people who seemed to be new organics users.

[27] The product is from Hendrikus Organics. https://www.hendrikusorganics.com/about-ushttps://www.hendrikusorganics.com/about-us

Three of the retailers noted that they are known for their philosophy of using organics, so they don't get many questions from people wondering whether to buy organics. *"We're about organics,"* says Heijne at Bay Hay and Feed, *"and people know that."* Justin Dreary, one of the owners of Bremerton City Nursery, agrees. *"People wouldn't come asking about weed and feed vs. organic; they know we're organic."* Adds Betsy at Airport Garden Center, *"We've been training our customers to use organics for a long time, so it's probably 95% of our customers who buy them. We still have some that's not (organic) but they're all in the back and you have to ask for them specifically. We have some old farmers who don't want to switch."*

The fourth retailer – Walrath Landscape Supply – says they're known more for supplying soil, gravel and hardscape more than they are for fertilizer, although they are planning to build up the garden side of their business. Jami Burke also notes she wouldn't expect to get a lot of questions about organics in her area because, *"…there are a lot of lawn care companies in this area; many people use them and there are high expectations for lush, green lawns. It would require a lot of educational outreach to move people away from that, and I don't know whether this (WSSOG campaign) had much of that element."* Prior to working at Walrath, Jami explains, she was part of a team that conducted home visits with households in Olympia, WA, focused on switching to organics to improve stormwater. *"People don't necessarily know,"* she says, "*why to use organic, how to use it, what the issue with phosphorus is, etc. They really need one-on-one help and conversations to apply the knowledge to their own landscape."*

Suggestions for future

All of the retailers interviewed are interested in participating in future coupon redemptions to promote natural yard care. Suggestions raised by the nurseries included:

- As mentioned earlier, considering a straight dollar off promotion rather than a percentage (i.e., $15 off rather than 25% off). (Four mentions)

- Having a discount that is available on the day their nursery could hold an event highlighting organic lawn care. (Three mentions) Airport Garden Center for example, says they hold well-attended events focusing on fruit trees, Mason bees and other pollinators which would pair well with the organic message.

- Figuring out how to incentivize stores that are stocking weed and feed and other nonorganic products to participate in the promotion. As interviewees noted, big box stores are more likely to draw people who haven't yet decided to purchase organic, so would have a better chance of reaching people who haven't yet made the switch. (Two mentions)

- Adding two items to the coupon tracking sheet: whether the person is a first-time customer, and whether they're a first-time organic fertilizer user. (One mention)

- Conducting in-person outreach (as WSSOG had planned at the start of this campaign but jettisoned due to COVID 19). (One mention) As noted earlier, Jamie Burke from Walrath also suggested door-to-door visits, if possible, for educational conversations with households about natural yard care. (Burke also offered to serve as a resource for the campaign, because of her prior experience in door-to-door conversations about organic lawn care and her passion for the subject.)

- Providing nurseries with a ballpark estimate of how many coupons are likely to be redeemed based on performance to date, so nurseries make sure they have enough – but not too much.

Findings

Part 5. Calculation of potential campaign impact on nutrient pollution into local waterways

Pre-post results from online surveys

In January of 2019, prior to the launch of the NYC social marketing campaign, data was collected on current lawn practices among Kitsap County households and perceived barriers to using organic fertilizers. The survey was made available on Facebook, NextDoor, GovDelivery, and in communication channels in Gig Harbor and Port Angeles.[28] Results were compared with the online survey we conducted in 2023.[29] The pre-post audiences were not paired but have the following characteristics in common: owning a home with a lawn, maintaining the lawn themselves, and living within the communities covered by these media channels.

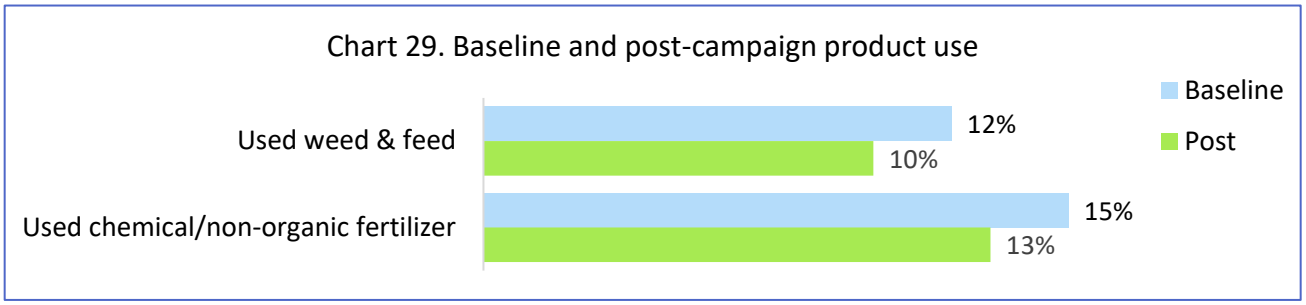
As reflected below, respondents to the post-survey were slightly less likely to have used non-organic fertilizer or weed-and-feed within the past few years, though the differences fall short of statistical significance. It's important to note that:

- The figures for baseline include only households with children and pets; the post figures included all households who have a lawn and maintain it themselves. Because of the low percentage of respondents who provided household demographics there are not enough cases in each of the conditions to conduct a robust comparison of households with and without children and pets who also used these products.[30]

- The post survey was conducted about two months after the NYC ads ran. Since people were reporting on their behavior in recent years, we don't know whether they had used non-organic products in the two months *since* seeing the ad.

- Given the four-year gap between pre and post, there are factors aside from the NYC campaign that may have influenced peoples' attitudes and behaviors regarding the use of non-organic fertilizer and weed-and-feed. With consumers' increasing concern over the use of synthetic chemicals, for example, the organic fertilizer market has grown in recent years.[31]

[28] Hardwick Research (2019) *WSSOG Stormwater Runoff Survey*, Kitsap County.
[29] Households who responded to the Direct Mail survey were not included in this sample, since they received a different treatment (a postcard in the mail vs. seeing the messaging online).
[30] To respect respondents' privacy, we did not require them to answer the survey questions about their household members.
[31] One estimate suggests the organic fertilizer market grew at an 8% rate between 2018 and 2022; see https://www.futuremarketinsights.com/reports/north-america-organic-fertilizers-market



Potential impact of campaign on fertilizer runoff

Assumptions used in calculating potential impact

The WSSOG members noted at the start of this project that the technology does not exist that would enable behaviors encouraged by this campaign to be linked to observed water quality changes, given a) the many variables affecting water quality in a complex system such as Puget Sound, b) the widespread geographic scope of the campaign, and c) the relatively small scale of the campaign.

Lacking an independent measure that could provide insight into cause and effect, what we present below is an estimate of the amount of inorganic fertilizer that *would be prevented* from entering Puget Sound if this audience's intent to act were to lead to the desired behavior. The calculations are based on the following assumptions:

- We assumed an average usage of 2.85 pounds of fertilizer used per 1,000 square feet.[32] The calculations are based on a single application of fertilizer. (A survey conducted by Hardwick Research at the outset of this campaign found that most people using weed and feed-type products used them once a year or less; 31%, however, fertilize more than once a year.)

- We found estimates in the literature for degree of runoff (i.e., the percentage of fertilizer that typically runs off the property after it's applied) ranging from 2% to 64%. Degree of runoff varies dramatically; it is influenced by when it was applied (e.g., after a rainstorm), degree of saturation or soil compaction, type of fertilizer (slow or fast-release), steepness of slope, etc. For the purposes of getting a ballpark sense of the amount of inorganic fertilizer that may have been diverted from Puget Sound through this campaign, we used the figure of 20% based on Maciolek et al in a 2005 study of Boston Harbor,[33] cited by the World Resources Institute.[34]

It's worth underscoring that the figures below showing potential impact on Puget Sound are based not on independently observed behaviors, but on survey respondents' self-reported intent when it comes to using organic rather than inorganic fertilizer. Intent to act is one of the variables that predict whether we *will* act, but we can't know for sure how many followed through.

---

[32] Estimates vary depending upon the exact product; this estimate is drawn from the recommendation by Scott's (14.29-pound bag to cover 5,000 square feet). https://www.homedepot.com/p/Scotts-Turf-Builder-14-29-lbs-5-000-sq-ft-Weed-and-Feed-Weed-Killer-Plus-Lawn-Fertilizer-25006A/205546050

[33] Maciolek, N.J., R.J. Diaz, D.T. Dahlen, C.D. Hunt, and I.P. Williams. 2005. *2003 Boston Harbor Benthic Monitoring Report.* Boston: Massachusetts Water Resources Authority.

[34] Report on eutrophication and hypoxia around the globe, published by the World Resources Institute. See https://www.wri.org/initiatives/eutrophication-and-hypoxia/references

Direct mail survey results on intended behavior change

The sample used for the calculations below is 1187, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 1187:

- 34% (401) said the NYC ads were "*likely*" or "*very likely*" to influence their own lawn care practices.
- Of these, 38% (n=152) s14aid they were already using only organic fertilizer or weren't using anything on their lawn.
- The other 62% (n=248) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, 17% of direct mail respondents can be described as showing intent to adopt the new behavior.

Table 6. Potential impact based on respondents who say they are likely to use organic/fertilizer (and not currently doing so)
DIRECT MAIL RESULTS

n	Total square feet of lawn among respondents	Total square feet / 1,000	1,417.51 x 2.85	4,039.91 x .20 (estimated runoff)
248	1,417,514 square feet	1,417.514	4,039.91 pounds	**807.98 pounds**

Table 7. If extrapolated to entire direct mail audience (n=14,350)
DIRECT MAIL RESULTS

n	Average lawn size of respondents	Total square feet	Total square feet/1,000 sq.ft	16,743.73 x 2.85	47,717.55 x .20
2439	6,865	16,743,735.00	16,743.735	47,717.55 pounds	9,543.51 pounds = 4.77 tons

B. Social media/online survey results on intended behavior change

The sample used for the calculations below is 875, which represents survey respondents who own a lawn and maintain it themselves. Out of the sample of 875:

- 36% (315) said the NYC ads were "*likely*" or "*very likely*" to influence their own lawn care practices.
- Of these, 44% (n=135) said they were already using organic fertilizer exclusively or hadn't used any products on their lawn.
- The other 56% (n=175) said they had been using non-organics previously, so using organic fertilizer would be a new behavior for this group.
- In all, 20% of online respondents can be described as showing intent to change their behavior to using organic fertilizer.

Table 8. Potential impact based on respondents who say they are likely to use organic/fertilizer (and aren't currently doing so)
ONLINE RESPONSE

n	Total square feet of lawn among respondents	Total square feet/1,000 sq.ft	4,648.397 x 2.85	13,247.93 x .20
175	4,648,397	4,648.39	13,247.93 pounds	2,649.58 pounds or 1.32 tons

Table 9. If extrapolated to online audience as a whole
ONLINE RESPONSE

n	Average lawn size	Total square feet	24,789,126/1,000 sq.ft	24,789.126 x 2.85	70,649.00 x .20
1338	18,527 sq. ft.	24,789,126	24,789.126	70,649.00 pounds	14,129.80 pounds or 7.06 tons

Conclusions and Recommendations

The Natural Yard Care social marketing campaign conducted by WSSOG over the past few years has resulted in messaging that target audiences find compelling, and that a quarter believe will influence their behavior: switching from nonorganic lawn products to natural/organic ones. The campaign has also provided valuable lessons for WSSOG that can be applied to future efforts, and partnerships with local nurseries who are committed to encouraging organic products. It is especially noteworthy that the campaign began just a few months before the COVID pandemic, which made it impossible to carry out the initial campaign plan.

Campaign Outputs

Through a combination of ads placed on social media, mailings to households, discount offers for reduced-prize organic fertilizer, and webinars offered by a Master Gardener, 2023 campaign results include:

- Facebook ads that reached an estimated 94,144 people throughout Kitsap County, Gig Harbor and Port Angeles
- Another 14,347 reached through postcards replicating the Facebook ads sent to households in the same area
- Three webinars, attended by 29 people
- Discount coupons for organic fertilizer, redeemed by 68 people at one of five area nurseries

Outcomes among survey respondents

In all, 2481 completed surveys; of these, 2093 were in the target audience of a) having a yard with grass, and b) maintaining the lawn themselves.

- After reviewing the NYC ads, 34% said the ads were likely or very likely to influence their lawn care practices. Not counting those who were using organic exclusively already, this translates to 19% of the audience showing intent to adopt the target behavior.

- The two main study samples (social media respondents and direct mail respondents) were very similar in terms of interest in the target behavior. For example, 42% of direct mail respondents indicated willingness to engage in the behavior,[35] compared to 43% of social media respondents. And 34% of the direct mail group said the NYC ad was "*likely*" or "*very likely*" to influence their lawn care behavior compared to 36% of the social media group.

- The aspect of the ad campaign the audience found particularly compelling was the focus on things they cared about: protecting marine life and Puget Sound; protecting their children, pets, and families; and protecting nature in general. People also liked the use of direct and compelling words like "healthy" and "safe," and some appreciated the offers for fertilizer discounts and webinars.

- When asked about products they use on their lawns, the most frequent response was, *"I don't use any products at all."* Roughly 20% have used weed and feed, moss killer, weed killer, or a nonorganic, slow-release fertilizer.

- Very few people, however (approximately 5%) say they are *not* interested in using organic fertilizer. (Another third say they are not interested in using *any type* of fertilizer on their lawns.)

[35] That is, saying they were either thinking of doing it, planning to do it in the near future, or already doing it some of the time.

- In all, 40% of the audience surveyed falls into the "willingness to change" category. They have already thought about doing the target behavior, have planned to start doing it, or have begun doing it at least some of the time.

- Among those who are willing to engage in the target behavior, the challenge of controlling weeds and/or invasive plants was a primary barrier. Among the audience as a whole, the most prominent barriers were a) the perception that organics don't work as well as chemical fertilizer, and b) the organic products are too expensive.

- When given the opportunity to make general comments about their own lawn care practices or about natural yard care in general, the most frequent topics that emerged were:
  - Comments on NYC steps the respondent was taking aside from not using weed and feed-type products
  - Comments about wanting to reduce or remove their lawn
  - Comments about topics the respondent would like help with, including learning and/or resources
  - Comments about the perceived benefits of not using weed and feed-type products or other lawn chemicals
  - Comments of appreciation and/or agreement with WSSOG's NYC campaign

- While comments did not vary greatly by jurisdiction, there were a few differences:
  - Respondents from Bainbridge Island were the most likely to share additional NYC steps they have taken, and to make comments of agreement or appreciation for the campaign.
  - Respondents from Gig Harbor and Port Orchard were the most likely to make comments reflecting lack of agency. I.e., referencing their HOA's rules – or a housemate's control – as barriers to taking action.

Lessons learned

- The campaign messages of caring for children, pets, marine life, and Puget Sound were compelling to the audience as a whole – not only households with children and/or pets. Because the ad campaign featured an image of a seal pup and mother (the photo that the audience found most compelling), the campaign had broader appeal than may have been expected initially.

- Having a pet at home with access to the yard seems to alter respondents' yard care behavior in a way that having children at home did not. Pet-owning households were more likely to say they didn't use any lawn products, and more likely to use organic products than households with children – or households with neither children or pets. One explanation may be that pets are spending more time in the yard (year-round) than children, so raise more concerns about exposure.

- Because the participating nurseries focus on organic products already, it was unclear whether the discount coupons were encouraging first-time customers or first-time organic users – rather than regular organics customers who appreciate the discount. All of the nurseries we interviewed were interested in participating again in the future, and some made suggestions for strengthening the campaign.

❖ While the cost of organic products remains a perceived barrier for many, the primary barrier among those who showed willingness to change was the challenge of treating weeds and invasive plants without toxic chemicals.

Recommendations

Audience segmentation

The results of this study suggest that when it comes to willingness to engage in the target behavior, the audience can be segmented into four categories:



Group A = Not interested (33%) This subset includes:

- People who are not interested in using organic fertilizer on their lawns (5%)
- People who aren't interested in using fertilizer of any kind on their lawn (28%)[36]



Group B = Not on their radar at this point (10%). **P**eople who said they had "*never thought about*" using organic fertilizer.



Group C = Already doing the target behavior consistently (14%)These are people who said they only use organic fertilizers on their lawns AND haven't used any inorganic products (weed and feed, slow release/nonorganic, weed killer, etc.) for at least the past few years.



Group D = Open to change (43%). People who have used inorganic fertilizers in the past, express an intent to change their lawn care practices, and say they were influenced to do so through the NYC campaign**.**

These categories draw from the Transtheoretical Model,[37] which offers a model for how individuals move through six stages of change, from:

→ Precontemplation (not interested/not thinking about it)
→ Contemplation and preparation (thinking about it/planning to do it soon)
→ Action (starting to do the behavior, or doing it some of the time)
→ Maintenance (doing it consistently over time)

Viewed through this lens, Group D is the most likely to change their behavior. And for this group, the key task isn't necessarily to convince people to use organics; many of them understand and articulate the benefits of organics already. They do face barriers, and the data suggests that dealing with perceived challenges – in particular, controlling weeds, invasive plants (and for some people, moss) – organically and effectively is the primary one.

[36] Includes people who also said they're planning to reduce or remove their lawn.

[37] The model was initially developed to understand and treat health-related behaviors but has been applied in multiple areas of human behavior. See, for example, Inman, R.A., Moreira, P.A., Faria, S., Araujo, M., Cunha, D., Pedras, S. and Correia Lopes, J. (2022) An application of the transtheoretical model to climate change prevention: Validation of the climate change stages of change questionnaire in middle school students and their schoolteachers, Environmental Education Research, 28:7, 1003-1022, DOI: 10.1080/13504622.2021.1998382

We recommend:

- **Focus future behavior change efforts on Group D for maximum impact** through activities that offer guidance on organic methods for weed control and improving grass health. This approach can also help reinforce the behavior among those who already do the desired behavior (Group C) by addressing any ongoing challenges.

  Because lawn care is very context-specific and requires development of knowledge and skills through practice, we suggest that activities aimed at this group should incorporate opportunities for one-on-one or small group conversation based on issues.

  Such activities could include:

  → As WSSOG had initially planned, workshops and other outreach events at local retailers offering hands-on demonstrations and advice on organic approaches to weed control and grass health.

  → Exploring possibilities for peer-to-peer learning, which can be especially valuable for practicing new skills. For example, neighborhood tours could be offered where participants visit the yards of households who are already using organic fertilizer and are able to ask questions about the process. A surprising number of survey respondents offered information about natural yard care steps they're already taking, indicating a willingness to share their experience and knowledge.

  → Downloadable webinars and/or materials focused on individual topics. Based on respondents' questions and comments, topics might include alternatives to lawns, dealing with moss, controlling weeds and nontoxic treatment of invasives, how to improve soil, how to strengthen lawn health through mulching and composting, etc. There are many examples of natural yard care info online already,[38] but they generally cover a range of topics without great depth.

- **Revisit the behavioral ask.** While the target behavior (don't use weed and feed-type lawn products) can be communicated in one sentence, the action is multifaceted. Assuming that most people have a reason for using products like weed and feed – controlling weeds or having a green lawn – they will need to come up with an alternative way to address these issues. Even if they make a clean switch to an organic fertilizer, front-end research for this project found that among those who used organic lawn products, nearly half said it took over a year before they felt confident that the lawn was going to look the way they wanted, and 38% said it took over two years.[39]

  Social marketing researchers recommend that target behaviors be a) non-divisible, and b) end-state. Dr. Doug McKenzie-Mohr, environmental psychologist and author of Fostering Sustainable Behavior and multiple articles on social marketing, suggests determining whether a behavior is end-state by asking, *"Will engaging in this behavior produce the desired outcome, or will my audience need to do something else before the desired outcome is achieved?"* In the case of stopping the use of weed and feed-type lawn products it's worth considering whether the desired outcome for the audience is the lack of toxic chemicals in the yard alone, or a yard that doesn't use toxic chemicals AND that they are happy with.

[38] For example, https://tpchd.org/healthy-homes/dirt-alert-tacoma-smelter-plume/natural-yard-care/ and https://www.seattle.gov/utilities/protecting-our-environment/sustainability-tips/pollution-prevention/yard-care)

[39] WSSOG Stormwater Runoff Survey, Kitsap County. Dec 2018-Jan 2019. Conducted by Hardwick Research.

Examples of non-divisible behaviors related to natural lawn care used by other campaigns include:

- A *Keeping Grass Off the Streets* campaign aimed at landscaping companies, which encouraged landscapers to blow clippings back into the yard rather than into the road.[40]
- The *Save the Crabs* campaign in the Chesapeake Bay region, which used a variety of tools (including peoples' love of soft-shelled crab) to encourage the habit of using lawn fertilizer in fall rather than spring.[41]
- A lawn care behavior change campaign in Southwest Florida that identified a list of behavioral targets for natural yard care, such as: cut grass at the highest setting on your lawn mower, and don't fertilize before it rains.[42]

Make it a habit

The Stages of Change model provides a framework for understanding which segments of the audience are open to change. But behavior change efforts need more than the initial impetus. Recent research on habit formation suggests we are most likely to establish a habit if we have the opportunity to practice it repeatedly in a consistent context.[43] (For instance, buying the same fertilizer at the same nursery every time.) Habits develop when the action becomes automatic, so they don't require us to weigh the pros and cons of a behavior each time. This suggests it may be worth considering a behavior to target that people are likely to practice on a regular basis during the gardening season, so it has a better chance of becoming an automatic action.

Use additional social marketing tools

The messages and images used in this campaign were quite effective; many indicated they found them compelling, and they reinforced peoples' feelings of care for marine life in Puget Sound as well as for children and pets. While increasing awareness and changing attitudes are worthwhile endeavors and can lay the basis for subsequent action, they aren't synonymous with social marketing, which relies on a combination of tools to encourage actual behavior change. And there is ample evidence that awareness alone does not necessarily lead to action, especially when the desired behavior has significant barriers.[44]

---

[40] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://cfpub.epa.gov/npstbx/files/Alachua%20County%20Environmental%20Protection%20Department%202012.pdf

[41] https://www.thensmc.com/resources/showcase/save-the-crabs

[42] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.swfwmd.state.fl.us/sites/default/files/medias/documents/CrystalRiverPosttestReportv1f%20-%20FINAL%20REPORT.pdf

[43] For a discussion of habit formation research related to sustainability behaviors, see https://link.springer.com/article/10.1007/s13280-021-01619-6

[44] Moser, S., & Kleinhückelkotten, S. (2018). Good intents, but low impacts: diverging importance of motivational and socioeconomic determinants explaining pro-environmental behavior, energy use, and carbon footprint. Environment and Behavior, 50(6), 626-656.

The WSSOG campaign has already made use of social marketing approaches and tools, including front-end research to identify the audience and perceived barriers to action, offering an incentive, using trusted messengers (Master Gardeners), and creating effective messages with emotional weight. Additional social marketing tools that could be applied include:

- Social diffusion and setting norms, or engaging people through word-of-mouth and personal relationships with others who are taking the desired action and working with social norms (within neighborhoods or communities) to position the desired behavior as the norm.
- Convenience: Giving people simple tools or instructions to follow so that the action is relatively convenient.
- Commitment: When people make a public commitment, they are more likely to follow through with their behavior. Examples include pledges, which in the case of natural yard care campaigns could take the form of yard signs indicating that they have taken the desired action and are part of the campaign.
- Communications: While the materials developed for the WSSOG campaign are excellent, one additional piece that might be added to future materials is a statement referring to the impact of action. E.g., *"If 100 households did this behavior, we could keep up to x pounds of pollution from entering Puget Sound."*

Clarify the intent of the organic fertilizer discount component

The discount coupon for 25% off organic fertilizer was provided as a way to reduce the barrier of cost for people interested in switching to organic. But because the coupon is for one-time use, it may not maintain the behavior beyond that one application. If unfamiliarity with the products and where to find them were the main barrier, simply introducing people to the products through a coupon would be helpful. But with a product consumers buy repeatedly, the discount may be seen as having limited value. Our suggestions include:

- Begin collecting data through nurseries on first-time customers and first-time organic fertilizer users, to find out whether the coupon is having the desired effect.
- Consider providing consumers with a cost comparison between organic and nonorganic fertilizer used over time. Some respondents were unsure as to whether they needed to apply the same amount of organic fertilizer as nonorganic – or more – so weren't sure what the cost would **amount** to over time.

Continue and build on partnerships with retailers

As the retail partners for this year's campaign indicated, most have a strong organic focus and tend not to draw people who are looking for products other than organics. These nurseries and garden centers do share a passion for natural yard care, and express interest in continuing to participate in the campaign and, in some cases, building upon their role. At the same time, a few of the nurseries questioned whether the campaign might try to include a retailer or two representing places that sell the greatest quantities of fertilizer (i.e., big box stores), to reach a broader audience and build interest in organics.

Appendix

APPENDIX A. MAIN FINDINGS BY JURISDICTION

PART 1: DIRECT MAIL RESULTS

Note to readers: Very few households in Gig Harbor responded to the direct mail survey; in addition, this jurisdiction opted not to use a control group. As a result, the number of responses was very low (n=23), resulting in a high margin of sampling error for findings from that jurisdiction. Actual results could vary by as much as 20% plus or minus the totals presented.

Table 10. Survey response rate by jurisdiction: direct mail respondents

Jurisdiction	# of postcards sent	# of responses	Response rate	Includes control group
Bainbridge Island	1226	206	17%	Yes
Bremerton	2052	276	13%	Yes
Gig Harbor	521	23	4%	No
Port Angeles	1029	106	10%	Yes
Port Orchard	542	77	14%	Yes
Poulsbo	511	115	23%	Yes
Unincorporated Kitsap County	8466	581	7%	Yes

Chart 30. Percentage of respondents who have a yard with grass

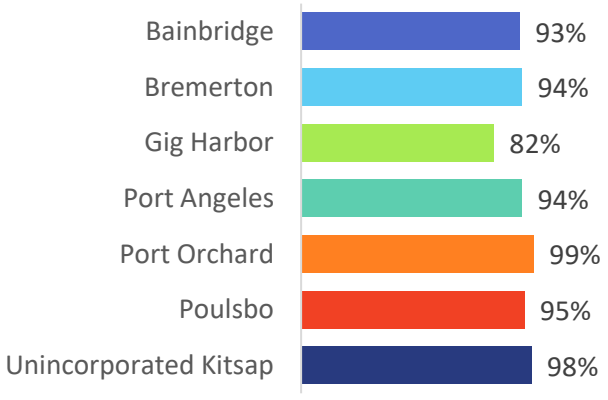


Chart 31. Percentage who maintain their lawn themselves

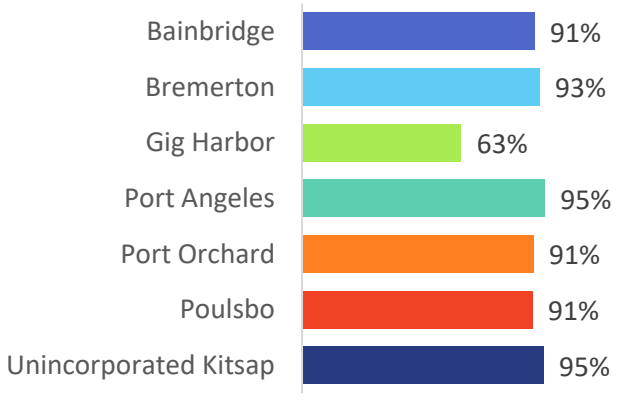


Chart 32. Which of these products, if any, have you used on your lawn in the past few years?

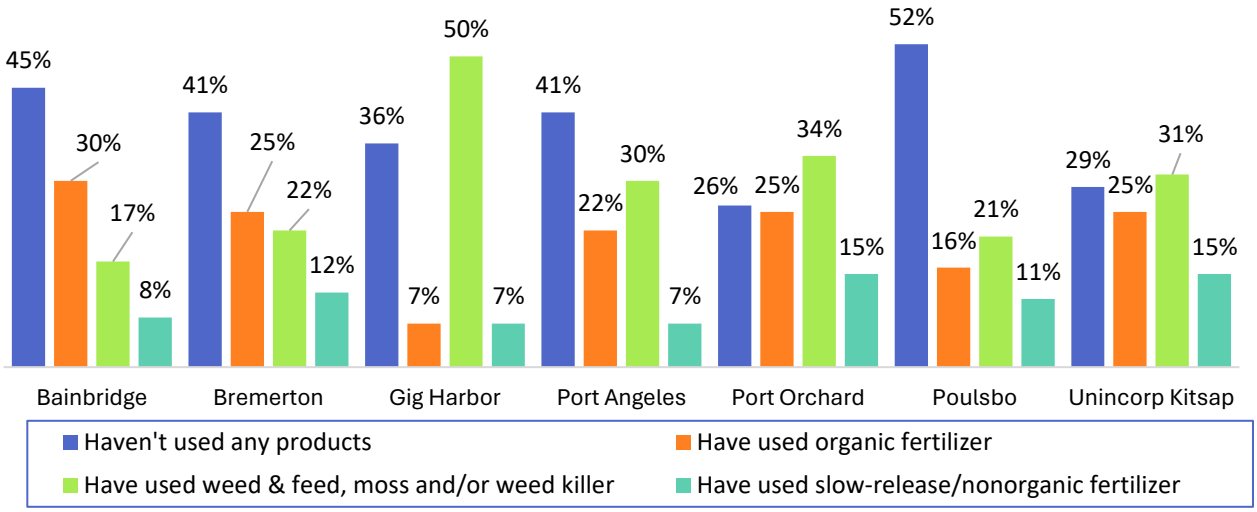


Chart 33. Percentage of respondents who remembered receiving the Natural Yard Care postcard in the mail

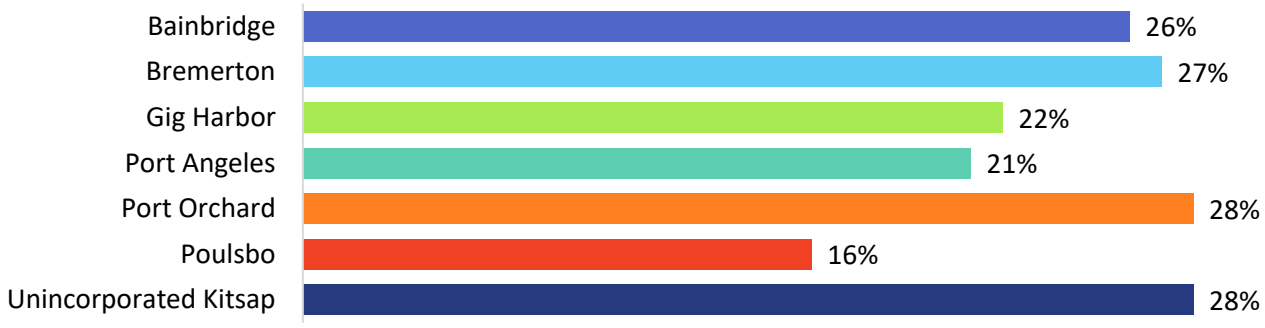
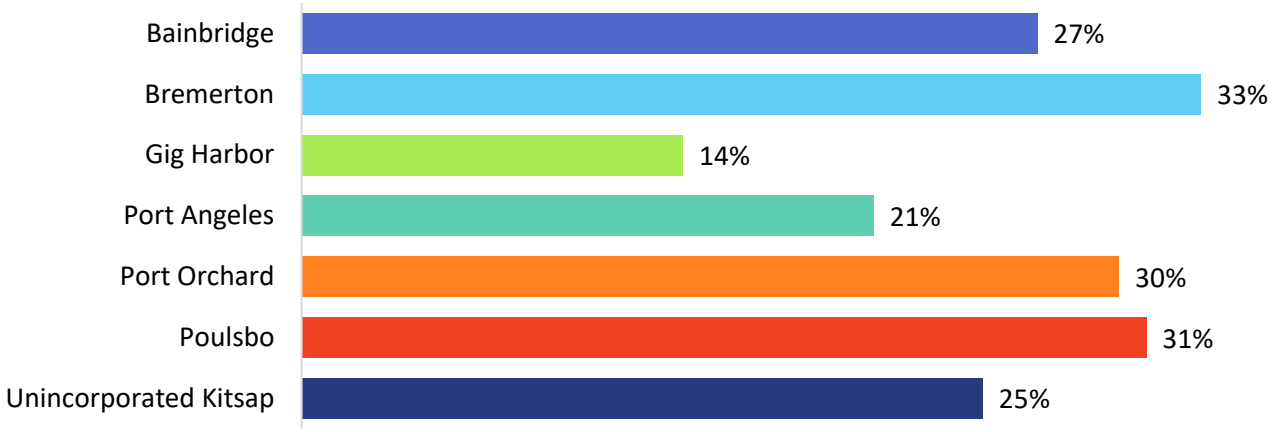


Chart 34. Percentage of respondents who said the Natural Yard Care postcard's messaging was "*likely*" or "*very likely*" to influence their lawn care practices



PART 2: RESULTS FROM SOCIAL MEDIA SURVEYS

Chart 35. Respondents by location

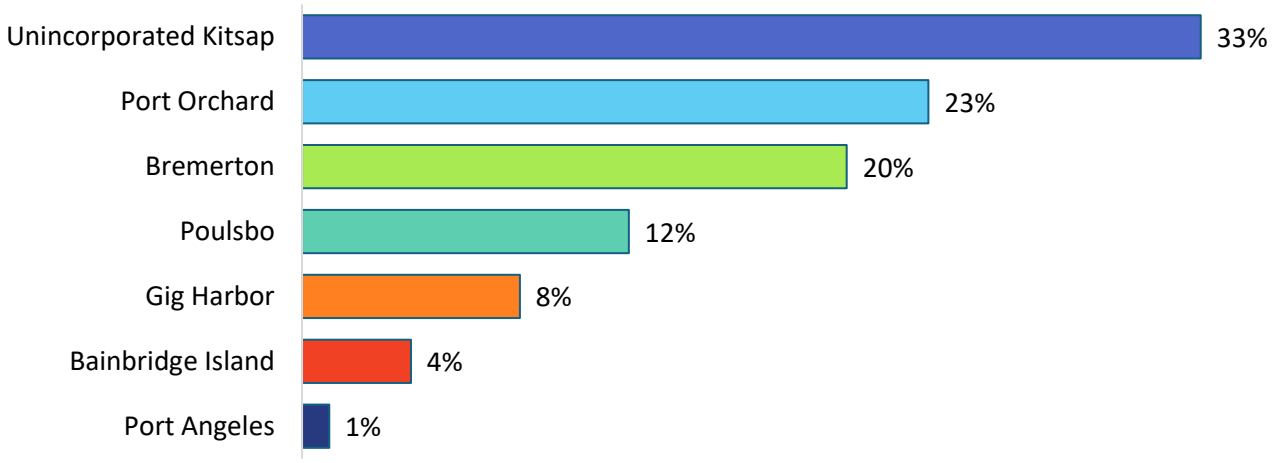


Chart 36. Percentage of respondents who have a yard with grass

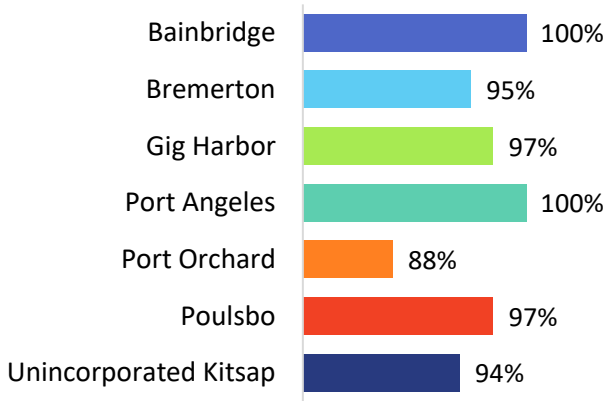


Chart 37. Percentage that maintain their own lawn

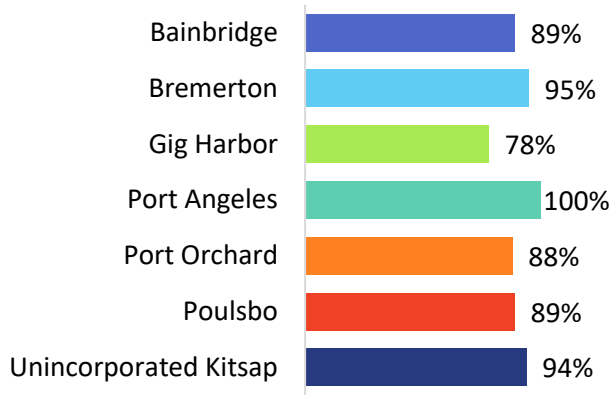
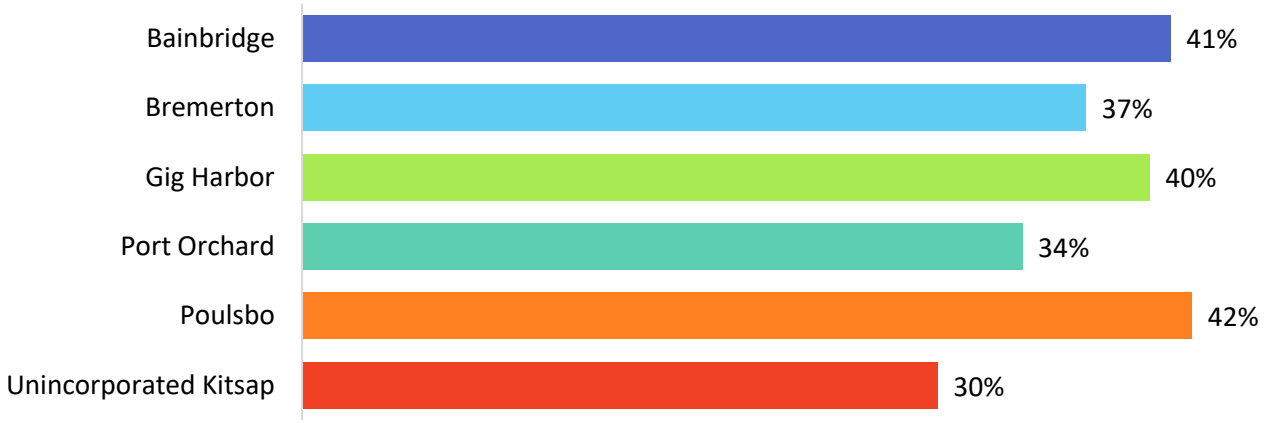


Table 12. Current attitudes/behaviors towards using organic lawn fertilizer						
	Bainbridge	Bremerton	Gig Harbor	Port Orchard	Poulsbo	Unincorp. Kitsap
Not interested in using organic lawn products	0%	5%	2%	4%	2%	3%
Never thought about it	3%	17%	12%	6%	7%	8%
Thinking about it	9%	17%	17%	18%	14%	16%
Planning to do in near future	9%	7%	7%	8%	7%	7%
Sometimes use organic	11%	20%	31%	21%	21%	18%
Always use organic	34%	17%	21%	11%	14%	15%
Not interested in using *any* lawn products	34%	17%	10%	32%	35%	33%

Chart 38. Percentage of respondents who say the Natural Yard Care messaging is "likely" or "very likely" to influence their lawn care practices



Note to readers: Port Angeles is not included in Charts 8-11, as the sample size from that jurisdiction was too small to allow calculations.

Chart 39. Self-reported fertilizer use within the past few years
(social media respondents)

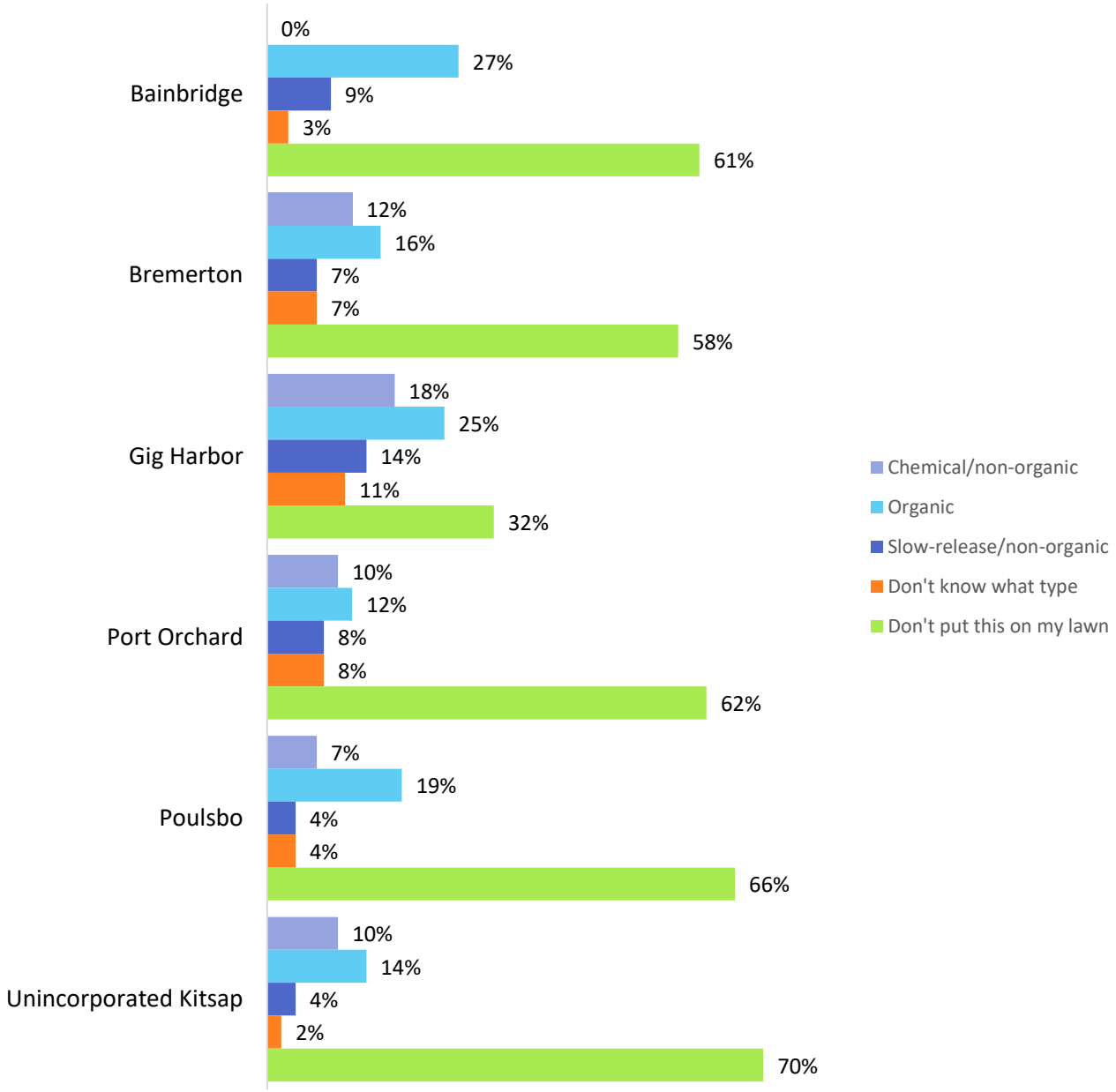


Chart 40. Self-reported use of weed & feed-type products within the past few years (social media respondents)

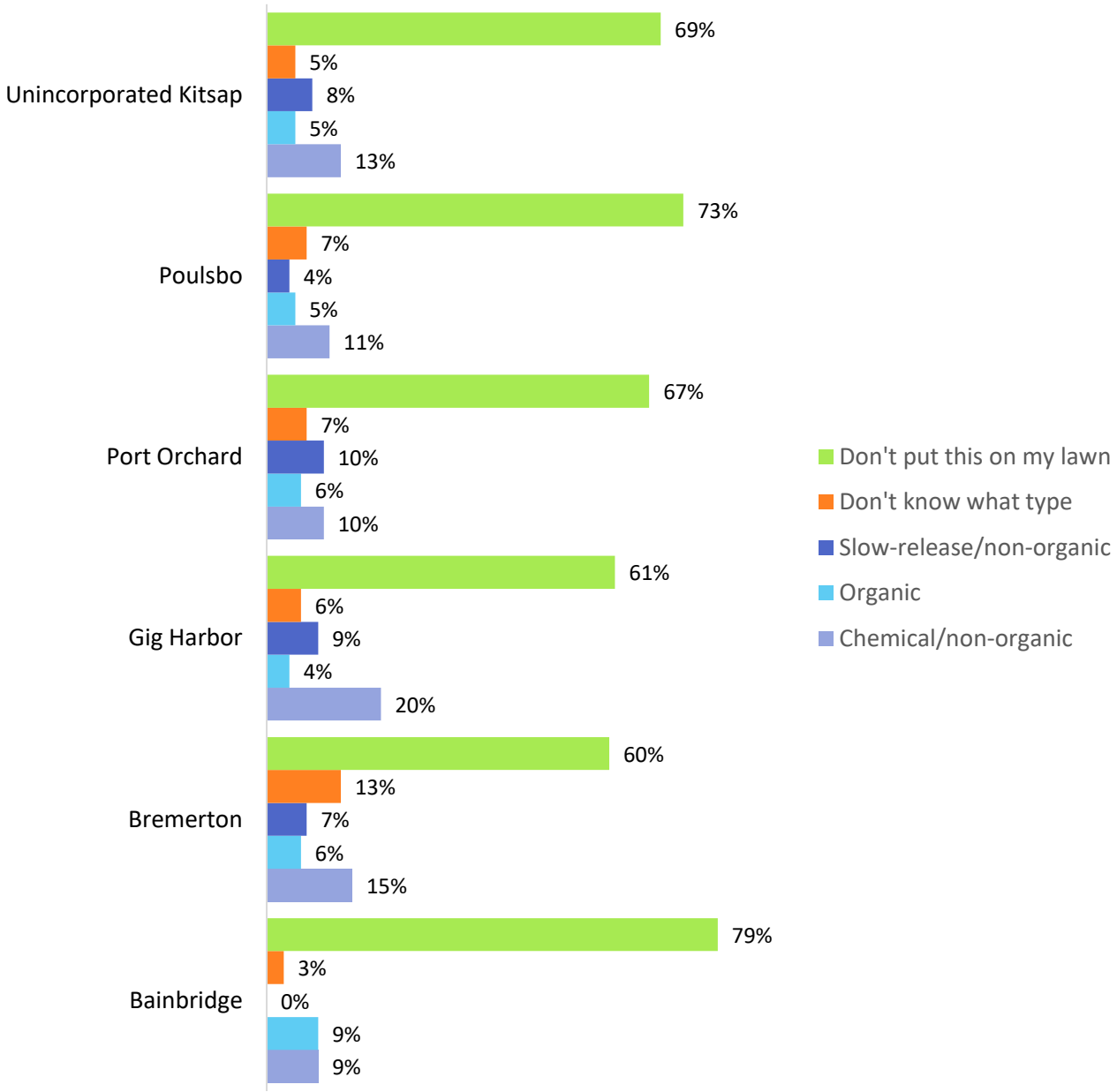


Chart 41. Self-reported use of weed killer within the past few years (social media respondents)

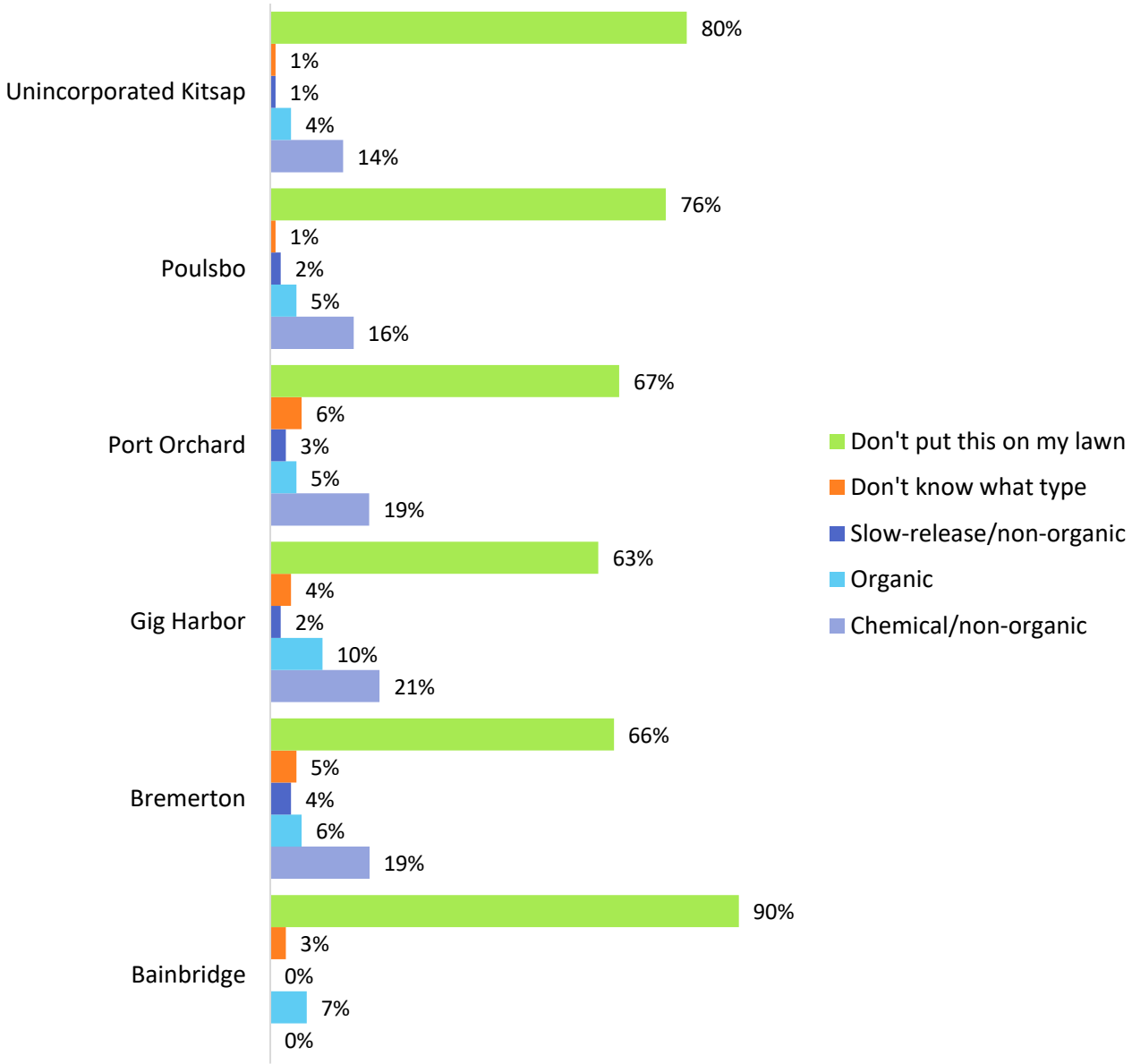


Chart 42. Self-reported use of moss killer within the past few years (social media respondents)

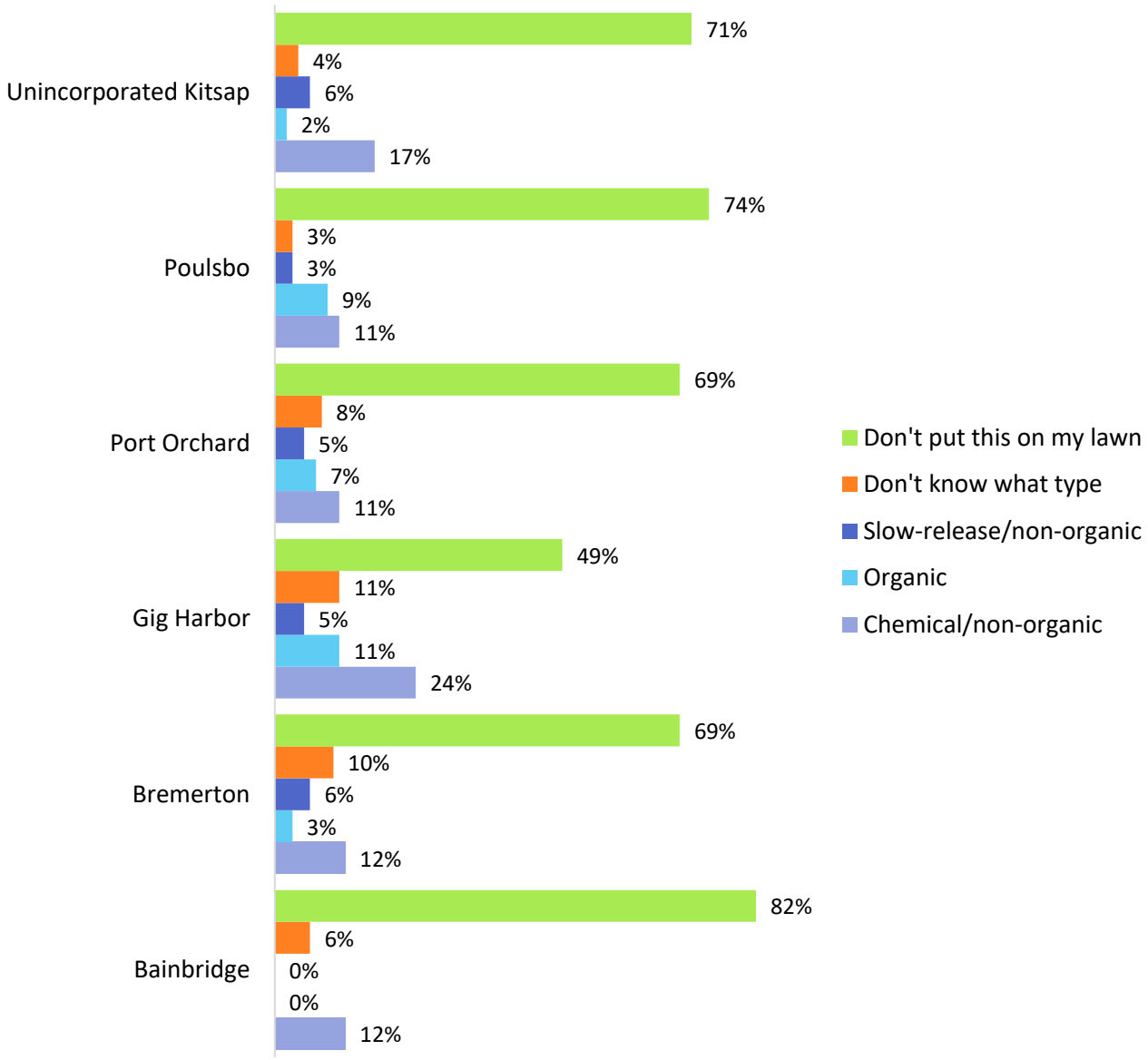


Table 13. Responses to, *"Is there anything else you'd like to tell us about your lawn care practices or the topic of natural yard care?"* [45]

(Combined sample of direct mail & social media survey respondents)

	Bainbridge Island	Bremerton	Gig Harbor	Port Angeles	Port Orchard	Poulsbo	Unincorp. Kitsap
Listed additional NYC steps they take	37%	32%	24%	27%	27%	21%	32%
Alternatives to lawns[46]	23%	18%	12%	26%	19%	31%	16%
Motivations for avoiding chemicals	16%	19%	24%	17%	16%	17%	19%
Identified need for learning/resources	14%	16%	18%	12%	15%	14%	19%
Don't do anything to our yard but mow	10%	9%	0%	17%	5%	14%	9%
General agreement with/appreciation for campaign	19%	7%	6%	6%	4%	7%	9%
Barriers to using organic	3%	6%	14%	2%	0%	3%	5%
Comments on lack of agency[47]	1%	0%	12%	0%	4%	0%	2%
Other comments	12%	13%	8%	15%	15%	17%	12%

[45] Since respondents sometimes mentioned more than one topic in their response, totals may exceed 100%.

[46] Includes people who said they wanted to learn how to reduce or remove their lawn as well as those who said they're in the process of doing so.

[47] These refer to respondents who said they didn't have control over their lawn care decisions. The majority of these referenced HOA guidelines that dictated their lawn care; a few referenced somebody else in their household who made the lawn care decisions, like a partner or roommate.

APPENDIX B. TOPICS THAT RESPONDENTS WOULD LIKE TO LEARN ABOUT & RESOURCES THEY'D LIKE TO HAVE

Note to readers: Respondents to both surveys had the opportunity to make any general comments they wanted regarding their own lawn care practices and/or the topic of natural yard care in general. As reflected in the table below, many people took the opportunity to mention a topic they'd like to learn about, a challenge they needed help with, or a resource they would find helpful. We have also included verbatim comments of appreciation for the campaign, which also provide a sense of the resources/knowledge respondents found helpful.

Table 14. Responses to open-ended question about lawn care that reflect need or interest in learning/resources

Verbatim responses	Response categories
Having waterfront property, it is very important to have non-toxic alternatives for my lawn. How are these products identified and where are they sold?	**Questions about nontoxic weed control**
I need help in fixing a severe weed problem and don't know what organic products to use or where to go for help.	
Weed and feed really works for keeping the weeds under control. Would be interested to learn more about organic options that do not require many hours of manual labor to manage weeds on a lawn our size.	
I'm tempted to use a chemical to kill all the buttercup that is taking over our lawn but there don't seem to be any obvious organic options. Any suggestion?	
I use organic products when they are available. I know of no organic weed control products.	
I'd love to learn how to keep a lush green moss free yard using natural nonharmful products.	
I use organic products when they are available. I know of no organic weed control products.	
How to get rid of the blackberry shrubs at my back yard?	
I don't have kids, and I love how wildlife is safe to use my yard. Although I do mow, I have dandelions, daisies, clover, etc. instead of lush grass, mainly because I prefer to have frogs and deer. HOWEVER, lately I have gotten a bunch of Herb Robert and how do I get rid of it without products? It's everywhere.	
Natural pest and weed control are big concerns to me. We have mostly edible and ornamental plants, and I don't want to use chemicals on the food or where the dog may walk. We have lots of aphids and mosquitoes.	
Hard to control weeds, like dandelions, without weed killer.	
Can't seem to get rid of the crabgrass and others without using weed and feed	
I wish there was treatment for weeds AND moss that isn't dangerous and works the first time. I have a lot of wildlife walk through my yard. Therefore, I am trapped dealing with a huge weed problem.	

I sure like to save the wildlife from the noxious chemicals. Drat the invasive weeds.	
Concern exists over nonnative vegetation spread and what resources are available to help prevent that.	
I'd love a webinar on invasive plant management, we are struggling with that a great deal!	
Invasive plants need addressing, how to deal best with blackberries or marsh butter cup or any other common issues.	
Moss killer is the only product we use. We don't use any other lawn products, although I would be interested in organic safe weed killers.	
It's a struggle to keep flatweed in control. I also wonder if my neighbors judge me as lazy because I have a natural lawn.	
(We) mow 2.5acres weekly and about 2 acres (pasture) once a year. I don't water or fertilize but I do use brush killer to tame scotch broom and other brush. I wish there was an effective organic solution to killing that stuff.	
I'm not interested in fertilizing my lawn as much as I'm interested in getting rid of the weeds.	
Perhaps, providing a table of examples of healthier products to use in place of commonly used products. For example, weed and feed. I really haven't found anything that works as reliably, and our HOA doesn't allow weeds, so as much as we don't like to, we use the prescribed amount as necessary to keep things under control. If we win that gift card maybe we can put it to use buying some better products :)	
I'd also like to know what is most effective and natural. A few of the natural weed killers I have used either didn't work or took a really long time to get results.	
I believe most people would choose organic even if more expensive. A beautiful lawn is a gift to oneself and important - killing weeds in the most environmentally friendly way would be helpful.	
Natural yard care that I have tried does not kill weeds or moss and doesn't keep grass as green. If something great exists I'd love to know about it.	
I'm looking at ways to safely kill weeds in my non-grass areas: fence line in the woods and landscaping areas. That interests me a lot. I want the brambles and weeds gone but not kill my dog or other natural critters.	
I do not use spray weedkillers and wish to avoid toxins as much as possible. I pull weeds by hand but what an ongoing pain. Tips on keeping weeds at bay naturally are much appreciated!	

Would love design help getting rid of my lawn and creating a yard area that is beautiful and needs only natural rain.	**Alternatives to lawns**
We're looking to minimize the amount of lawn around our home and replace with natural landscaping over the next few years.	
I'm actively trying to turn my lawn into anything but! Trees, native meadow species, etc.!	
I hate having a lawn. I think we should get rid of lawns and have meadow. But I live in an HOA.	
More information on removing or decreasing the size of a lawn would be valuable information on these mailers. For a sustainability standpoint, that's an interest for many.	
We plan to eliminate as much "lawn" from our yard as is practical. Grass is not sustainable.	
If I had the time and money I'd put in a natural meadow lawn and mow very little.	
Any thoughts on putting out info on native alternatives to lawn? Stats on mono crop grass related to watering, mowing etc. vs a native clover etc. may be helpful info. Check out: https://www.tiktok.com/t/ZT81gDVVm/ https://www.tiktok.com/t/ZT81gP9Wa/	
I am looking to slowly eliminate my lawn and replace it with wildflowers and native plantings.	
I'd like to transition to a meadow instead of lawn. As it is, my lawn has a lot more than just grass- moss, dandelions, clover and weeds.	
We have three lawn areas. We are letting one of them turn into a meadow. We use a small amount of fertilizer on the lawns once a year.	
Lawns are horrible and if we weren't renting, I would switch to a rain garden or landscaping with native flowers	
Transitioning away from grass to clover but would like native alternatives to better support wildlife.	
Grass lawns are time consuming to maintain, we'd rather hike and hang out so we've covered much of our lot with wood chips and gardens (ornamental, veggie and fruit trees.	
I want a lawn that is bee and butterfly friendly. We even want to turn our lawn into clover lawn instead of expensive maintenance of the grass which does not benefit anything except for aesthetic purposes. Less watering for my lawn I'd rather have tons of plants.	
I think focus should be on low maintenance, water-free lawns- such as replacing grass w clover.	
We'd like to change our lawn area into more of a natural growth area, with just paths.	
I'm intending to plant about 1000 sq.ft in the backyard in clover which will require less water and less fertilizer.	
I would like help having a non-grass yard.	
We're trying to relandscape to get rid of our lawn and minimize watering and need for chemicals.	
I hope to reduce my lawn space by adding shrubs and xeriscaping. I don't want to have to mow.	
Trying to replace grass with other growing lawn plants.	
I'm getting rid of the lawn as soon as I can afford to replace it.	

We also don't water it. More interested in reducing the mowing needed, so alternative groundcovers would be of interest.	
Why do we have lawns in the first place? Stupid mono-culture waste of energy/water/time.	
We are gradually replacing lawn with other plants and hardscape.	
I hope to move to xeriscaping.	
Provide customers with more info on growing native plants, less lawns.	
Like to replace lawn with local plants and clover. Time, money and knowledge slowing me down.	
Would prefer to get rid of grass and go with natural ground cover consistent with Western Washington conditions.	
Trying to have less grass and more rain garden and natural.	
Personally, I think that the American lawn is a strange idea, lawn care is weird when you think about it. Oh, here's a piece of land I own with a crop you can't eat and no flowers. What's the point of this? Why do we kill weeds when they don't threaten food plants, why do we try to keep the lawn a certain level of green, a certain height that's to everyone else's standards. I want to plant flowers and berries.	
We don't water our lawn! Lawns are an ecosystem abomination. I'm slowly taking over ours with garden beds and shrubs.	
I am slowly removing the grass as I am able and replacing it with as many native plants as I can.	
I have way too much lawn but can't afford native plants to switch it over to something easier to maintain. Would love to create a woodland for animals and to stop using lawn products.	
We are downsizing the lawn space with native perennials that grow in the existing soil type.	
Planning to replace grass with something more productive.	
I would honestly like to just remove our lawn altogether and replace it with native plants, a native plant meadow.	
We want to decrease size of lawn to reduce water use and add native plants.	
Would like to replace grass with clover. Would also like to use more native ground cover plants.	
Lawns in general, what a PITA. Wish there were better options that didn't require mowing, chemicals, etc. that were communicated to County residents.	
I have a mostly wooded lot and don't do anything to the small patch of grass other than occasional mowing. However, I have planted native Washington plants in my yard. I hate lawns in general, but if I absolutely had to, I would absolutely use organic lawn products and do whatever necessary to protect the watershed.	
We're planning on eliminating the lawn.	
Working towards a lawn that's full of pollinators and native plants.	
I use no chemicals on my lawn or in my garden. When needed, I use all-natural pest repellant for deer, rabbits and slugs. I am considering "smothering" the rest of the front yard and creating a meadow style front yard in addition to planted beds where I only use compost.	
We are slowly eliminating our lawn.	

I have reduced my lawn in the past 3 years by 60% due to looks and cost of keeping it green during the summer. I am still looking for more ways to reduce (have replace with shrubs and flowers).	
We've been converting part of our lawn to mostly native plants that are drought tolerant. We love it and hope more people will embrace the practice.	
Moving to native foliage.	
I actually don't want a lawn since it requires too much maintenance to look acceptable but letting it grow naturally looks socially unacceptable. I'm going to put in the effort to dig up the lawn and rebuild it as a garden space. Impressing others with a perfect, flat, green lawn just isn't economically feasible anymore.	
We only mow because we have an HOA. If not for that, our yard would be a meadow.	
Less grass, more native flowering plants.	
I can't wait to pull the grass out one day.	
I would like to install artificial turf and get rid of the grass if it was affordable	
I'd like to hear more about alternatives to lawns...	
I'm going to check out the website further, but if the county can offer some information on grass alternative lawns, I would love to hear it as I'm looking into making this leap myself.	
I would be interested on what to place in my yard that is native to the area to help the bees.	
I'd be interested in information about what I can swap out for grass that still allows me to walk around. In particular, how can I encourage moss?	
I would like less lawn but don't know how.	
We're trying to eliminate portions of our lawn in favor of more native plantings.	
I think more people should be embracing a "wild" yard. I am not talking about letting it grow out of control, but this manicured landscape business is ridiculous, even with "natural" or ecofriendly products. Natural ground covers, wild flowers, and other native flora are the way to go. I liked your past promotions for xeriscaping and rain gardens.	
I actually want to get rid of most of my yard and plant native shrubbery that would not require watering and minimal upkeep.	
Looking into lawn replacement with natural plants, still want some lawn but want to minimize.	
We are replacing the grass with native and edible trees, shrubs, and ground covers as fast as we can	
It has been challenging to effectively maintain a lawn here. We have considered lawn alternatives (turf or rocks).	
We know other people would be motivated to remove their lawns if there was a financial incentive like other places are doing.	
We just had all our grass/weeds ripped up and plan to replace it with clover.	
I'd like to know how to turn part of it into a sustainable meadow.	
We are regrowing patchy areas with clover. It's going great but we have concerns about reselling value.	
We don't water or fertilize. Just mow. We are interested in eliminating some lawn area.	

I think grass lawns are rather ridiculous. If I could cultivate a lawn comprised of pure red clover for example, I would do it, and never mow it. But unfortunately these dang blackberries would take over so mowing is a necessity, at least during the spring	
I'm always trying to expand native plant garden beds and decrease lawn size. Also do minimal watering in summer.	
I'm team kill-the-lawn! Tips on converting to natural/pollinator habitat or food forest would be great.	
Trying to let areas of the estate go back to nature, only letting a certain area get cut and maintained. Turning other areas into gardens to cut down grassy areas	
I'm planting more grass area into wildflowers.	
The County's messaging should focus on how families can turn lawn into garden space.	
Many in our subdivision are considering clover lawns (less maintenance, drought tolerant, bee-friendly).	
Is it okay to plant a flower meadow in my back yard?	
We'd prefer a natural habitat vs lawn for much of our yard but the time and cost to make the change is a barrier and we aren't sure about upkeep.	
A seminar on getting rid of grass and sustainable alternatives to lawns please.	
I'd like to see a class or tutorial on landscaping to eliminate grass, using native plants and still have it friendly to birds and other wildlife.	
We are trying to shrink our lawn by removing grass and planting native plants and adding more fruit and vegetable garden space.	
I'm in the process of planting entirely native plants in my yard.	
I'd love more information to be available around converting a grass yard to a natural/more resilient yard. I am looking to convert nearly all of my grass to clover and wildflowers, so having information about the best types of clover/grass replacement/ natural ground cover specific to our area would be wonderful!	
I'm not sure this is the right place for this, but I'm more interested in learning about "no-mow" lawns, such as clover lawns, etc... so having something regarding that would be more up my alley.	
Biodiversity is important, so I've reduced unnecessary lawn areas in favor of planting flowers and herbs.	
I would like to see the county encourage lawn alternatives, like native plants/flowers instead of lawns, which are terrible for the environment for several different reasons.	
We're trying to eliminate the lawn and replace it with native wildflowers and clover.	
Watering a lawn to maintain it seems unwise to us, so alternatives to lawns are of interest.	
Lawns should be discouraged and natural, native plants that can survive without fertilizers & excessive watering should be encouraged. My plan is to do just that in the near future.	
I would love to have native plants instead of a lawn. It's what the house came with and I can't afford to change it.	
We'd like to see less lawn more natural landscape.	
I would like to move away from grass to a more natural landscape.	

I'd like more readily available info on how to replace grass with clover, natural/native grasses that don't need (to be) mowed.	
We have turned more of our lawn area back into natural habitat, with indigenous plants.	
Why not promote turf? Grass for a lawn of my size only provides aesthetic, which turf could provide without wasting water and damaging the environment with lawn care products.	
We are thinking about getting rid of the grass in our front yard and replacing it with terraced natural vegetation. We have a sloped yard and would appreciate any guidance.	
I recently moved here from California. Due to many years of drought, residents in CA have been encouraged to grow native plants instead of grass lawn which is water consuming and hard to care for. Native plants are easy to care for and make our yard more interesting and beautiful.	
Encourage electrifying lawn care equipment for 3 reasons: less pollution, less noise, fewer climate change gasses. Both individuals and lawn care companies should be encouraged to switch to battery powered machines.	**Would like to see policy change**
It would be helpful if the City or other local agencies could work with HOAs who put great emphasis on lawn appearance (which wastes water to keep grass green and potentially places chemicals into the environment through use of fertilizers, etc.), and promote more natural yards and landscapes that fit with the local ecosystems and encourage growth of native plants. I have only owned my home for about a year, and I acknowledge that I have not sought out our particular HOA's rules for native landscapes, however they do seem to place emphasis on simply having green grass.	
Say - this might not be the right mechanism to complain about roadside poison, but good God! Stop using it! Just mow a couple times a year, would you? that poison creates dead vegetation which looks a lot worse than the occasional overgrowth. Plus, it kills all the frogs that hang out in the drainage ditches. Despicable practice!	
I am reducing the number of times I cut the lawn and reducing the watering schedule to conserve water. I think the county should mandate organic fertilizer and prohibit the use of Round Up and other like products such as Ground Clear. Our environment is critically important, especially given unchecked development and destruction of our natural habitat.	
There shouldn't be any chemicals used on waterfront property! And string trimmers are a major plastic pollutant (where do people think that plastic line goes when it breaks?) All gas-powered lawn equipment should be banned! It's a ridiculous practice, contributing to climate change and adding more plastic, including micro particles to the environment! Only human powered equipment, e.g. push lawnmowers, should be used for regular lawn and garden maintenance. It'll never happen, but it should!	
My HOA (technically an ROA) insists that each residence have a well-kept grass lawn. I would love support from the local government to make other types of natural ground cover available and acceptable.	
My HOA (technically an ROA) insists that each residence have a well-kept grass lawn. I would love support from the local government to make other types of natural ground cover available and acceptable.	
I wish hardware stores would have to post warning signs in their lawn care section.	
We should have a rule in Gig Harbor that houses can't require lawn- would rather have low water native landscaping. Would like to see seminars on this with resources for homeowners.	

If HOA's were no allowed to dictate no clover lawns, we could plant more environmentally sound yards.	
We think natural lawn care (including chemical free weed management) is VERY important, but we live in an HOA that sprays roundup on every common surface. We need resources to share with the HOA board to convince them that there are better alternatives that will work.	
I would love to see a push towards allowing more natural yards instead of the cookie cutter 1950s green lawn. I don't mean for it to look bad, but I think it's ridiculous that my HOA won't allow clover when it is extremely beneficial and now it's even a trend to replace your grass with it.	
I see more and more neighbors put in in-ground sprinkling systems, and wonder if this is better than careful hand watering.	**Questions & comments about watering**
More info on watering guidance.	
I think water use also needs to be a topic of conversation. An Airbnb is by our house and they excessively water the very small yard.	
More education around watering and grass types best suited for the PNW.	
It consumes too much water. I don't want my yard to look bad and dead, but I also don't want to consume so much water watering it. Catch 22.	
Organic always sounds good but why is it safer/better than inorganic? Don't just say it's better, teach me why.	**Questions about organics & labeling**
Hard to find things that are truly organic.	
I would like to do what is right for the environment. I just wish it was more obvious on lawn treatment packaging to be able to tell if it's harmful to the environment, insects, animals, etc.	
I've always preferred organic treatments, but they are often ineffective so a lot of research on effectiveness has to be done before purchases are made.	
I would be absolutely excited to use organic products to fertilize and kill weeds in my yard if I were sure they were actually "organic", better than the currently used products, and priced commensurate with non-organic products.	
Sometimes it is difficult to find organic products that work well.	
I would be more inclined to purchase natural/organic lawn care products if I knew which ones were effective.	
I have to educate myself about organic lawn care. I have a rain garden and I am interested in organic lawn care.	**Need general guidance on organics**
I'm very interested in anything that supports our goal of maintaining plants on our property that take less water and feed wildlife or our family and are healthier for the local water systems (no chemicals).	
I'd like to learn more about what to use!	
We prefer natural lawn care but are just unsure how it will affect the lawn we are trying to grow.	
Education on ways to do better is most helpful.	

Knowing where to easily access information about natural remedies for moss and weeds and general grass care as well as reducing grass and replacing with alternatives would be helpful.	
I think you should also address chemicals put on flower/shrub areas. I am guessing many areas, especially along roads, use a fair bit of fertilizer.	**Education needed (for other people)**
I don't use any chemicals because I have honeybees. I think that using pollinators for an advert like this could also be very effective.	
Please educate the community on the principles of permaculture, no dig and using native grass or other annuals to reduce water usage and not need to spray weed kill or synthetic fertilizer.	
Prefer organic methods, but efficacy often leads to the use of non-organic methods. Not only lawns, but beds, vegetable gardens, plant pests, etc. Knowledge and improved products will increase use of organic methods.	
I wish people REALLY knew the dangers of products like Round-Up; our neighbors use has made our dogs sick. I can smell it when she sprays. I've seen her spray plants, pull them up, and throw them in the ocean (we live at the beach). It's just horrible. She told me once "it just goes away." So she clearly doesn't understand the impact. Also, I wish people would understand the importance and fragility of bees and other pollinators.	
I've converted more than half the "lawn" (yard grass) to food + ornamental native and other perennial plans. Certified as Backyard Wildlife Habitat by the state of WA. Neighbors let weeds spread, which is frustrating, because their seeds infest my yard, and I weed by hand/tools. They also let a weed grow on sidewalks and easements that is dangerous for dogs, and we all walk dogs there and on street.	
A large portion of our "lawn" is devoted to planting beds that are focused on native plants or on plants that provide food, nectar, or shelter to bees, birds, butterflies, etc. We never use insecticides or herbicides. There needs to be more education about not dumping plant refuse in wild areas, as our neighbors often do, as it can start invasive plants growing in native areas. Bainbridge Disposal's program to accept lawn refuse is a terrific option.	
I'd rather everyone replace their lawn with other, more sustainable vegetation altogether. I hope this is encouraged even more so than "more natural" lawn care practices.	
Rain gardens or edible gardens should be encouraged. Better for our environment.	
Consumers are oversold on weed and feed. The big box stores could do more education on issues with it.	
Consumers are oversold on weed and feed. The big box stores could do more education on issues with it.	
I wish less emphasis was placed on having a green lawn and more on creating rain gardens. Watering grass can be a waste of water and its usage should be very targeted to specific areas like outdoor parks.	
City of Bremerton needs to encourage resilient lawns, not perfect lawns. Climate future unknown. No need for large water bills to maintain grass in summer. Not safe to apply most products	
Let's also try to address leaf blowers—-so many reasons and I do not think people understand how terrible they are for our environment-they think about the air quality issues but don't realize the effects the quality of the soil, the things that grow in and around our garden beds and of course the noise.	

It's not just about lawn care- think about those who mow and the clippings are all out on the street- or those who blow their leaves out on the street- don't people have any common sense.	
I wish you would spend money educating people about how many options there are for no-grass lawns using more diverse, native plants. I do appreciate you are doing harm reduction but does organic fertilizer actually do less harm to our waterways than non-organic? Doesn't it all have a negative impact?	
I allow my grass to go dormant when the temperatures rise. I wish more homeowners would adopt this practice to conserve resources.	
How to get rid of moles.	**Help with other challenges**
We have a lot of moles in our area so it would be nice to know about how to control them.	
Can't think of anything right now, except for the moles are becoming a problem.	
I would be more likely to learn more about natural garden products, for example, natural ways to keep slugs away from dahlias.	
Info on how to landscape over our septic drain field which is now grass.	
Didn't really address moss control.	
I would love to use a product that could improve the health of my lawn as it's full of moss and definitely could use some fertilizer. Would like recommendations for homes with pets and, more importantly, backyard chickens, rabbits, goats, etc.	**How to improve lawn health in general**
I'd like to learn about composting and natural nutrients lawns/gardens need.	
Our soil is super sandy. Like a sandbox. How do we fix that?	
My lawn is very compacted and not in very good shape. We purchased this house 5 years ago and want to improve the curb appeal and overall lawn health.	
The webinar was very helpful, because we've been concerned about our impact on water, and I came away with very practical things to try.	**Appreciation for campaign**
I appreciate the efforts to educate & help homeowners make better decisions that will reduce harmful runoff!	
I applaud natural yard care.	
I support you in anything you can do to support healthy lawn practices, appreciate your efforts very much, and hope they are effective!! Thank you!!!	
For us, it was a bit of "preaching to the choir," and it doesn't really take much to convince us to go organic (because) we already do, and we use zero pesticides, etc. But! We are so glad you are spreading this message - I hope it connects with people who haven't considered it in the past. Thank you!	
Thank you for trying to make households more aware of how the practices they use to maintain their lawn affect other humans and animals.	
I support you in anything you can do to support healthy lawn practices, appreciate your efforts very much, and hope they are effective!! Thank you!!!	
Love this offer, the webinar was helpful too.	
I think this is a good topic to get people to think about the undesirable effects of fertilizers and pesticides for lawn care.	
Thank you for trying to educate residents. Be very explicit about how terrible weed and feed products are.	

Thanks for trying to influence our community to learn healthy environmental practices.	
Thanks for making me aware that there are natural fertilizers out there. I don't normally fertilize, but good to keep in mind. I'm all for organic stuff and know the hazards of the bad stuff.	
I appreciate the County's efforts!	
We do the cheap and natural things for lawn care, and it works so far. But it takes a lot of personal hours (versus an afternoon of spraying) so we understand that not everyone has that availability; good effort that the County is doing.	
I appreciate that Kitsap County offers these types of resources for homeowners! They are not only good for homeowners but for our environment as well!	
We in your audience are all adult learners, so in an awareness / action campaign like this, giving us "adult learners" the why and repeating the message for us is needed to get us to adopt new SOPs on anything. Everything about this campaign is really well done and has probably created the most engagement and influence on me as any other outreach campaign. Nice job!	
I would appreciate receiving a coupon for organic fertilizer or mulch that I can use to apply twice a year (Spring and Fall).	**Other suggestions for resources**
Be like California and pay us to rip out our lawns and put in natural, native plants. It would save us, and you, a lot of money spent on watering!	
It was a terrible loss losing the 2 yard waste pickups that City of Port Orchard used to provide its citizenry.	
It would be helpful if yard waste was picked up more in the spring.	
Would love more support for removing noxious weeds, like free disposal.	
We put items in our composting trash can. It would be nice if we had options to pick up some of the composted material for yards.	
I would like to see a natural fertilizer pickup location in Port Orchard.	
More information on local plants and things that are native to the area.	
I would love free classes taught in our community.	

APPENDIX C. INSTRUMENTS

DIRECT MAIL SURVEY: TREATMENT & CONTROL VERSIONS

Thank you for taking the time to complete this short survey. Your responses will be confidential, and we will only share combined (not individual) responses when reporting results.

As you read the questions, please answer for your household as a whole. And be sure to enter your email at the end if you'd like to enter the drawing to win a $100 Amazon gift card.

* 1. First of all, what is your current zip code?

* 2. Do you have a yard with grass at your home?
- ☐ Yes
- ☐ No

3. Do either of these apply to your current household? (Check any that apply)
- ☐ We have children living at home (not including adult children)
- ☐ We have a pet dog or cat with access to the yard
- ☐ None of the above

4. What size is your lawn? (Either in square feet or acres. A rough estimate is fine.)

*5. Do you maintain the grass yourself or use a lawn care company?
- ☐ Maintain it ourselves
- ☐ Use a lawn care company

* 6. Which of these products, if any, have you used on your lawn in the past few years? (Check all that apply)
- ☐ Natural or organic fertilizer
- ☐ Non-organic fertilizer
- ☐ Fertilizer & herbicide combination (weed & feed)
- ☐ Weed killer
- ☐ Moss killer
- ☐ Other (please describe)
- ☐ None of the above

* 7. In terms of using natural/organic products on your lawn, which of these best describes you right now?

- ☐ I am not interested in using natural/organic lawn products
- ☐ I've never thought about using natural/organic products on my lawn instead of non-organic
- ☐ I am thinking about using natural/organic products on my lawn instead of non-organic
- ☐ I am planning on using natural/organic products on my lawn in the near future instead of non-organic I sometimes use natural/organic lawn products
- ☐ I only use natural/organic lawn products
- ☐ I am not interested in using any products on our lawn

Comments

*8. Within the past couple of months, did your household receive this postcard in the mail?

- ☐ Yes, we received it
- ☐ Not sure
- ☐ No, I don't remember receiving it

9. When you received it, do you recall doing any of the following? (Check all that apply.)

- ☐ Read it over
- ☐ Skimmed it
- ☐ Signed up for one of the webinars on natural lawn care
- ☐ Used the coupon for discounted natural/organic lawn fertilizer
- ☐ Planning to use the fertilizer coupon before it expires on 6/18/23
- ☐ None of the above

Comment

The two question below was substituted for questions 8 and 9 in the control version of this survey.

** 8a. Within the past couple of months, do you remember seeing either of the ads below on social media or elsewhere?*

- ☐ *Yes*
- ☐ *Not sure*
- ☐ *No*

9a. After seeing the ad(s), did you do any of these actions? (Check any that apply)

- ☐ Signed up for one of the webinars on natural lawn care
- ☐ Used the coupon for discounted natural/organic lawn fertilizer
- ☐ Planning to use the fertilizer coupon before it expires on 6/18/23
- ☐ None of the above

Comment

* 10. Looking at the ads now, how likely is it that this this messaging will influence your lawn care practices?

Very unlikely	Unlikely	Not sure	Likely	Very likely
○	○	○	○	○

10a. Why do you think this message is unlikely to influence your household's lawn care practices?

- ☐ The message isn't aimed at us, because we don't use fertilizer of any kind on our lawn.
- ☐ The message isn't aimed at us, because we only use organic/natural fertilizers on our lawn.
- ☐ Because we're not interested in switching from weed & feed to natural/organic lawn fertilizer.
- ☐ Other (please describe)

11. What's the primary reason you are unlikely to try natural or organic fertilizers on your lawn? (Check all that apply.)

- ☐ They don't work as well as chemical fertilizers
- ☐ I don't think the products we're currently using are harmful to my household's health
- ☐ I don't think the products we're currently using are harmful to the environment
- ☐ The natural/organic products are too expensive
- ☐ Other reason (please describe)

11. Is there anything else you'd like to tell us about your lawn care practices or the topic of natural yard care?

12. If you'd like to enter the drawing to win a $100 gift card, please provide your email. Your email will only be used for this purpose.

Email Address

Thanks very much for your feedback. We truly appreciate it.

SOCIAL MEDIA / OTHER ONLINE SOURCES SURVEY

Thank you for taking the time to complete this short survey. Your responses will be confidential, and we will only share combined (not individual) responses when reporting results.

As you read the questions, please answer for your household as a whole. And be sure to enter your email at the end if you'd like to enter the drawing to win a $100 Amazon gift card.

* 2. To make sure we are receiving responses from real people - not robots - please **select B** as your answer choice below.
- ☐ A
- ☐ B
- ☐ C
- ☐ D

* 3. Which of the following best describes your residence?
- ☐ Single family home
- ☐ Townhome or duplex
- ☐ Multi-unit condominium or apartment

*4. Does your property have a yard that includes grass?
- ☐ Yes
- ☐ No

*5 Do you maintain the grass yourself or use a lawn care company?
- ☐ Maintain it ourselves
- ☐ Use a lawn care company

6. Do either of these apply to your current household? (Check any that apply)
- ☐ We have at least one child under 18 living in the household
- ☐ We have a pet that sometimes or regularly goes into the yard
- ☐ Neither of the above

*7. For each of the following products, please indicate which, if any type, you put on your lawn.

	Chemical/non-organic	Organic	Don't know what kind	Don't put this on my lawn
Fertilizer				
Weed killer				
Weed & feed				
Moss killer				
Other (please list)				

8. What size is your lawn? (Either in square feet or acres. A rough estimate is fine.)

* 9. In terms of using natural/organic products on your lawn, which of these best describes you right now?

- ☐ I am not interested in using natural/organic lawn products
- ☐ I've never thought about using natural/organic products on my lawn instead of non-organic
- ☐ I am thinking about using natural/organic products on my lawn instead of non-organic
- ☐ I am planning on using natural/organic products on my lawn in the near future instead of non-organic
- ☐ I sometimes use natural/organic lawn products
- ☐ I only use natural/organic lawn products
- ☐ I am not interested in using any products on our lawn

Comments

* 10. Within the past couple of months, do you remember seeing either of the ads below on social media or elsewhere?

- ☐ Yes
- ☐ No
- ☐ Not sure

11. After seeing the ad(s), did you do either of these actions? (Check any that apply)

- ☐ Signed up for one of the webinars on natural lawn care
- ☐ Used the coupon for discounted natural/organic lawn fertilizer
- ☐ Neither of the above

Comment

* 12. Looking at the ads now, how likely is it that this this messaging will influence your lawn care practices?

Very unlikely	Unlikely	Not sure	Likely	Very likely
○	○	○	○	○

13. Why do you think this message is unlikely to influence your household's lawn care practices?

- ☐ The message isn't aimed at us, because we don't use fertilizer of any kind on our lawn
- ☐ The message isn't aimed at us, because we only use organic/natural fertilizers on our lawn
- ☐ Because we're not interested in switching from weed & feed to natural/organic lawn fertilizer

Other

14. What is it about the messaging (the words and/or pictures) that you think will influence your household's lawn care practices?

15. What's the primary reason you are unlikely to try natural or organic fertilizers on your lawn? (Check all that apply.)

- ☐ They don't work as well as chemical fertilizers
- ☐ I don't think the products we're currently using are harmful to my household's health
- ☐ I don't think the products we're currently using are harmful to the environment
- ☐ The natural/organic products are too expensive
- ☐ Other reason (please describe)

16. Is there anything else you'd like to tell us about your lawn care practices or the topic of natural yard care?

17. If you'd like to enter the drawing to win a $100 gift card, please provide your email. Your email will only be used for this purpose.

Email Address

Thanks very much for your feedback. We truly appreciate it.



Outreach and Engagement Report and Implementation Plan

Kitsap County Public Works Stormwater Division and
the West Sound Stormwater Outreach Group (WSSOG)

Prepared by The Athena Group

April 2023

Report Development

The Athena Group developed this report in collaboration with Kitsap County Stormwater Division's Education and Outreach staff and with key input from the members of the West Sound Stormwater Outreach Group (WSSOG). This project leveraged funds from the Washington State Department of Ecology's Grants of Regional or Statewide Significant (GROSS) program.

Anthony Campbell, Ph.D., Partner

Karen Meyer, Partner

Nettie Gould, Partner

Danielle Ruse, Subcontractor (August Creative)

Table of Contents

Report Development 2

Introduction 5

Purpose 5

Approach 5

Audiences 5

Report Structure 5

What We Noticed 6

General 6

CULTURAL STRENGTHS 6

PROACTIVE EMPOWERMENT AND SUPPORTING NEEDS 6

CAPACITY CHALLENGES 7

Orientation to Outreach & Engagement 7

STRENGTHS 8

OPPORTUNITIES 8

ASPIRATIONS 8

RESULTS 9

ADDITIONAL OBSERVATIONS 9

Materials for Outreach & Engagement 10

STRENGTHS 10

OPPORTUNITIES FOR IMPROVEMENT 11

Defining/Framing Outreach & Engagement 11

Recommendations 13

Orientation to Outreach & Engagement 13

COLLABORATION 13

INTEGRATION 14

Relationship Building 15

Materials for Outreach & Engagement 16

Collaboration 16

Integration 16

Relationship Building 18

Defining/Framing Outreach & Engagement 18

Collaboration 18

Integration 19

Relationship Building 19

Implementation 24

Short-Term (0 – 6 months) 24

Mid-Term (6 – 18 months) 24

Long-Term (18+ months) 25

Appendices 26

Appendix A | Workshop 1: Holistic Outreach (slides) 26

Appendix B | Workshop 1: Jamboard Content 32

Appendix C | Workshop 2: Strategies of Engagement (slides) 38

Appendix D | Workshop 2: Program Engagement Worksheet **54**
Appendix E | Workshop 2: Summary of Strengths & Needs Worksheet **58**
Appendix F | Workshop 3: Building & Maintaining Healthy Partnerships (slides) **59**

Introduction

Purpose

The Athena Group consultants (from now on referred to as "We" or "The Athena Group") understands that the Kitsap County Stormwater Division's Education and Outreach Team (KCPW) and the West Sound Stormwater Outreach Group (WSSOG) are seeking the development of strategic recommendations to enhance outreach efforts for overburdened communities, which could entail prioritizing specific audiences. The aims of KCPW and WSSOG are aligned with the work of public agencies all over the U.S. that are recognizing and addressing the reality that the historic prioritization of traditional older white audiences dominates their outreach and engagement processes, systems, and activities.

What is unique about KCPW and WSSOG is that they've already started their journey toward being an anti-racist collective that prioritizes diversity, equity, and inclusion (DEI). The KCPW team and WSSOG members recognize that community members are holders of local knowledge and are responsible for listening, elevating, and making space for all community voices. Therefore, the purpose of this work was not to focus on *Why* reaching overburdened communities is essential but to instead support the group with a focus on *How* to undertake effective outreach and engagement with overburdened communities.

Approach

Building upon the existing excitement of those currently responsible for outreach efforts and the organization's embrace of continuous improvement through learning, we employed a three-phased approach for designing and implementing outreach strategies that will be both effective and sustainable. The first phase (Discovery and Assessment of Current State) focused on surfacing past and current approaches to outreach, including select staff members' motivations and orientations to the work. The second phase (Learning, Practicing, and Testing Workshops) entailed blending what was learned during the first phase with the expertise and experiences of the consultants to provide three workshops where staff learned, practiced, and tested pathways to a future state of outreach and engagement. The final phase (Final Report and Implementation Plan for Future State) is focused on ensuring that Kitsap County Stormwater and the WSSOG staff can fully own the recommendations that are offered, which requires having an implementation plan that is clear and grounded in the specific needs (current, short-term, and long-term) of the organizations and their stakeholders.

Audiences

This report will have the highest salience and utility for Kitsap County Stormwater Division's Education and Outreach team members, followed closely by members of the WSSOG. However, as is articulated in the Recommendations section, this report could potentially have value for existing and new institutional partners who want better to understand the collective's orientation to outreach and engagement.

Report Structure

Based on what was learned during this project and past experiences with similar projects, this report is structured to focus on outreach and engagement *orientation, materials*, and *defining (*or framing). After addressing what was noticed during the project and making recommendations, the implementation section is oriented to time (short-term, mid-term, and long-term) to guide the next steps.

What We Noticed

The initial phase of this project entailed collecting various artifacts (materials, reports, plans, and other documents), conducting interviews with key parties, and surveying KCPW and WSSOG members. Additionally, an environmental scan was completed to understand better how similar public agencies (geographically, population served, and focus areas) were undertaking outreach and engagement (both with overburdened communities and otherwise). All the collected data was then analyzed by members of The Athena Group project team to determine the current state of outreach and engagement. It's essential to recognize that while the following insights were primarily generated during the project's first phase, several arose as engagement continued in the workshops that were the focus of the second project phase.

General

In addition to the current state insights found in the *Orientation, Materials,* and *Defining* or *Framing* sub-sections, the team thought some general insights were important to share.

Cultural Strengths

One asset and strength that repeatedly emerged during content/document analysis, interviews, and consultant team discussions, is that the collective is committed to learning. This is reflected in the significant number of trainings, DEI and otherwise, that the group has completed in recent years, as well as how KCPW and WSSOG members arrived at spaces prepared to discuss complex topics. Formally and instrumentally, the group's commitment to learning extends beyond mere declarations and inferred orientations. When reviewing documents, miscellaneous artifacts, and interview notes, there were numerous instances where a commitment to action and development/learning came forward related to engaging with historically marginalized populations and overburdened communities.

Along similar lines, when considering the relationship between current cultural dynamics and the desire for enhancing engagement with overburdened communities, is the human-centered orientation that showed up in a few different artifacts, especially in the KCPW Stormwater 3-Year Plan. Human-centered discussions about burnout, communications, and positive workplace culture were shining bright in that plan. These discussions were presented as commitments to achieve higher quality work with a more significant impact. While internal goals do not always translate to external approaches and behaviors, the value of human-centered planning in WSOGG's organizational and operational culture should not be dismissed.

Another cultural strength of the group is their recognition that local or municipal government agencies and actors operate closely with communities and are responsible for fostering better understandings of community needs and priorities. This critical cultural quality cannot be taken for granted based on the consultants' current and past experiences with other groups and agencies undertaking similar efforts to enhance outreach and engagement.

Proactive Empowerment and Supporting Needs

While reviewing documents and other artifacts and developing a deeper understanding of norms and behaviors throughout the project, it became apparent that KCPW and WSSOG have a history of proactive empowerment and engagement with institutional partners. One example is how exhibitors and teachers are

engaged and supported for the Kitsap Water Festival. There is consideration of how to support teachers in connecting experience to their classrooms - surely developed over time with relationship building and understanding. Furthermore, there are impactful displays of building relationships with institutional partners, especially teachers, through efforts to surface and support needs and connect collaborators and partners with resources.

Capacity Challenges

In the context of outreach and engagement work, capacity is discussed in two different manners – capacity in the organization/system to do the work and capacity to understand the complex assortment of energies and orientations that impact outreach and engagement. For KCPW and WSSOG, both are a challenge. There is a disparity between the number of WSSOG members and the desired size and scope of outreach and engagement. Additionally, while KCPW staff are the only staff with exclusive outreach and engagement job responsibilities, WSSOG members have to do outreach, and their skill levels for engaging with overburdened communities are highly varied.

To be clear, the consultants cannot address whether willingness plays any role; nonetheless, everyone is on their journey regarding anti-racism and DEI work. Therefore, each professional will have differences that are then reflected in how engagement and outreach occur in their jurisdiction. This is not inherently "bad" and aligns with the group's recognition of the need to tailor messages to each community. However, it does mean that the hard work of doing outreach and engagement with historically marginalized and overburdened communities is not just "hard" in terms of doing the job but also challenging and resource intensive when it comes to preparing to do that work through staff support and training.

Orientation to Outreach & Engagement

Respecting that the KCPW team and WSSOG members have already undertaken significant outreach and engagement training, and the group is more focused on the how instead of the why of engaging with overburdened communities, it was essential to better understand the group's orientation to outreach and engagement. Since documents can only reveal so much about an individual and a group's orientation to outreach and engagement, a qualitative data collection instrument – SOAR – was employed to gather data from WSSOG members.

Strengths, Opportunities, Aspirations, and Results (SOAR) Analysis is a widely used planning tool. It is designed to collect data about an organization's current position with people's ideas and dreams about its future. SOAR is like the more common SWOT (Strengths, Weaknesses, Opportunities, and Threats) analytical tool, but differs in one crucial way that aligns with the WSSOG members and KCPW team – SOAR is based on appreciative inquiry, so the focus is on what and where the organization is already doing well while converting weaknesses and threats into opportunities. A SOAR survey was designed and administered, with the following themes emerging from analyzing submissions.

Please note that the following language was pulled as much as possible from the exact words of respondents; therefore, there are some areas where additional clarity cannot be provided on what was intended by the respondent if additional probes did not occur in subsequent meetings or during workshops.

Strengths

- There is not simply a willingness to try new approaches and learn new things, there is a resource (funds and time) investment in that pursuit. This orientation is supported by the group's expressed propensity for not needing to have all the answers and being able to hold uncertainty without anxiety or urgency.
- Most respondents expressed how the group's various networks with other agencies are a strength, supported by the strong reputation of the group and its members.
- The staff's expertise and experience create capacity because the group can perform their duties with a high level of efficiency and efficacy.
- There are vital expressions of understanding about the nuances of engaging with overburdened communities, such as realizing that stakeholders' needs must be balanced with agency goals and having mindfulness that there is always the potential for harm. Furthermore, respondents expressed (in different ways) that a "one size fits all" approach must be avoided because of the unique needs and cultural orientations within overburdened communities. Finally, almost every respondent expressed how engaging with overburdened communities requires consistent adaptation due to shifting needs and dynamics – an expression of the work being more akin to a journey instead of a destination.

Opportunities

- Inasmuch as existing partnerships were cited as a strength, respondents expressed two opportunities that they felt could enhance outreach and engagement (overall and with overburdened communities).
    - Find more "human-centered" partners to enhance partnerships that are currently mostly with institutions.
        - While the term "human-centered" was pulled from the SOAR survey submission and did not have additional framing, it tends to be used in this context to reference organizations and partners that fall under the broad category of community-based organizations (CBOs).
    - More coordination between divisions in WSSOG members' "home" organizations, specifically within and between Public Works departments.
- A recurring opportunity offered by respondents, bordering on aspiration, was the potential to leverage the group's desire and training for enhanced engagement with overburdened communities.

Aspirations

Aspirations are connected to what individuals want the collective to be known for, how they want to be perceived (individually and collectively), and often address key materials and processes.

- The primary aspiration across almost all submissions was that audiences would feel seen, heard, and valued.
- Respondents offered, with seeming pride, that KCPW, WSSOG, and all the associated staff are viewed as "leaders" in outreach and engagement. The aspiration is to retain that recognition and reputation going forward, especially as outreach and engagement with overburdened communities expands.
- Multiple respondents expressed a desire that future engagement plans will "connect the dots" between training oriented to DEI and overburdened communities and the practice of outreach and engagement.
- In some instances, tied to the impacts of COVID-19 and in others more general in nature, there was a consistent expression that the future should have more opportunities for shared meeting spaces where reflections on past, current, and future outreach and engagement efforts can occur. Some

spoke about the co-creation of materials in those spaces, with some referencing the inclusion of representatives from target populations.
- Several respondents shared that more evaluation of efforts would benefit outreach and engagement efforts, leveraging both formal and informal evaluation models.

Results

It's essential to recognize that this SOAR section is oriented to practical changes that respondents would like to see in the future. Specific targets are less important than general results that would arrive in the future to build upon existing strengths, leverage identified opportunities, and pursue aspirations. Given the nature of this section, the entries are less detailed than the previous sections.

- An inclusive plan or "road map" for outreach and engagement with overburdened communities.
- Relationships with trusted messengers, boundary spanners, and organizations who can help with outreach and engagement with overburdened communities.
- Overall measures for evaluating and tracking outreach and engagement, both overall and with overburdened communities.
- Increased engagement (across all stakeholder groups)

Additional Observations

In addition to the above SOAR-based insights, the consulting team felt that one document provided significant insights for how the group orients to outreach and engagement – the 2022 Kitsap County Silverdale Stormwater Park Public Participation Plan. While this is not a comprehensive document, the consultants felt the plan provided a helpful window into two strengths and three opportunities for improvement.

Strengths

- Diversity of participation opportunities reflects and embraces of the diversity of needs and orientations within the populations being served.
- A clear delineation of roles and responsibilities between individuals, groups, and organizations. This approach is vital for ensuring collaborative arrangements that feel good and have a high positive impact.

Opportunities for Improvement

- There was a small notice window for the public meeting, which can disproportionately negatively impact overburdened communities and historically marginalized groups.
    - Suggestion[1]: Prescriptions for an exact number of days vary, but the process is more consistent based on research and the consultants' experiences. Ideally, the notification timeframe would allow for at least three stages of public notice: (1) formal notice, (2) sharing of the notice from both institutional partners and community-based partners, and (3) a reminder. The time to allow for each notification phase varies based on capacity and resources. Additionally, recognizing the diversity of living conditions within a population being served, especially for those classified as "overburdened," can be valuable to provide asynchronous engagement opportunities. It is recognized that KCPW does this a great deal and is urged to continue these

[1] While there is a Recommendations section later in this report, we felt it valuable to provide suggestions in some of the areas of this report where an “Opportunity for Improvement” was identified.

types of engagement to recognize how overburdened community members might not have the availability, resources, or courage to engage in formal meetings with government bodies.

- Unclear whether the final notice included information on how data was used, which can be a highly effective way to "close the loop" for community members who participated.
- It was unclear whether the outreach effort was deliberately leveraged to build relationships with individuals who attended and potentially the communities where they are members.
    - Suggestion: Create deliberate spaces within public engagement efforts to foster relationships and shared understanding through storytelling and other "ice breakers" or networking opportunities. An increasingly popular way to do this is to have the middle 15-20 minutes of a meeting used for "speed networking," where attendees break out into small groups (physically or via online meeting platforms) with no more than 1-2 government representatives present in each group. These spaces can feel more "human," are less prone to power dynamics, and allow for multi-directional connections. The middle portion of a meeting is recommended because the beginning is often filled with energies (such as anxiety or shyness) that can be a barrier to engagement, and then end of a meeting is highly vulnerable to people prematurely departing. Ultimately, when and how to create space for relationship building within a formal meeting is dependent on the group dynamics and available resources (capacity and time).

Materials for Outreach & Engagement

When reviewing the wide variety of outreach materials shared with the consulting team, the consultants (primarily Danielle Ruse from August Creative) sorted their analysis into strengths and opportunities for improvement. That analytical framing approach is reflected in how this sub-section is formatted.

Strengths

- The materials, based on accessibility training, were found to be high on conceptual accessibility. This is important due to the highly variegated levels of knowledge throughout the Kitsap County service area.
- Given the focus on shifting behaviors through shifts in understanding, educational materials always included a call to action. Having those two types of content near one another is considered a "best practice" for efforts to shift behaviors.
- Since we know that overburdened and historically marginalized communities tend towards stories more than formal narratives, several documents had narrative construction that told a compelling story that expressed the importance of the work or information being shared. The consultants felt the 2021 CWK Impact Report was an incredibly vivid example of using storytelling to engage a broader swath of the population served.
- One of the most compelling materials identified by the consultants was the Backyard Pet Waste Education and Outreach Plan. What stood out in this document was a thorough recognition of the barriers to correct behavior for target populations. Acknowledging barriers is a recommended approach for internal plans and external discussions because it can prove disarming and result in people feeling "seen" for who they are and their lives. Furthermore, the E&O Plan showcased a partnership mentality for spreading awareness. Given the finite resources and capacity constraints experienced by the WSSOG and KCPW teams, any effort to empower and enable others to help with the work is wise. Finally, the consultants felt that this plan exemplified a realistic approach to evaluation with metrics and tools that could provide valuable insights without being an unrealistic lift.

Opportunities for Improvement

- The primary opportunities for improvement identified for materials during the current state analysis were related to alignment with the diversity of the populations being served, especially the overburdened and historically marginalized communities.
    - Historically, KCPW has been deliberate about designing materials with specific audiences in mind, with a commitment to creating materials and awareness campaigns that have cultural relevance for those particular audiences. As the team continues its new commitment and focus on creating materials for overburdened audiences, there will need to be the same deliberate and mindful approach to design that avoids tokenism and cultural misalignment.
        - Suggestion: Visual tokenizing is quite prevalent because of an awareness of visual monoculturalism online. The best way to avoid tokenizing your photographs is to represent your real current diversity. In public-facing materials, it's important to ensure that your materials have some degree of representation that aligns with the diversity of the population being served. While there is nothing wrong with some degree of overrepresentation for historically marginalized groups, it is inauthentic and trending towards tokenization when materials reflect a level of diversity that does not exist in a community or population being served.

          It's suggested that you continue building your understanding of cultural relevance by engaging with overburdened communities and engaging them in the design process (please see Materials for Outreach & Engagement Collaboration Recommendation #1 - Collaborate with Community Partners on Material Design and Distribution). For internal or inter-organizational materials, acknowledge your current level of diversity (no matter how much or how little) and your efforts to enhance diversity going forward (such as hiring and recruitment efforts), and then use that information for visual representation.

    - While they likely exist, the team did not see any documents translated into non-English languages.
        - Suggestion: If this accessibility effort is undertaken, it is highly recommended that native speakers are engaged to ensure that content and tone are appropriate and impactful. This is especially important for those materials that are more technical in nature and include important scientific context. This is further discussed in the Recommendations section.

- While plans and internal materials frequently showcased rich narratives about how the public was engaged, little to none of that was seen as being surfaced for public-facing materials. Consultant experience and associated research have found that greater transparency about public engagement can result in greater engagement. Moreover, it can invite and support discussions with hard-to-reach populations about whether current public engagement strategies and techniques are optimal.

Defining/Framing Outreach & Engagement

When partnering with organizations to assess current approaches to outreach and engagement, in service of pursuing a future state, it is essential to understand how an organization is defining and framing key terms.

In this partnership with KCPW and WSSOG, the defining and framing of "overburdened communities" is especially important for the work to get to a future state. While the term has formal definitions in legislation and other statutes, the term "overburdened community" can create harm for individuals and groups. Similar to terms like "underrepresented minorities," the challenge with "overburdened communities" is twofold: (1) it doesn't acknowledge that these communities have been systematically and historically excluded, and (2) it can serve to erase the differences between groups within the overarching term (with some groups feeling overburdened, others feeling unseen, and others feeling the label does not apply). Several individuals acknowledged this potential for harm through various forms of engagement (workshops, surveys, and interviews), which is a valuable orientation for the outreach and engagement efforts with overburdened communities. Moreover, it is essential to recognize that KCPW and WSSOG staff predominantly use the term internally and employ more approachable and less intense language in their outreach and engagement materials and presentations.

While the group recognizes the value of the Equity Atlas that was previously developed, they know that the overburdened communities are not entirely represented in that tool due to those communities most often being stratified throughout the county instead of concentrated in geographic areas that lend themselves to geospatial analysis and research. This is challenging for the group because it makes determining assessments of who is being "left out" almost impossible. This care and concern cannot be overlooked because it differentiates the group from many other agencies and organizations; furthermore, it's an emotional and strategic energy that can be used to activate a recommendation made later in this report.

Recommendations

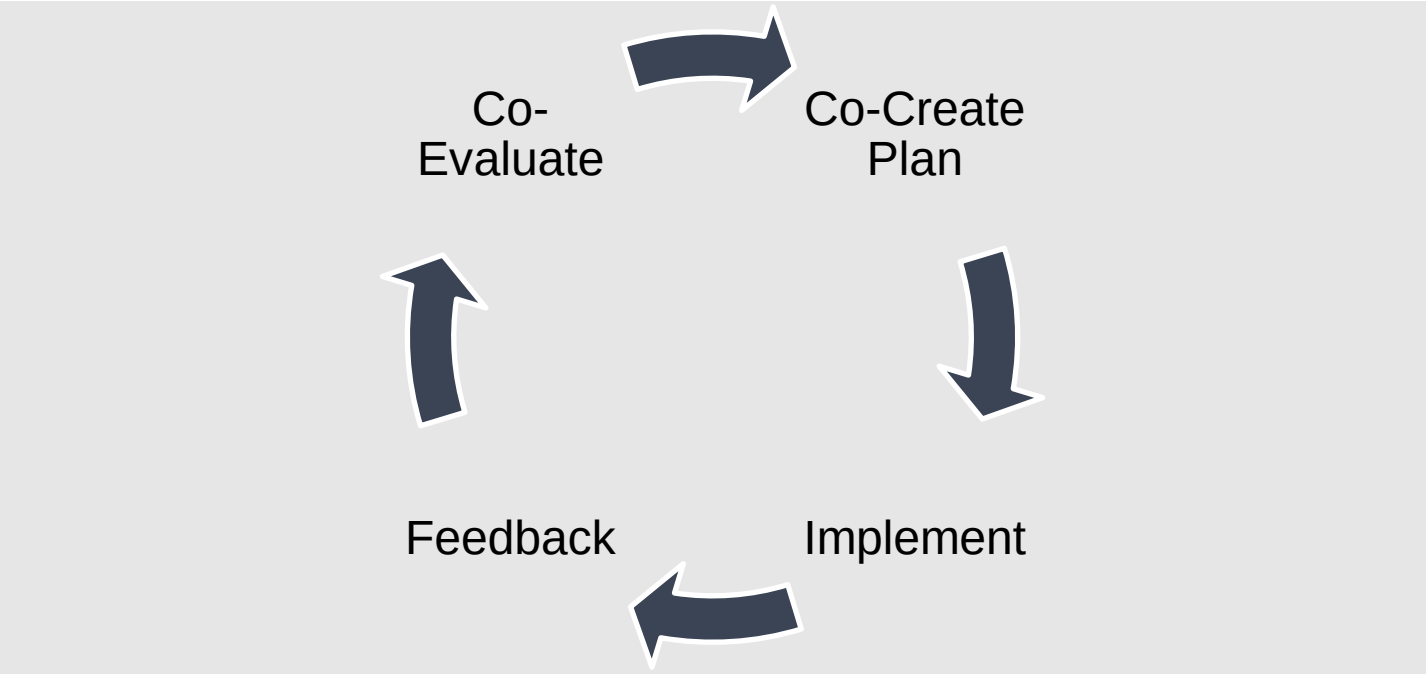
The following recommendations align with this report's overall structure, grouping content into the categories of *orientation, materials,* and *defining/framing* outreach and engagement. Each category has sub-sections devoted to what the consultant team found to be the highest value focus areas – collaboration, integration (or training and beliefs into practice), and relationship building. The recommendations are not rank ordered but are provided in what was felt to be a solid logical progression from one recommendation to the next. The prioritization of recommendations somewhat occurs in the next section – Implementation – in the context of short-term, mid-term, and long-term timeframes.

Orientation to Outreach & Engagement

Collaboration

#1 – Integrate Partners (new and existing) into Outreach & Engagement Planning Cycle

Outreach and engagement planning and implementation follow an ongoing cycle. KCPW and WSSOG already have practices and processes to collect feedback and make revisions. However, there is an opportunity to integrate partners into the plan-do-review cycle. As illustrated in the graphic below, there is excellent potential to collaborate with partners (formal/institutional and informal/community-based) in the planning and evaluation stages of the cycle. Consultant experience and research have found that collaborating with external parties, especially from overburdened and historically marginalized communities, can significantly enhance the quality of the outreach and engagement efforts and create greater legitimacy and ambassadors for the plan.



#2 – Celebrate and Promote Your Partnerships (institutional and community based)
As is the case with most networking areas, an individual or group makes significant decisions about an organization based on the organization's partnerships with other organizations. While WSSOG does not have a dedicated website, and creating one seems unlikely, there is the potential for KCPW dedicating space to a webpage that highlights current partnerships. Regardless of whether it exists as a webpage or another promotional effort, spreading awareness about current partnerships would have an immediate impact and would help current and potential partners have a better understanding about WSSOG's network. At the very least, the logos of current partners and link to their web pages should be shared; ideally, there would be a brief description (1-2 sentences) about the nature of each partnership and what it entails.

#3 – Expand Beyond Traditional Institutional Partnerships
As is often the case with agencies and organizations like those that compose the WSSOG, the initial assortment of collaborations and partnerships are with traditional institutions (i.e., other government agencies, public organizations, and more formalized nonprofits). Given the current goals of building meaningful and sustainable relationships in overburdened and historically marginalized communities, developing collaboratives and partnerships with non-traditional and community-based organizations could significantly enhance efforts. For example, BIPOC CBOs, faith communities, youth clubs, service clubs, and neighborhood associations could serve as bridges to other groups and hard-to-reach populations. An essential component to any collaborative or partnership, especially those with overburdened communities and affiliated organizations, will be fostering self-awareness about the nature of the engagement. That will be discussed later in this report section.

INTEGRATION

#1 - Get Clear on your Guiding Principles and Values for Outreach & Engagement… and share!
The amount of resources that KCPW and WSSOG have committed to developing understanding of DEI, anti-racism work, inclusivity, and other associated practices and topics deserves praise. Members expressed a desire to make sure that what they learn conceptually shows up concretely and guides their practice. One way that can be done is by getting clear on the guiding principles and values that KCPW and WSSOG commit to centering when undertaking outreach and engagement. Furthermore, once those are created and adopted, it is vital that they be shared and promoted throughout the existing and potential networks. Beyond the promotional value of the principles and values, the ability to make values-based decisions during challenging times arrives. For example, making budgetary decisions when there is less money than the year before or deciding a path forward when there is no consensus among WSSOG members on a potential course of action. The following examples of guiding principles and values for outreach and engagement have been harvested from similar projects involving Athena Group consultants.

1. Honor community by valuing their time and resources.
2. Support and maintain relationships with community on a consistent basis.
3. Use multiple channels and methods to communicate.
4. Communicate a balanced and objective view of police accountability.
5. Prioritize engagement opportunities that will have the most significant impact.
6. Convey the realities of what [organization's name removed] can and cannot do as an organization.
7. Constituents are at the center of our community engagement activities.
8. Public engagement is an investment, not an expenditure.
9. At the foundation of our community engagement activities and systems are collaboration and building sustainable, functional relationships willing and prepared to address episodic and routine predictable challenges.

10. Our community members and partners are not a distraction from our work – They are the reason for our work! We understand that the commitment, opinions, resources, and concerns of our community members are a source of wealth and an organizational asset.
11. We honor time and energy as important resources of our residents and provide them with a return for investing their time, energy, and other resources in community engagement.
12. Constituents will see the results and benefits of their engagement.
13. We plan and conduct public processes that maximize the residents' return on investment for the time, energy, and resources they commit to community engagement.

#2 – Design and Activate an Outreach & Engagement Evaluation Plan

Given the group's commitment to learning, collecting feedback, and making revisions, evaluations are already occurring in several different forms and manners throughout the KCPW and WSSOG systems. However, there can be immense benefits in having an overall evaluation plan that cascades across the collective and shared systems. Such a plan does not need to be overwrought or trend in the direction of micro-management, especially given the capacity constraints that were expressed and identified during this project. Some key elements in such a plan might be:

- Co-analysis activities to evaluate the success of outreach and engagement, including assessing community and stakeholder perceptions of the efforts.
- Creating dedicated spaces for reflecting on outreach and engagement efforts, holding curiosity about those reflections, and then capturing insights in a way that they can be leveraged for program revision.
    - NETL's Best Practices: Public Outreach and Engagement for Geologic Storage Projects, section 2.10, has some suggestions about program assessment.
- Ways of collecting insight include:
    - Post-event questionnaires and surveys, though these may have a low response rate.
    - Targeted one-on-one follow-ups – it is important to include stakeholders who seemed very engaged and less engaged.
    - Feedback from an advisory board of stakeholders (this would be a longer-term goal).
        - Questions for these feedback sessions could include the following:
            - Do stakeholders feel their views are being heard and incorporated?
            - Do the engagement mechanisms work for all parties?
            - Do logistical matters (related to technology, event planning, venue and access, timing) make engagement smoother and more accessible?
            - Are there stakeholders missing from the engagements? If so, does anyone have a connection?
- Develop a system for tracking feedback so that changes can be detected over time.

RELATIONSHIP BUILDING

#1 – Prioritize Authentic Engagement over More Outreach

Often, organizations seeking to expand engagement in a specific geographic area or with a specific target population, in this case overburdened communities, increase the amount of outreach they're doing in hopes that will result in more engagement. The common flaw in that approach is that the lack of engagement is not due to the volume of outreach but instead the engagement strategy or lack thereof. Based on what has been learned during this project, several adjustments to the engagement strategy could have significantly positive impacts for relationship building.

- Prioritize relational over transactional exchanges, allowing the process to go slower and few if no expectations for the engagement.
- Work with advocacy groups to develop insights and possibly build relationships.

- Close the feedback loop. How was public input used in previous projects? Be clear about how not all feedback will be used, prioritizing authentic engagement over conflict-avoidant engagement.
- Give people a voice in determining the manner of participation, style of engagement, and types of outreach. People are more inclined to support that which they help build, and ambassadors are vital for develop connections to overburdened and historically marginalized communities.

#2 – Activate Community Partners who are Connectors and Boundary Spanners
KCPW has worked hard to build and maintain a constellation of amazing community partners, such as teachers, sister agencies, salmon tour collaborators, WSU Extension staff, Kitsap Regional Library (KRL) librarians, and the community partners who setup booths at the Salmon Tours and other events. These types of partners, especially teachers and WSU Extension staff, are consistently cited in research and have been identified in the consultants' experiences, to be highly effective at helping to generate connections with hard-to-reach groups. These partners can not only help with questions about "Who is not here that should be here?" They are also well-positioned and highly credible in sharing insights about needs and making connections between parties.

Materials for Outreach & Engagement

COLLABORATION

#1 – Collaborate with Community Partners on Material Design and Distribution
At first glance, this could seem like an onerous recommendation that could dilute authority and administrative discretion. However, deployed correctly and with clear role boundaries, this can be a highly effective starting place for substantive engagement with populations. To be clear, it doesn't have to require (and we are not recommending) that every single material is vetted with external stakeholders. Instead, this often works best when an advisory group is formed (with lots of alternates) and staff can share general design ideas for the coming year with the group and discuss strategies for iconography, representation, and distribution.

A secondary benefit is that this can be a "test area" for slowing down certain practices and processes. That slowing down can be difficult for public organizations and government agencies, but it has tremendously positive benefits for supporting authentic engagement with overburdened communities. Therefore, identifying a lower stakes area to experiment with slowing down the administrative speed can be highly valuable before attempting to adjust speeds for other processes.

INTEGRATION

#1 – Leverage Professional Services and Technology to Overcome Capacity Limits and Resource Constraints
While the entire collective (KCPW and WSSOG) benefits from the expertise and experience of the KCPW team, there are inherent capacity and resource limitations, as well as technical constraints, like with all collaborative arrangements. We believe the following categories of needs could be addressed with specific web tools that could help increase effectiveness and efficiency while not furthering the capacity and resource limitations.

- Content Translation
    - Starter
        - The free-to-use online graphic design platform – Canva – is preferred by some and disliked by others, often dictated by the individual's design preferences and training; however, one feature that has drawn attention is Canva's investment in advanced machine learning technology for purposes of generating translations. This feature is only

available to those who invest in Canva Pro accounts, but it is a relatively low-stakes and low cost ($120 per year per user) way to access translation services (even if one did not use their design tools). It is strongly recommended that a native speaker of each language is still engaged to review any translations for message accuracy and tone.

- Best Practice
  - If funds are available, it is ideal to work with a translation services vendor who can provide translations. These vendors often have robust quality assurance (QA) protocols in place that require translations to be generated and checked by native speakers. These services have highly differentiated price points, with some offering their services on a subscription basis.
- Experimental
  - As artificial intelligence (AI) becomes more accessible and is further integrated into various web tools, services like ChatGPT, will result in unprecedented access to translation services that are immediate, conversational, and readable. However, given the sensitivity of relationship building with overburdened communities and hard-to-reach populations, it is suggested that these services only be explored at this stage and are always supported by native speaker reviews.

- Real-Time and Asynchronous Collaboration
  - Meetings have been forever changed because of the COVID-19 pandemic, with many organizations accepting that a remote/web-based option will be provided in perpetuity. In many ways, this translates into the potential for broader engagement; however, it also means that there must be a shift in how collaboration occurs with groups. The following tools can be used for both practical collaboration and creating more dynamism and engagement in meetings.
    - Miro
      - Planning, brainstorming, and engagement (free subscription allows for limited use)
    - Mentimeter
      - Real time polls, quizzes, and visual representations (word clouds) of meeting content. (free subscription allows for limited use)
    - Jamboard
      - A google product that is a dynamic whiteboard ideal for brainstorming, collaborative analysis, and soliciting feedback on visual materials. (entirely free, but requires a google account to build/design and administer)

#2 – Utilize a Communications Checklist that is Oriented to Inclusion

This is, of course, a common need and request from community/government organizations and unfortunately there is not a one-size-fits all checklist. The following preliminary checklist was drafted by Danielle Ruse of August Creative.

1. **Development Questions and Considerations**
   - Who are we excluding in this message? Does the image tell a story or make sense without reading the words?
   - Who will review content for potential biases?
   - Will we test our content with select community members and invite feedback?
   - What systems/metrics are in place to ensure our content is inclusive?
   - Who do people contact us if they need to ask questions or take additional steps?

2. **Does the content…**
    - Challenge stereotypes?
    - Portray diverse individuals in a positive light?
    - Challenge hierarchies, bias, and other non-inclusive standards?
    - Use plain language?
    - Use pronouns?
    - Make assumptions about income level or status? Make other assumptions?
    - Tell a story without words?

3. **Accessibility Questions (for physical documents and web materials)**
    - Can text be highlighted, copied, and pasted?
    - Were headings appropriately used so that a heading level was NOT skipped (Heading 1, Heading 2, Heading 3, etc), which is vital for screen readers?
    - Is there sufficient color contrast between text and background colors?
    - Do images (which offer important information not contained in the text) include text descriptions?
    - Is the font readable (minimum 10 point font for web, 12 point for documents)
    - Was the built-in MS Office Accessibility Checker used?
        - View Make your Word documents Accessible to People with Disabilities for more information.
    - Does the document have good conceptual accessibility?
        - Additional resource for plain language writing: https://www.plainlanguage.gov/media/FederalPLGuidelines.pdf

RELATIONSHIP BUILDING

No recommendations were generated at the intersection of relationship building and materials for outreach and engagement.

Defining/Framing Outreach & Engagement

COLLABORATION

#1 – Empower Community Partners to Define or Frame Key Terms
While there are undoubtedly formal, legislative definitions of key terms such as "overburdened communities" and "outreach," those terms are bound up in varied histories and personal stories that can result in harm if not unpacked or appropriately framed. Therefore, a lower stakes first step to build trust and foster empowerment can be empowering overburdened community members, and maybe all stakeholders, to help define key terms. These exercises always provide valuable insights, and they work to dissolve existing or feared unbalanced power dynamics by signaling an openness to co-creation and sharing power.

Any power sharing effort benefits from clear expectations and transparent design, such as the following (edited) approach that was used by Athena Group consultants for a project with an Oregon library system that was seeking to build relationships with historically marginalized populations.

1. A working group was developed that consisted of members from current library system partners, hopeful/prospective library system partners, and a distribution of unaffiliated individuals who were recruited proportionate to their representation in the communities served.
    a. Attention was paid to making sure that community seats were equal (plus one) to institutional/formal seats on the working group.
2. The working group were recruited to provide feedback on the overall outreach and engagement effort with historically marginalized populations served by the library system.
3. Before the first meeting, working group members were provided with a list of terms that library system staff had identified as potentially harmful, oversimplified, overgeneralized, or unnecessarily ambiguous/vague. That list was supplemented with a link to key outreach materials and an invitation to identify any other terms that the group felt should be considered for group definition.
4. During the first meeting, the Athena consultants facilitated the identification and defining of key terms, including "historically marginalized."
    a. The facilitators worked to prioritize the feelings and thoughts of impacted groups, by establishing who was directly, indirectly, and not affected by each term or word.
    b. In the event a definition could not be determined by the group, consideration of using a different word or term was facilitated.
5. Three rules were used for the effort:
    a. The definitions and new terms could be reconsidered if a majority of the working group members agreed.
    b. The definitions and new terms were not permanent. They would be used for the duration of the current working group's term (one year) and then presented to the next group for consideration.
    c. Any legally required terms would only be used on formal documents and, when possible, would include the working group's alternative term or definition.

INTEGRATION

No recommendations were generated at the intersection of relationship building and materials for outreach and engagement.

RELATIONSHIP BUILDING

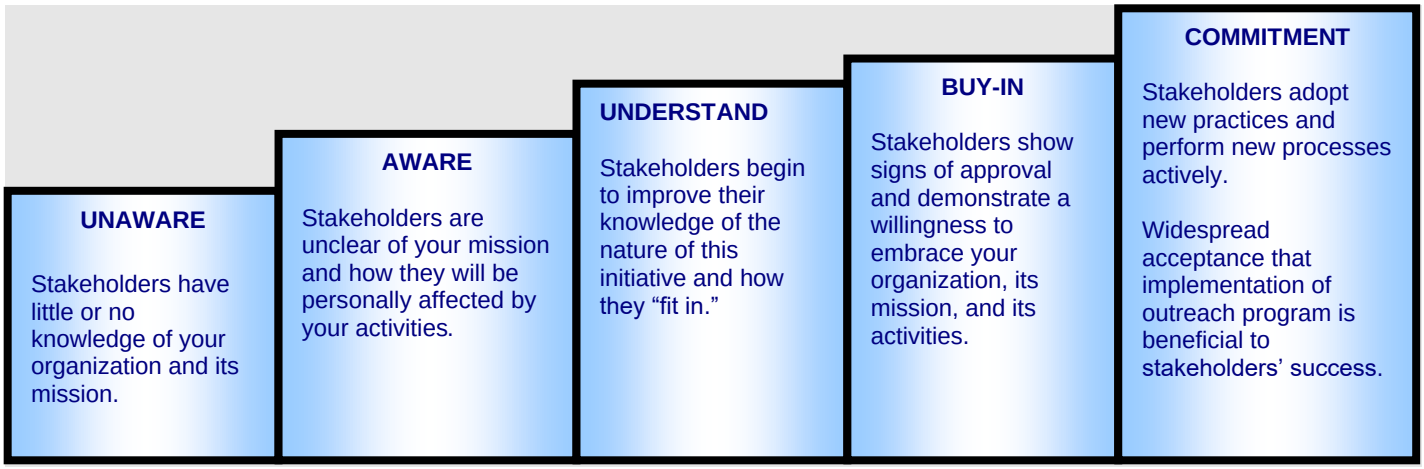
#1 – Don't be Afraid to Engage with Important Words like Harm, Barriers, and Fear
We have found that fear is consistently cited as the main barrier to engagement, both for staff and community members, this fear flow from past trauma related to engagement, asymmetrical power dynamics, intergenerational anger and distrust, the potential for harm, and many other sources. In addition to this finding, researchers have found that while community members are often comfortable discussing this fear, government officials are often reluctant to acknowledge or discuss. While the causes can be varied, an increasing number of practitioners and scholars are leveraging the work of Kenneth Jones and Tema Okun as a framework for showing how white supremacy thinking is embedded in so many norms, processes, and rituals within organizations. In this specific context, *paternalism, fear of open conflict* and *right to comfort* have been found to contribute to the avoidance of complicated topics in meetings with groups who have been historically marginalized or who are members in overburdened communities.

Conversations about fear and other energies, such as harm, can begin as soon as the first meeting is designed and promoted – asking prospective attendees to consider whether they fear participating or believe there is the potential for harm. We highly recommend that facilitated discussions about these energies occur early in

the first meeting and are facilitated by an experienced and representative professional (internal or external). The facilitator must be working to hold as much of the weight as possible during this facilitation, to avoid further burdening overburdened populations. In our experience, it is best to facilitate this discussion in the first several meetings because people tend to desire some level of trust and safety before openly discussing emotions that must often suppress.

This process can invite the "whole human" to attend the engagement experience, instead of just a portion of that individual. It cannot be expected that all will feel comfortable being their whole selves, some may require several encounters and others may never have comfort and safety. However, simply creating space for the fullness and diversity of participants enriches the entire engagement experience and increases the likelihood for authentic engagement upon which relationships can be built.

#2 – Embrace the Phases of Stakeholder Commitment and Build Realistic Targets
As depicted in the graphic below, gaining stakeholder commitment evolves. The strategic objective is to support your stakeholders in migrating their perceptions of your programs and initiatives from "unaware" to "commitment" using various resources, tools, techniques.



How you engage your stakeholders will depend on their level of awareness or commitment; groups with only little or no understanding of your programs, services, and responsibilities will need information that is more general in nature to "get them up to speed" on what you can offer them. Moving them toward commitment may require more effort and time than your current capacity levels; therefore, it's essential to have realistic and planned stakeholder commitment targets. Misalignment between capacity to support migration and commitment targets can damage relationships (new or existing).

#3 – Create Space for "No" and Get OK with Hearing "No"
Based on our collective experience, we know that engaging with hard-to-reach and historically marginalized populations can be very challenging and resource intensive. A successful quality we've observed is creating space for individuals and organizations to say "no" when invited to participate and being OK with that response (instead of obsessing, trying to convince, or drifting into White Supremacy either/or thinking). Creating space for a "no" response is linked to the first recommendation in this section, and often entails recognizing that there may be fear, intractable barriers, or too much potential for harm. We recommend this approach because of the maturity it signals to potential participants and partners, as well as the internal benefits it has for developing a deeper connection to the highly subjective experience of community engagement.

A key component to creating space for "no" is providing potential participants and partners with a very clear explanation of expectations, commitment(s), but that is further discussed in this section in the fifth recommendation (Develop Realistic Engagement Goals).

#4 – Identify and Build Relationships with Community Connectors and Boundary Spanners
Like many clients we partner with on community and stakeholder (or careholder) engagement efforts, KCPW and WSSOG are understandably interested in tools and techniques to access not only the people but the orientations, understandings, and needs of those hard-to-reach communities and people in their service areas. While the Equity Atlas is a beautiful starting place, it is just that – a starting place. Given the historic complexity of historic relationships between government bodies and many who inhabit overburdened communities, labeled from illegal to traumatic depending on who is asked, formal outreach by a government official can only have impact in certain instances. Therefore, community connectors and boundary spanners (one who has earned and maintains credibility across multiple groups) are vital for effective outreach, engagement, and relationship building.

As was previously discussed in the *Activate Community Partners who are Connectors and Boundary Spanners* recommendation (Orientation to Outreach & Engagement/Relationship Building), KCPW and WSSOG are in the fortunate position to already have many formal partners who, based on the experiences of the consultants, can be activated to make connections to communities and to other connectors and boundary spanners. As is advanced in the research and in practice, it's important to delineate between institutional boundary spanners and community boundary spanners. Institutional boundary spanners are proficient in getting institutions, from government bodies to CBOs, to listen and sometimes engage in a conversation with one another. Community boundary spanners, on the other hand, are more proficient at building direct relationships between government bodies and individuals or groups within specific communities. No matter then orientation, what's essential is that KCPW and WSSOG have a health and sustainable relationship with multiple community connectors and boundary spanners. The following are some recommended strategies for building and maintaining relationships these individuals, based on successful efforts with other clients:

- Don't guess, ask your partners who consider themselves a boundary spanner, specifically inquiring about their orientation – institutional or community.
    - Once that list has been compiled, invite the group together to begin building a focused relationship.
- Get clear and communicate your expectations to the boundary spanners, about both what you expect from them and the institutions or communities with whom they are connected (discussed further in the next recommendation).
- Avoid having too many, if any, expectations about how fast connections will be made. It's important to keep in mind that the boundary spanner (or community connector) is being asked to essentially vouch for KCPW and WSSOG. Some will see this as highly transactional while others will feel an existential connection (especially the community boundary spanners).
- Develop an approach for onboarding and offboarding boundary spanners, because their connections and capacities will shift over time, as will the goals and needs of KCPW, WSSOG, and the communities being pursued.

#5 – Develop Realistic Engagement Goals
This begins with determining the correct "starting place" for relationship building. We encounter many organizations who want to start too bold and move too fast. For individuals from overburdened communities and historically marginalized populations, the relationship building often moves quite slow. We recommend

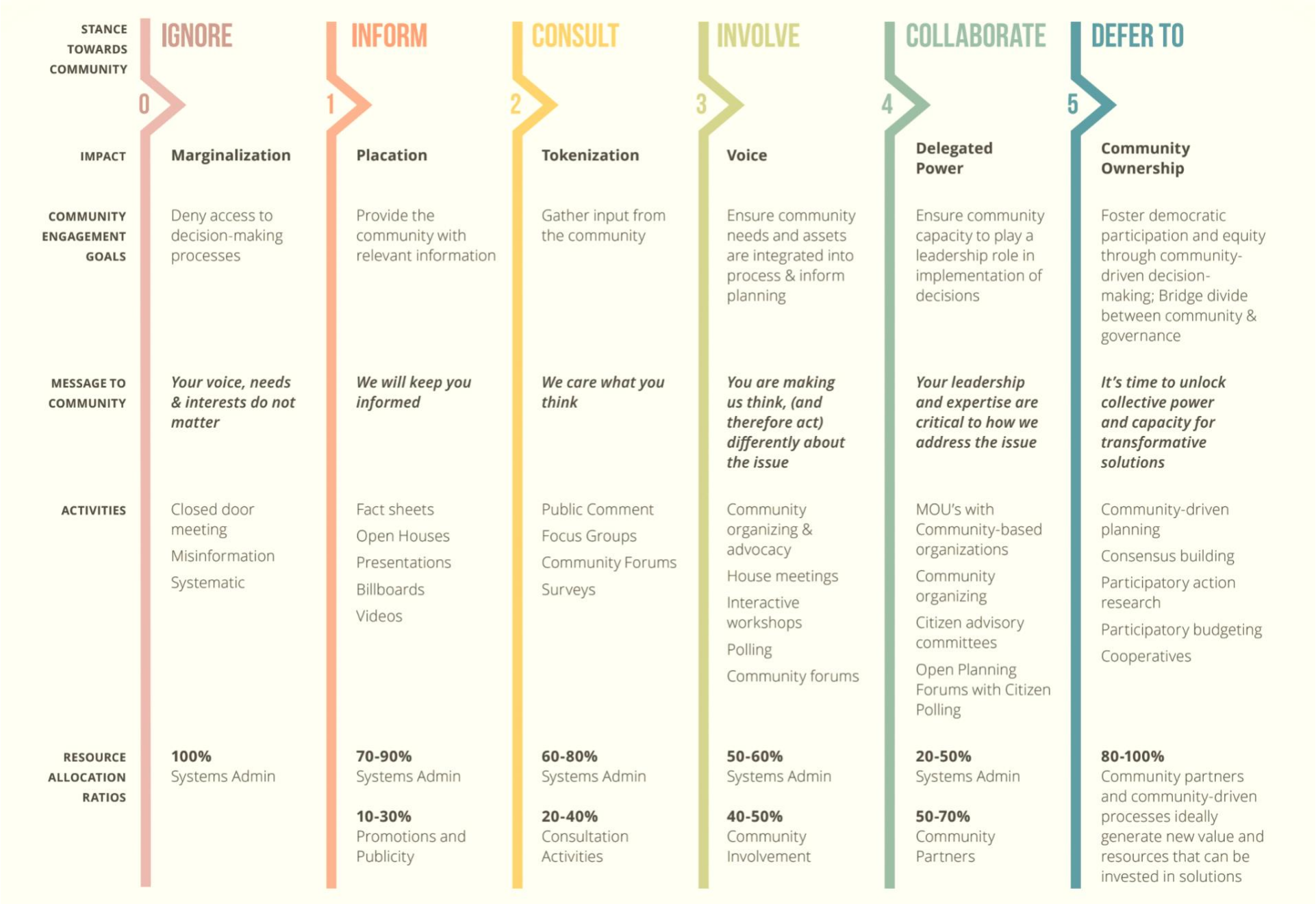
that groups have a trusted collection of community partners and boundary spanners (see previous recommendation) who can provide input on the ideal starting place when building a relationship. Given that governments agencies tend to have the highest number of formal and informal relationships with other government agencies, it can be easy to assume a certain level of formality and familiarity with meeting norms and rituals. However, community partners and boundary spanners can provide candid and actionable feedback on the ideal starting point with different groups.

While some can be dismissive of transactional engagement, we encourage clients to be honest with whether they're seeking transactional or relational engagement. In our experiences, both can be effective for different needs at different times (overall and in the arc of relationship building) and neither are inherently good or bad. The approach to avoid is stating that a relational engagement is sought while only needing or wanting a transactional engagement.

Community engagement transcends outreach and works to facilitate community agency and power in shaping policy, practices, and partnerships. It is often suggested, but not mandated, and ranges on a spectrum from marginalization of the community members/groups/individuals to collaboration and deferment of decision to the community. To help visualize this spectrum, the figure on the following page illustrates a public participation spectrum developed by Rosa Gonzalez of Facilitating Power and the Movement Strategy Center. For more information on the *Spectrum of Community Engagement Ownership,* please visit Facilitating Power's website.

Too many organizations and efforts get lost in the gaze or wishful thinking of Community Ownership. Be honest, acknowledge the engagement level you're seeking, and share that clarity with your current and potential partners. Additionally, be OK with the fact that your target level of engagement will likely shift from project to project and over time as different calibers of relationships are built with communities and groups.

The Spectrum of Community Engagement Ownership



Implementation

Based on what has been learned about KCPW and WSSOG over the duration of this project, as well as our experiences and expertise as consultants on similar projects, we believe the following implementation schedule (using the 16 recommendations) is realistic and will be impactful. However, it will ultimately be at the discretion of the KCPW staff and WSSOG members to determine what is practical, what path forward is optimally aligned with resources and capacity limits, and what will genuinely honor the future state vision.

Short-Term (0 – 6 months)

1. Get Clear on your Guiding Principles and Values for Outreach & Engagement… and share!
2. Develop Realistic Engagement Goals
3. Celebrate and Promote Your Partnerships (institutional and community based)
4. Utilize a Communications Checklist that is Oriented to Inclusion

A realistic starting place in the next six months is to **Get Clear on your Guiding Principles and Values for Outreach & Engagement… and share!** This can serve as a prosperous location for KCPW and WSSOG staff to surface assumptions, connect learning and training with practice, express priorities, discuss barriers, and ultimately come to an agreement on the guiding principles and values for outreach and engagement. It is presumed that specific principles and/or values would be focused on overburdened communities, but the entire effort can be immensely beneficial for enhancing clarity, shared understanding, role definitions, and will produce insights that are essential to **Develop Realistic Engagement Goals**. The development of these goals doesn't occur just once, but are instead ongoing. However, the first shared exercise can serve as a pilot for future efforts. It must be expressed that it's not as though KCPW and WSSOG have not been developing realistic engagement goals. What is being recommended is a continuation of that commitment through clear commitment and communication about the degree of community engagement that is being sought. When the first two recommendations are completed, that will serve as a great opportunity to share that information with existing partners, as well as plans that have been developed to **Celebrate and Promote Your Partnerships**. Finally, given the impressive volume of communications that are consistently flowing from KCPW and WSSOG, piloting the **Communications Checklist that is Oriented to Inclusion** is a low stake, potentially high-yield effort. We recommend that any initiation of that checklist, be it through a pilot or a more formal effort, be coupled with deliberate spaces (before, during, and after) for staff to co-design, reflect, and evaluate.

Mid-Term (6 – 18 months)

- Expand Beyond Traditional Institutional Partnerships
- Design and Activate an Outreach & Engagement Evaluation Plan
- Prioritize Authentic Engagement over More Outreach
- Activate Community Partners who are Connectors and Boundary Spanners
- Identify and Build Relationships with Community Connectors and Boundary Spanners
- Leverage Professional Services and Technology to Overcome Capacity Limits and Resource Constraints
- Don't be Afraid to Engage with Important Words like Harm, Barriers, and Fear
- Embrace the Phases of Stakeholder Commitment and Build Realistic Targets

- Create Space for "No" and Get OK with Hearing "No"

While short-term implementation is more internally controlled, mid-term implementation shifts to being more external and toward cultural and operational/process-orientated changes. This phase of implementation will be more time-consuming and resource intensive. To Expand Beyond Traditional Institutional Partnerships will require, Activating (current) Community (and institutional) Partners who are Connectors and Boundary Spanners along with Identifying and Building Relationships with (new) Community Connectors and Boundary Spanners. However, before any of that can truly get underway in an effective manner, it will be necessary for KCPW and WSSOG to Embrace the Phases of Stakeholder Commitment and Build Realistic Targets. As was previously offered, it's not as though the targets and level of commitment are static and unchanging; nonetheless, considering both will be vital to ensure clarity of communication and proper alignment with current and future boundary spanners. As hopefully new pathways and connections to overburdened communities are materializing, the need to Prioritize Authentic Engagement over More Outreach will be needed more than ever, exemplified (authentic engagement that is) by Not being Afraid to Engage with Important Words like Harm, Barriers, and Fear and Creating Space for "No" and Getting OK with Hearing "No." Towards the end of this implementation phase an ideal space should arrive for Designing and Activating an Outreach & Engagement Evaluation Plan, ideally with some degree of co-design/co-creation with partners.

Long-Term (18+ months)

- Integrate Partners (new and existing) into Outreach & Engagement Planning Cycle
- Collaborate with Community Partners on Material Design and Distribution
- Empower Community Partners to Define or Frame Key Terms

The most uncertainty surrounds the ability, or even need, for KCPW and WSSOG to share power with community partners, be they from overburdened communities or otherwise; therefore, the three recommendations oriented to the sharing of power are positioned the furthest in the future. All three recommendations entail a robust level of engagement, with Collaborate on Material Design and Distribution having the potential to be the most contained and Integrating Partners into Outreach & Engagement Planning Cycle being the most complex and requiring careful deliberation and design. While Empowering Community Partners to Define or Frame Key Terms might seem like a relatively low-stakes way to share power, the intensity of the subjects being discussed, defined, and potentially replaced requires that strong relationships are in place (internally and externally) and that KCPW and WSSOG staff have strong internal coherence about the ways in which outreach and engagement have progressed over time.

Appendices

Appendix A | Workshop 1: Holistic Outreach (slides)



Introductions & Warm Up

Introduce yourself and your role in this effort

- **Name**
- **Title**
- **Organization**
- **Tenure**

What would you like to better understand at the conclusion of the three workshops?

Our team



Anthony Campbell
The Athena Group



Nettie Gould
The Athena Group

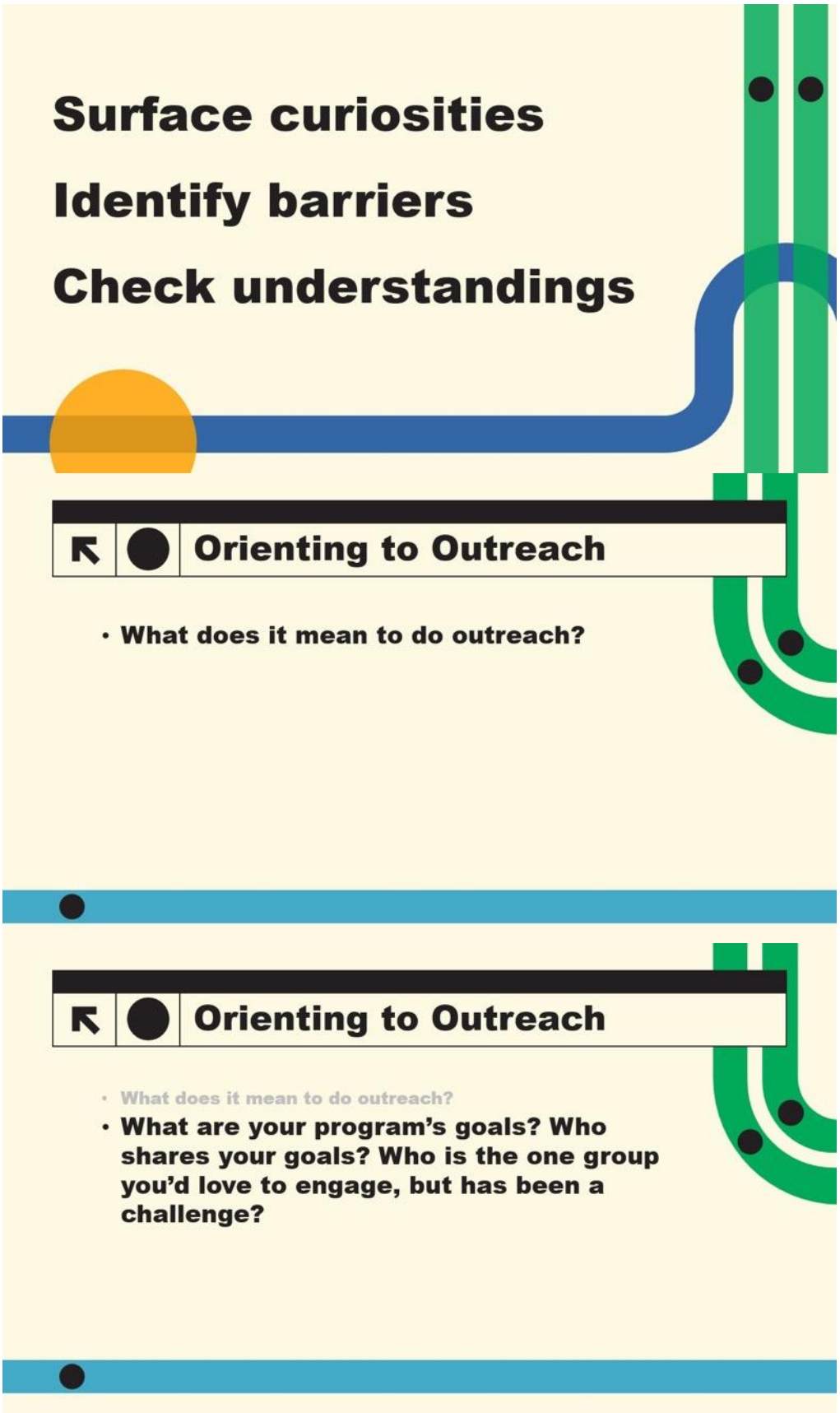


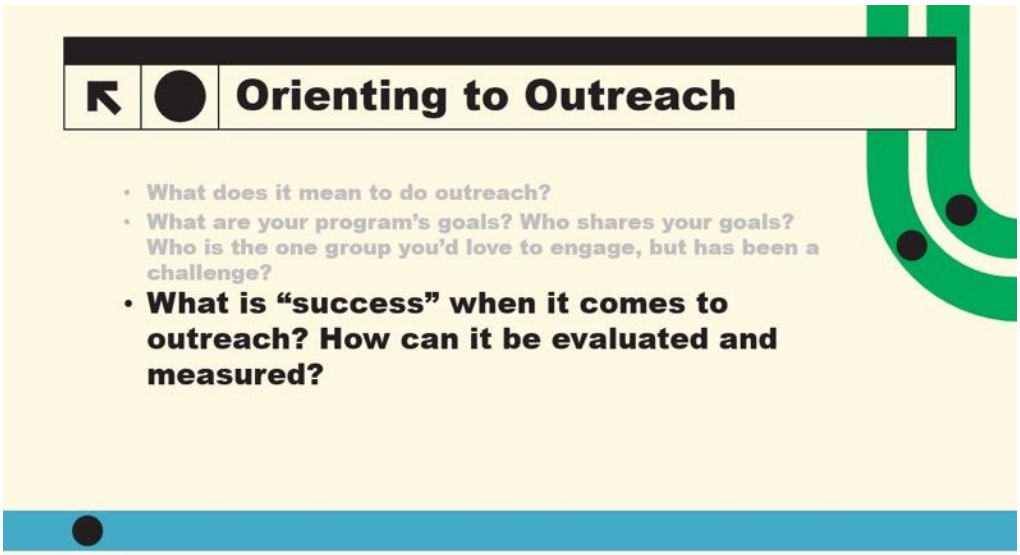
Karen Meyer
The Athena Group

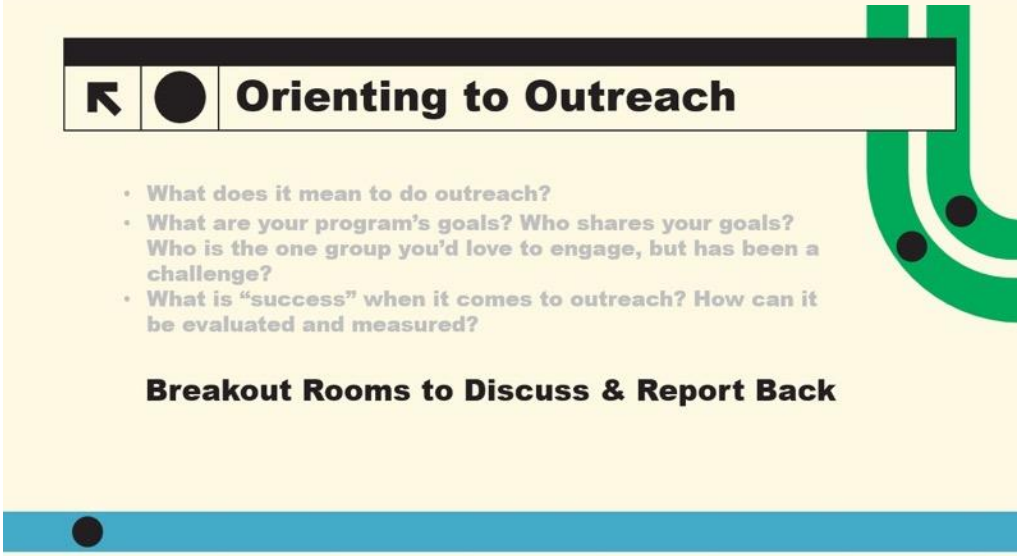


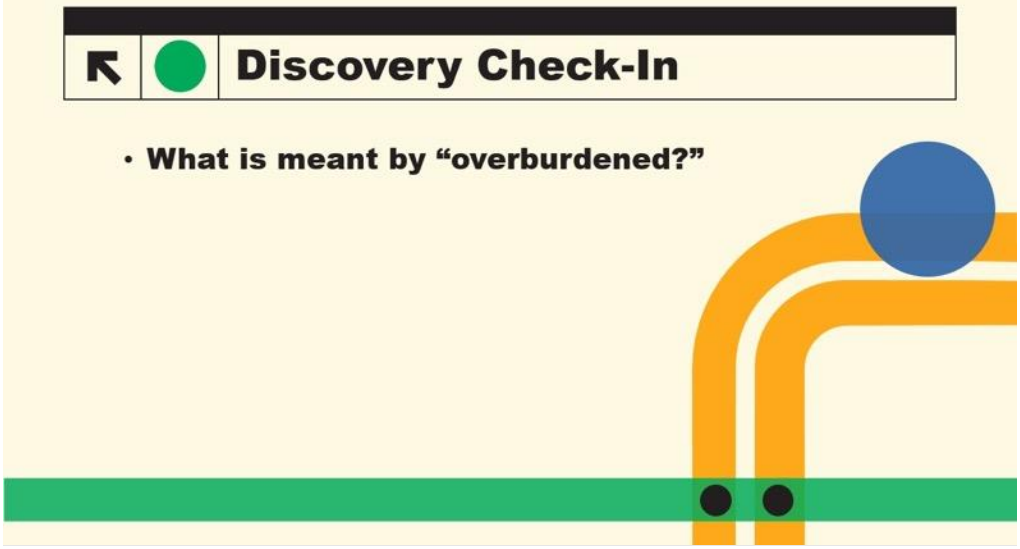
Danielle Ruse
August Creative

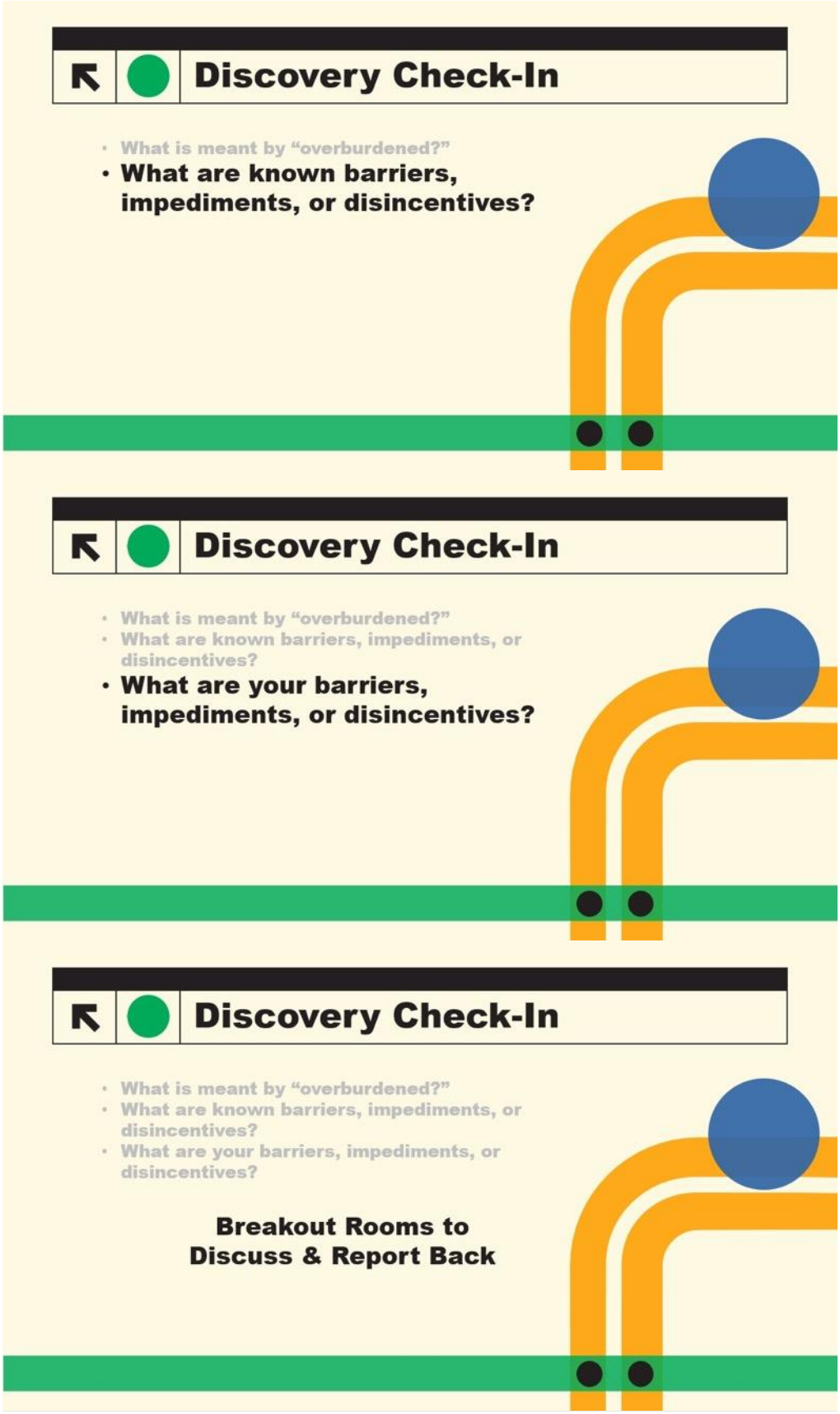
Workshop Goals


Surface curiosities
Identify barriers
Check understandings
Orienting to Outreach
• What does it mean to do outreach?
Orienting to Outreach
• What does it mean to do outreach?
• What are your program's goals? Who shares your goals? Who is the one group you'd love to engage, but has been a challenge?


Orienting to Outreach
What does it mean to do outreach?
What are your program's goals? Who shares your goals? Who is the one group you'd love to engage, but has been a challenge?
What is "success" when it comes to outreach? How can it be evaluated and measured?

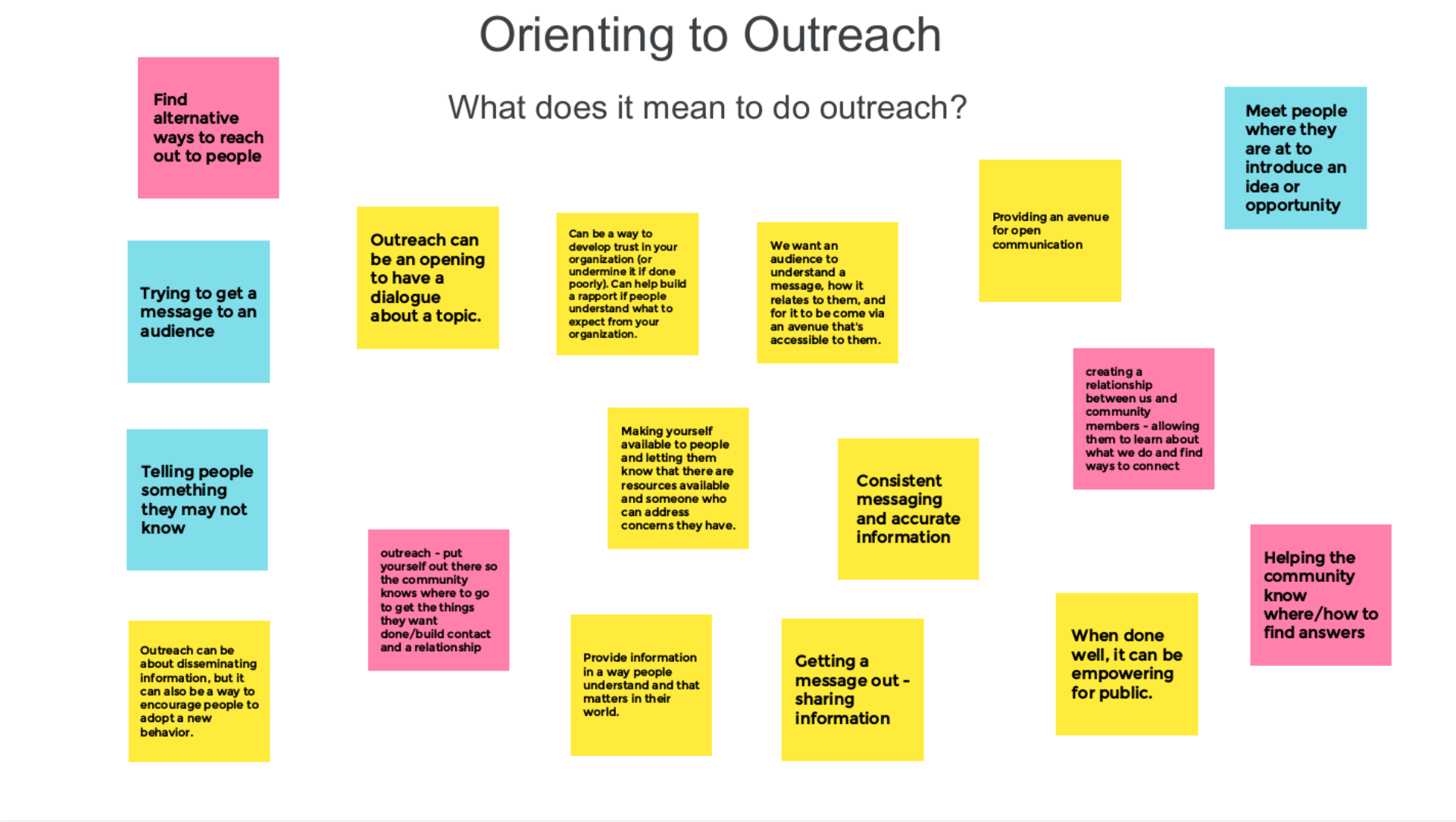

Orienting to Outreach
What does it mean to do outreach?
What are your program's goals? Who shares your goals? Who is the one group you'd love to engage, but has been a challenge?
What is "success" when it comes to outreach? How can it be evaluated and measured?
Breakout Rooms to Discuss & Report Back


Discovery Check-In
What is meant by "overburdened?"


Discovery Check-In
What is meant by "overburdened?"
What are known barriers, impediments, or disincentives?
Discovery Check-In
What is meant by "overburdened?"
What are known barriers, impediments, or disincentives?
What are your barriers, impediments, or disincentives?
Discovery Check-In
What is meant by "overburdened?"
What are known barriers, impediments, or disincentives?
What are your barriers, impediments, or disincentives?
Breakout Rooms to Discuss & Report Back


Timeline
FEB
W1
W2
W3
APR
Discovery
Holistic Outreach
Strategies of Engagement
Relationship Building and Relationship Management with Overburdened Communities
Final Report
thank you
Danielle Ruse
danielle@augustcreative.io
Anthony Campbell
anthonyc@athenaplace.com
The Athena Group

Appendix B | Workshop 1: Jamboard Content



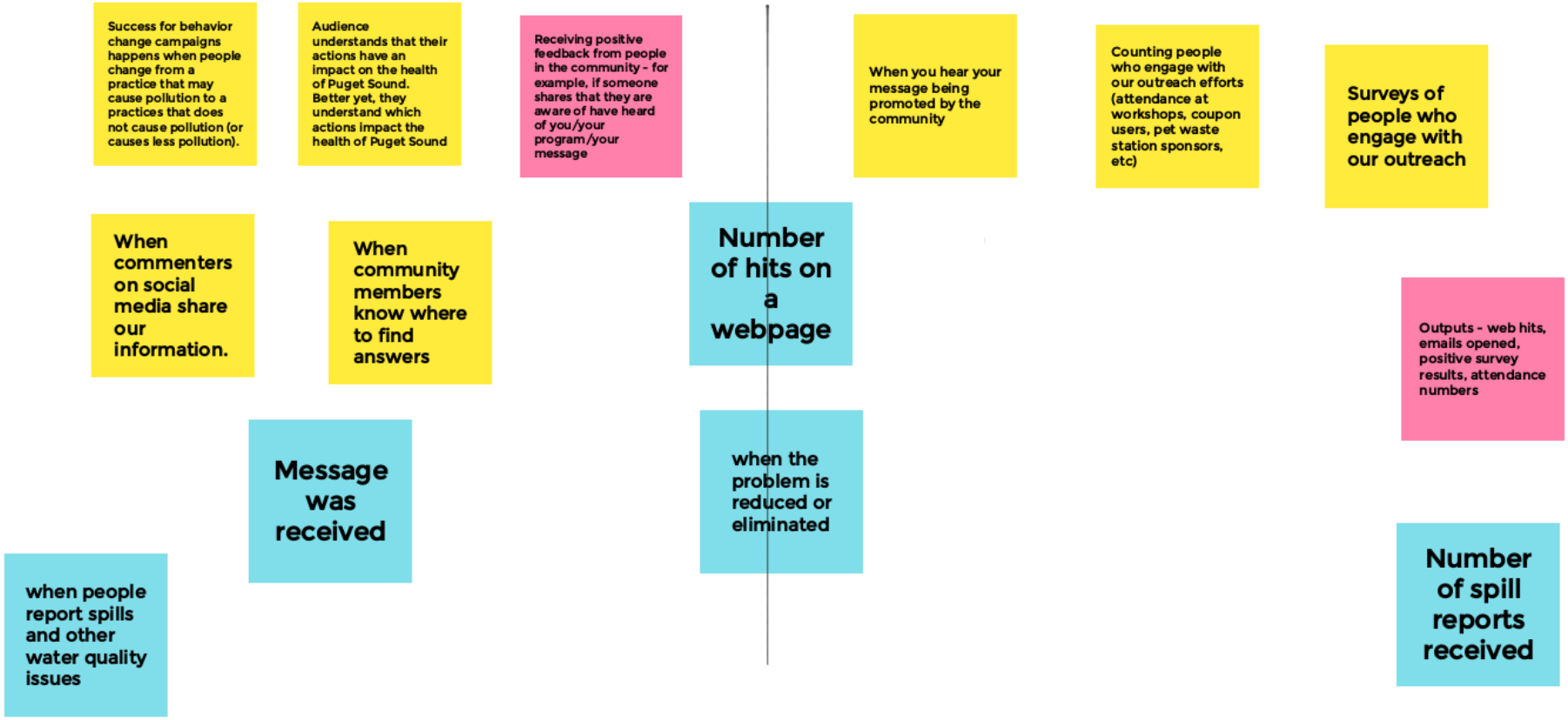
Orienting to Outreach

What are your program's goals? Who shares your goals? What is the one group you'd love to engage, but has been a challenge?



Orienting to Outreach

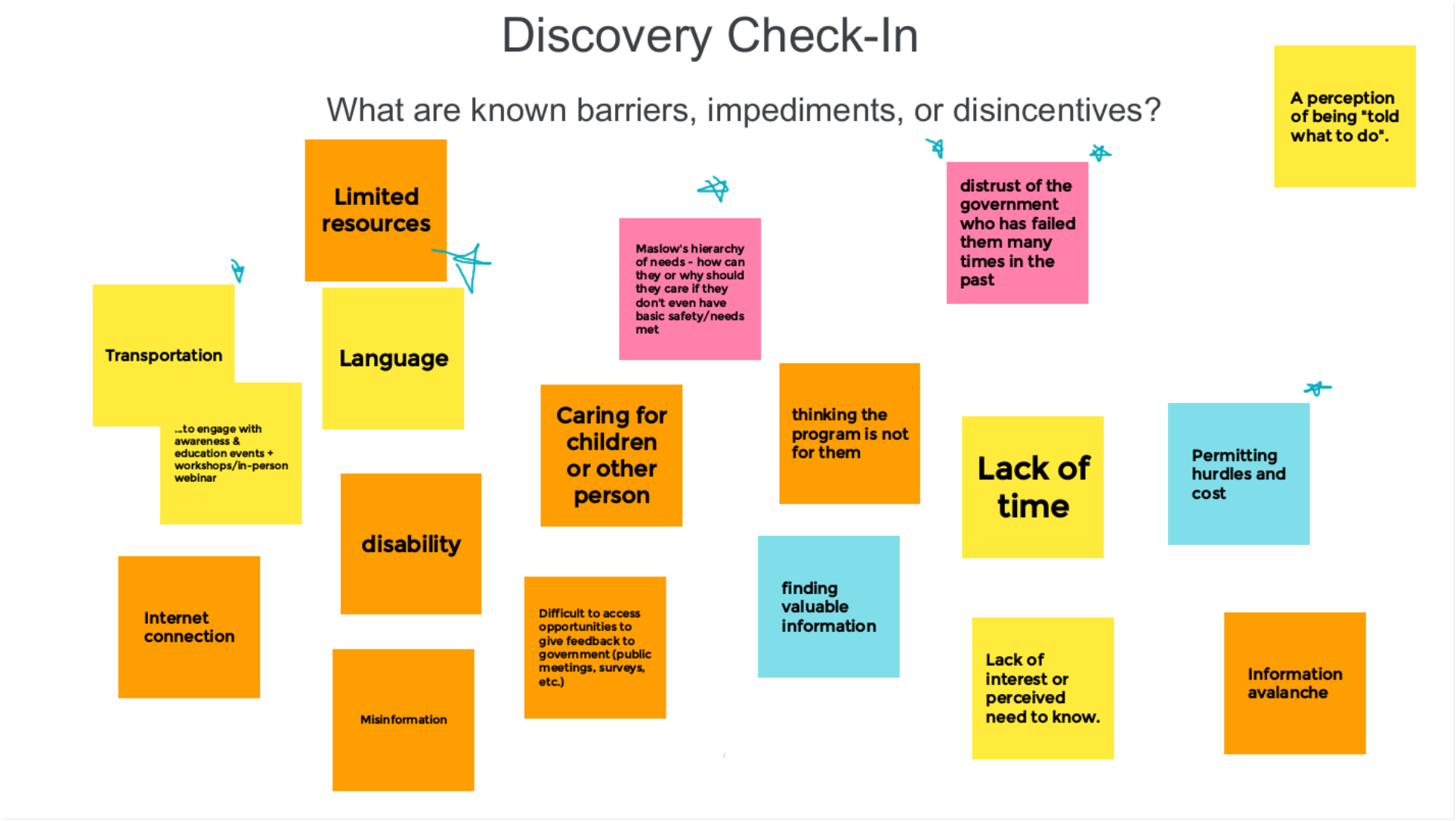
What is "success" when it comes to outreach? How can it be evaluated and measured?



Discovery Check-In

What is meant by "overburdened?"



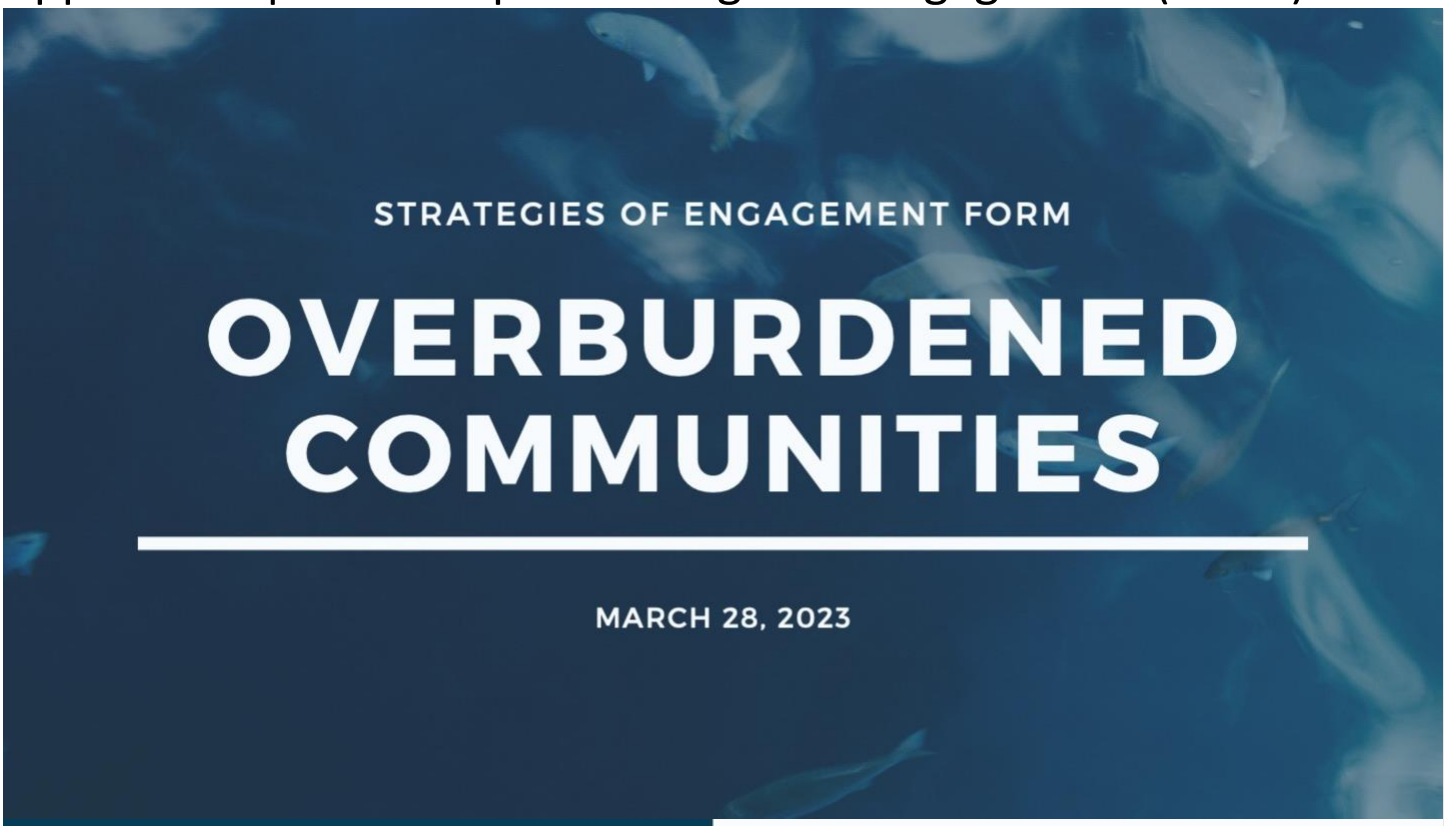

Discovery Check-In
What are known barriers, impediments, or disincentives?
A perception of being "told what to do".
Limited resources
distrust of the government who has failed them many times in the past
Maslow's hierarchy of needs - how can they or why should they care if they don't even have basic safety/needs met
Transportation
Language
...to engage with awareness & education events + workshops/in-person webinar
Caring for children or other person
thinking the program is not for them
Lack of time
Permitting hurdles and cost
disability
finding valuable information
Internet connection
Difficult to access opportunities to give feedback to government (public meetings, surveys, etc.)
Lack of interest or perceived need to know.
Information avalanche
Misinformation

Discovery Check-In

What are your barriers, impediments, or disincentives?



Appendix C | Workshop 2: Strategies of Engagement (slides)



Introduction

Let's introduce ourselves!

- Your name, title, and organization
- Something you'd like to work on today
- A hobby that you enjoy

Icebreaker!

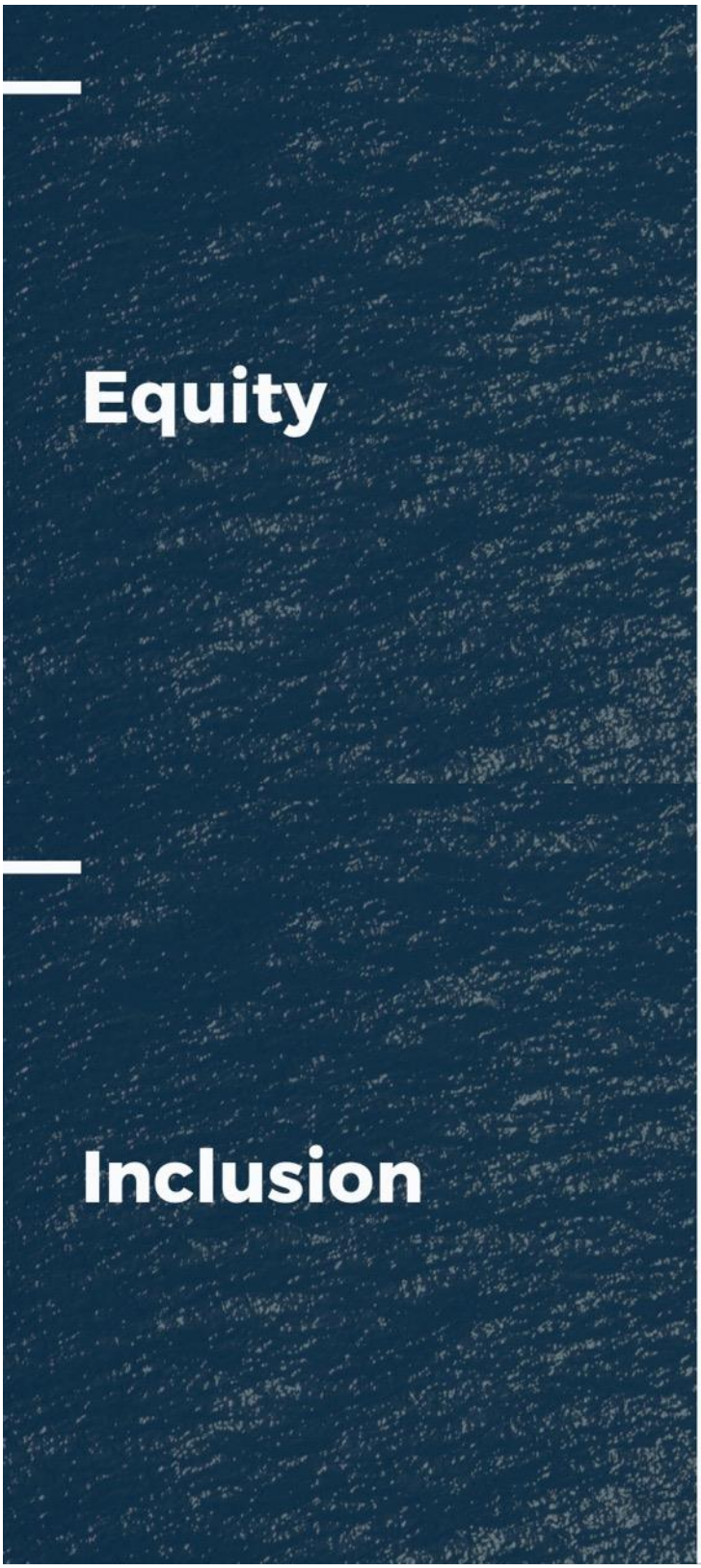
EFFECTIVE COMMUNICATION SKILLS: PAPER FOLD EXERCISE

This activity demonstrates what can go wrong in communication: poor listening, lack of feedback, different contexts/backgrounds and perceptions.

Listen and following directions. As you hear the instructions, perform the task. **You may not ask questions. You must close your eyes.**

Diversity

Diversity refers to the many ways people are different from one another, such as ethnicity, gender or gender identity, socioeconomic status, culture, nationality, language, and religious or political affiliations. Your messaging should be relatable to a diverse group of people.



Equity is about ensuring fair and impartial access to opportunities, programs, and processes for development for all of the different people. The programs you create, the work you do, and the messaging around them should reflect a sense of providing equal opportunities.

Inclusion is about ensuring that all the different people feel included and have a sense of belonging. For example, does your video communication make use of captions or provide a transcription for members of your audience that are hearing impaired?

Accessibility

Accessibility means the ability for persons served to enter, approach, communicate with, or make use of the services of an agency, including but not limited to the need for bilingual staff and materials, materials and engagement opportunities for persons with physical and developmental disabilities, minority-specific programming, staffing patterns that reflect community demographics and adequacy of hours of operation.

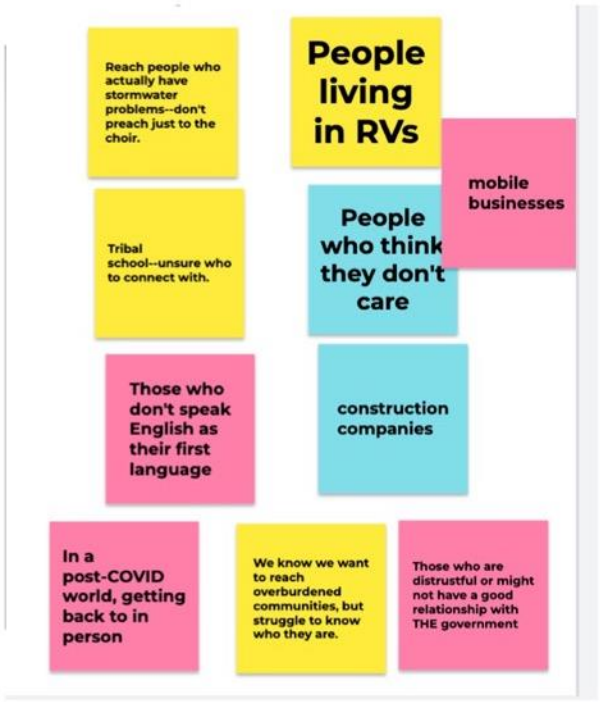
Overburdened Community

""...**minority, low-income, tribal, or indigenous populations or geographic locations in Washington State that potentially experience disproportionate environmental harms and risks.** This disproportionality can be a result of greater vulnerability to environmental hazards, lack of opportunity for public participation, or other factors. Increased vulnerability may be attributable to an accumulation of negative or lack of positive environmental, health, economic, or social conditions within these populations or places. **The term describes situations where multiple factors, including both environmental and socio-economic stressors, may act cumulatively to affect health and the environment and contribute to persistent environmental health disparities."**

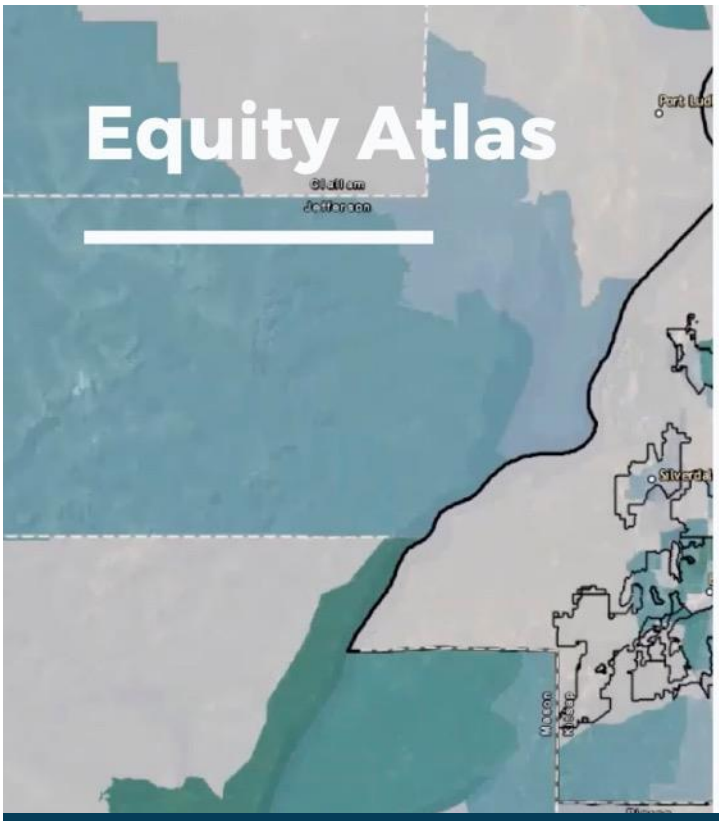
Training Structure

Issues to Tackle

- Sharing Your Resource
- Identifying Barriers to Program Engagement
- Inclusive Communication Check
- Building a Priority List



Who do we want to reach?

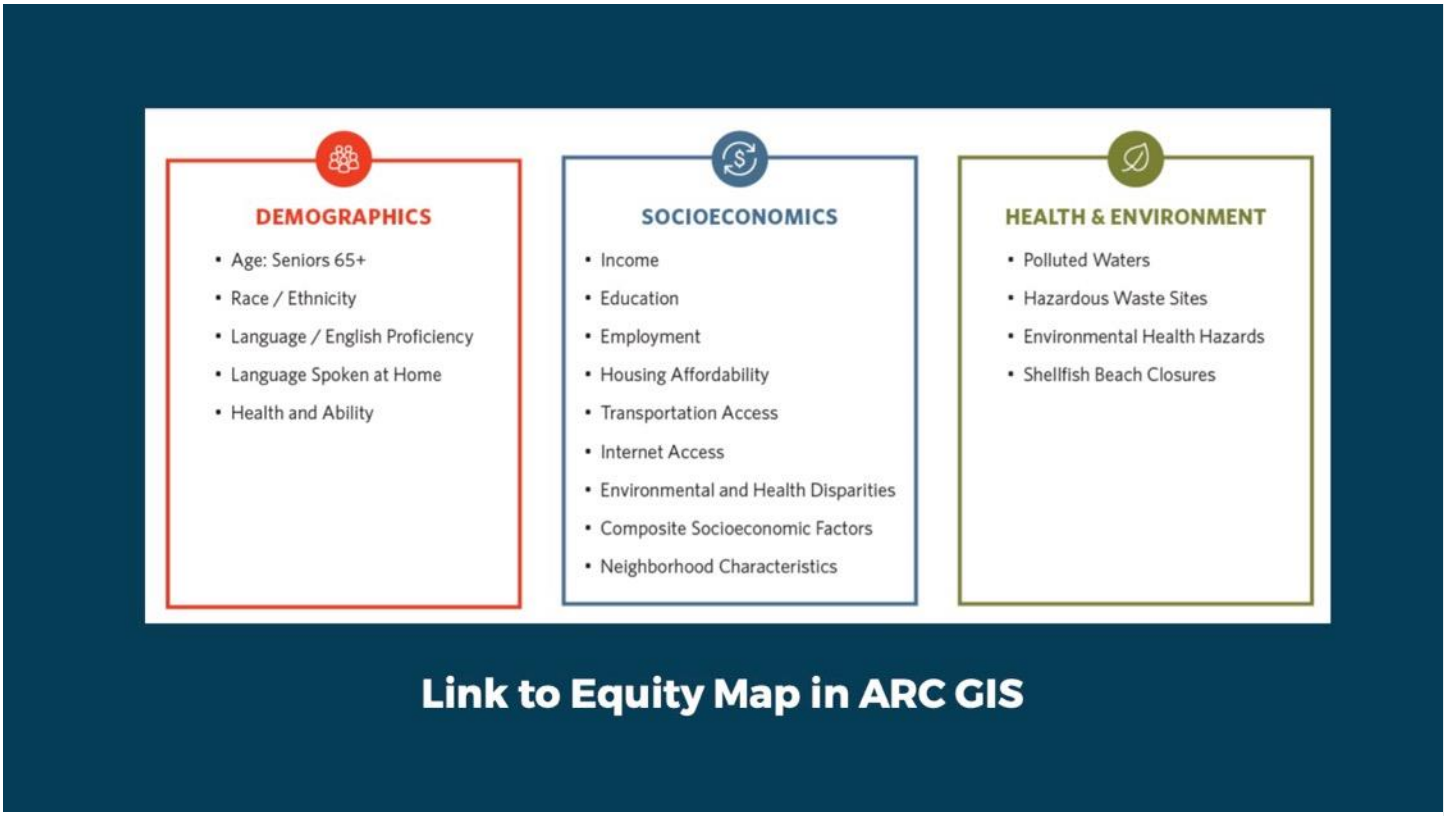


A Resource to Explore Your Community

This tool was designed as an atlas for exploration. While the following information provides an overview of Kitsap County and neighboring jurisdictions, the tool combines various datasets to identify the unique needs of the community on a per-project basis.



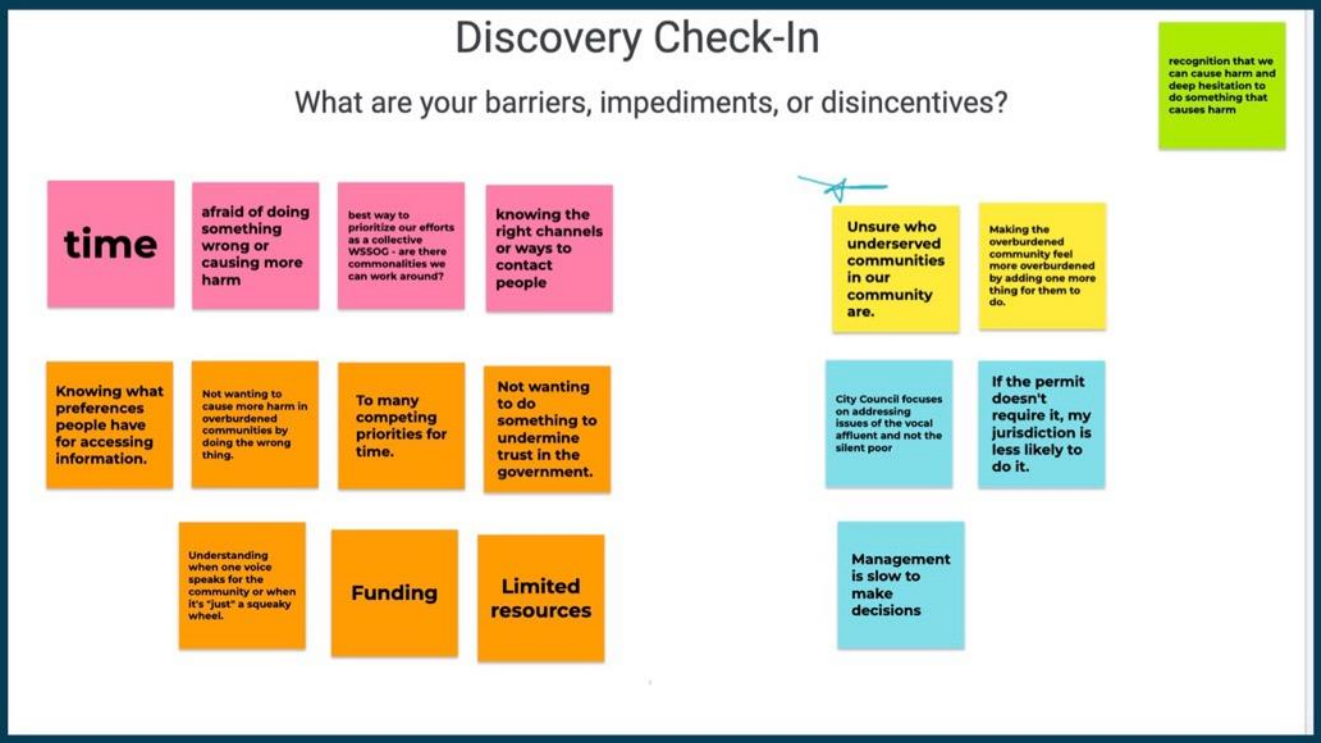
Overview of equity map

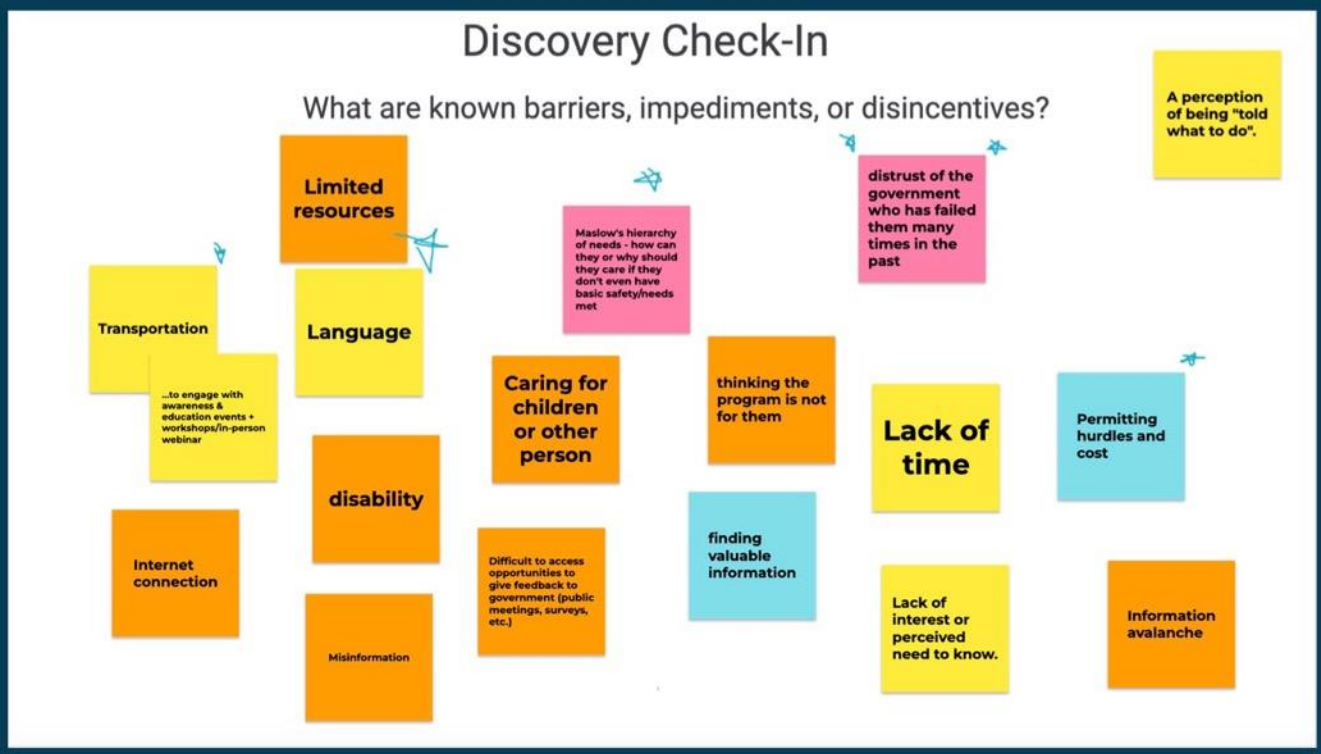


Building Stakeholder Engagement

Develop a stakeholder engagement approach that reflects the many different types of diverse stakeholders.

- Residents, including but not limited to those who live in overburdened communities. Note, there may not be a concentration of folks in your community. The challenge is ensuring your program is accessible to, and even prioritizes, overburdened community members.
- Local business leaders
- "Anchor" institutions, such as hospitals and health systems, libraries, cultural centers, social service agencies, schools, etc.
- Community leaders and organizations, including civic organizations, faith-based leaders, social societies, etc.


Discovery Check-In
What are your barriers, impediments, or disincentives?
recognition that we can cause harm and deep hesitation to do something that causes harm
time
afraid of doing something wrong or causing more harm
best way to prioritize our efforts as a collective WSSOG - are there commonalities we can work around?
knowing the right channels or ways to contact people
Unsure who underserved communities in our community are.
Making the overburdened community feel more overburdened by adding one more thing for them to do.
Knowing what preferences people have for accessing information.
Not wanting to cause more harm in overburdened communities by doing the wrong thing.
To many competing priorities for time.
Not wanting to do something to undermine trust in the government.
City Council focuses on addressing issues of the vocal affluent and not the silent poor
If the permit doesn't require it, my jurisdiction is less likely to do it.
Understanding when one voice speaks for the community or when it's "just" a squeaky wheel.
Funding
Limited resources
Management is slow to make decisions


Discovery Check-In
What are known barriers, impediments, or disincentives?
A perception of being "told what to do".
Limited resources
distrust of the government who has failed them many times in the past
Maslow's hierarchy of needs - how can they or why should they care if they don't even have basic safety/needs met
Transportation
Language
...to engage with awareness & education events + workshops/in-person webinar
Caring for children or other person
thinking the program is not for them
Lack of time
Permitting hurdles and cost
disability
Internet connection
finding valuable information
Difficult to access opportunities to give feedback to government (public meetings, surveys, etc.)
Lack of interest or perceived need to know.
Information avalanche
Misinformation

Before you engage ask yourself...

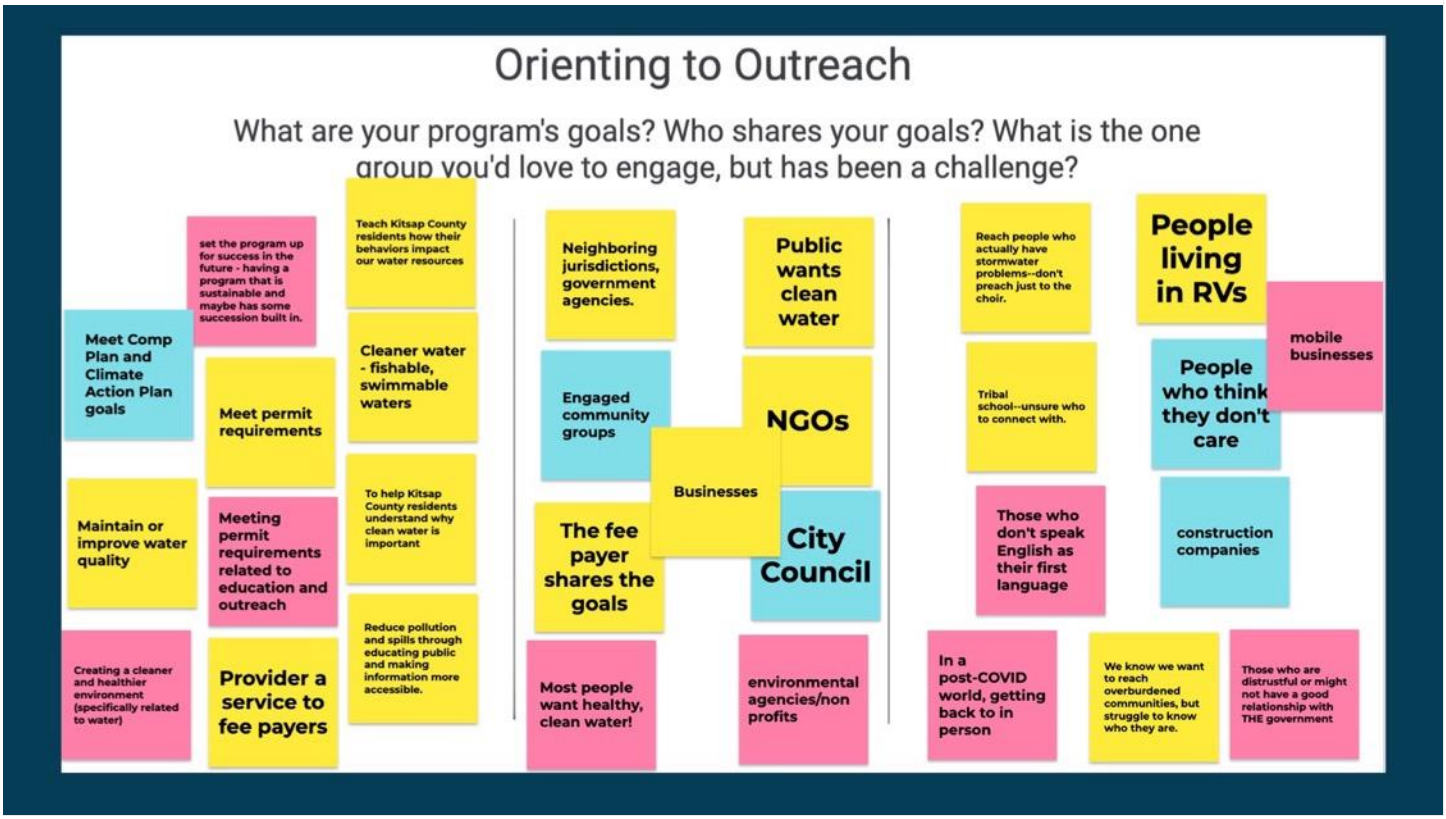
- How does your planned work or project promote environmental or social justice for seniors, low-income community members, community members that may not speak english as a first language, community members experiencing housing insecurity, and tribal and indigenous community members?
- If unknown, how can you prioritize communications and engagements with those groups about possible program benefits?

Before you engage ask yourself...

- How do your projects benefit the health and well-being of overburdened community members? How could they?
- Does the project build community capacity or offer a benefit?

Before you engage ask yourself...

- Is there a community group you can partner with to expand your communications and raise awareness?
  - Some ideas include: co-sponsoring an event, using QR codes to raise awareness about available services in existing sponsorships, recognizing contributions of community organizations.



Breakout #1

PROMOTE MEANINGFUL PROGRAM ENGAGEMENT

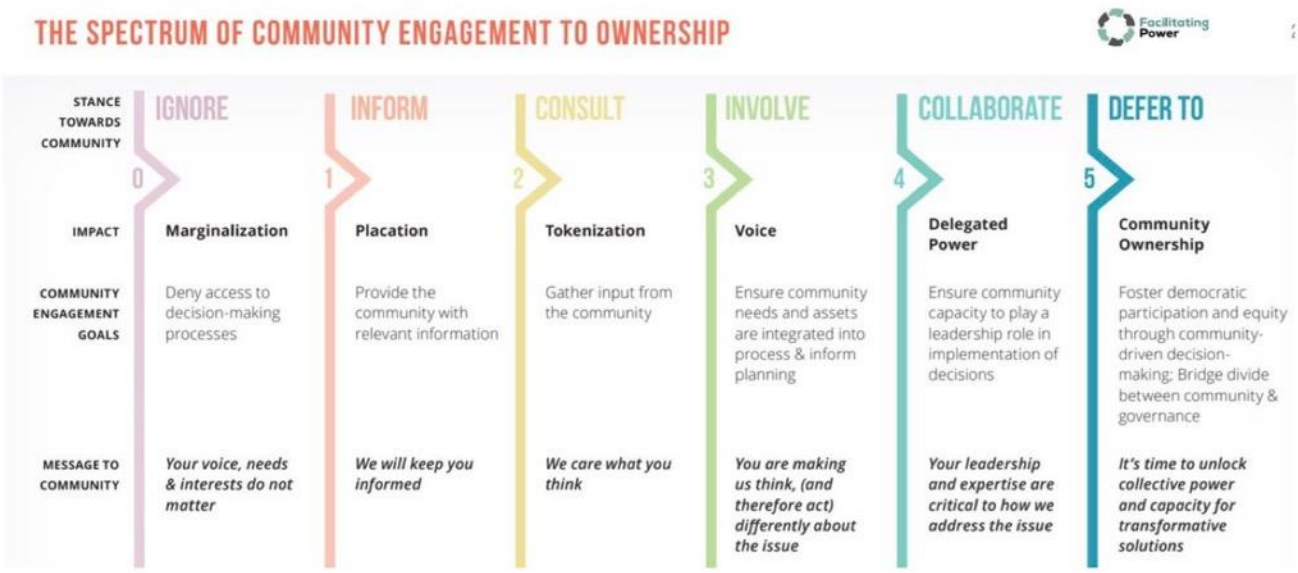
WHAT ARE THE BENEFITS FOR COMMUNITY GROUPS ENGAGING IN WSOGG PROGRAMS? THESE COULD BE ACCESS TO COUNTY RESOURCES, GRANT INCENTIVES CIVIC ENGAGEMENT, ETC.

WHAT ARE POTENTIAL BARRIERS TO PROGRAM PARTICIPATION THAT YOU CAN IDENTIFY? FEAR? ACCESS?

Breakout #2: Know Your Resources

A PROGRAM REPORT CARD

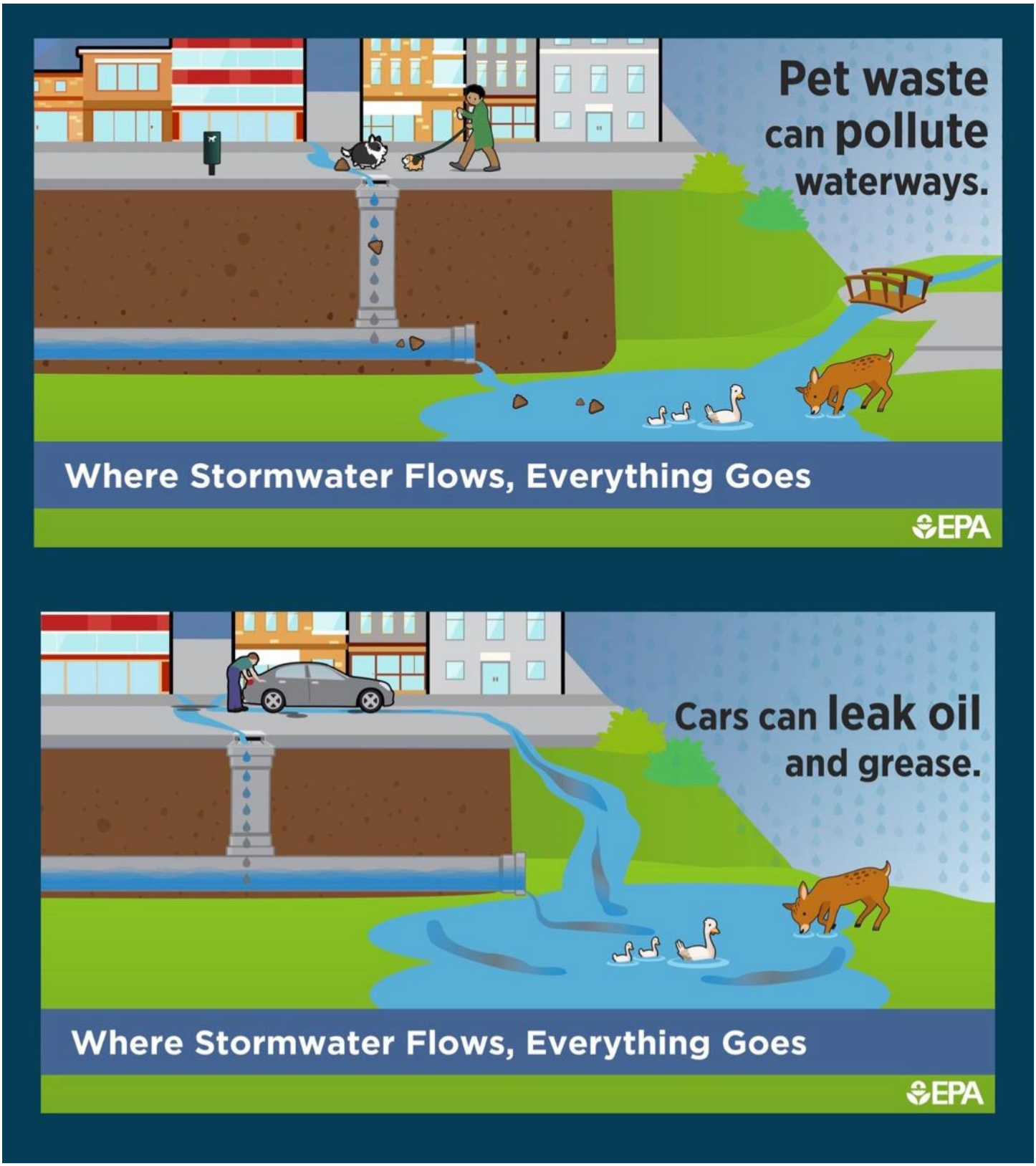
- FOCUS ON 2-3 OF THE PROGRAM STANDARDS AND DISCUSS WHAT IS GOING WELL WITH YOUR PROGRAM, STRETCH AREAS, AND HOW AREAS TO ENGAGE WITH AND DEVELOP.



Belonging Exercise

WE ARE GOING TO EXAMINE THREE IMAGES AND ASK OURSELVES THREE QUESTIONS, CRITICALLY:

- WHO CAN IDENTIFY WITH THIS IMAGERY? WHO WAS IT DESIGNED FOR?
- WHO IS NOT RECOGNIZED IN THIS MESSAGING? WHAT ELEMENTS MIGHT MAKE A COMMUNITY MEMBER FEEL EXCLUDED?
- WHAT ASSUMPTIONS ARE BEING MADE?


Pet waste
can pollute
waterways.
Where Stormwater Flows, Everything Goes
EPA
Cars can leak oil
and grease.
Where Stormwater Flows, Everything Goes
EPA



INCLUSIVE DESIGN TIPS

IDENTIFY ABLEIST LANGUAGE	USE PLAIN LANGUAGE	SOURCE COMMUNITY IMAGERY	CONSIDER ILLUSTRATION
Directions like "look" "see" and "run" are common in promotional materials.	Use clear and simple language to explain complex ideas, and avoid acronyms.	If possible, use images directly from the community.	Having trouble sourcing photos? Consider hiring local illustrators to capture community.

INCLUSIVE COMMUNICATION TIPS

- **Person-First**
  Use person-first language (e.g. "person with a disability" instead of "disabled person").
- **Assumptions**
  Avoid making assumptions about a person's abilities or limitations based on demographic information.
- **Inclusion**
  When creating visual materials, ask who does the material speak to? Who is excluded?
- **Inclusive Imagery**
  Be deliberate when choosing your images. Who is included by the image you have selected? Who is excluded?

ADDITIONAL RESOURCES

- **Canva for translation**
  Translate all of your materials with the new Canva Pro AI tools. canva.com
- **QR Codes**
  Bring users to a single resource or introduce them to an existing resource by adding a QR code stickers to program stations/materials.
- **Checklist**
  I like the program design checklist the Dept of Ed uses: https://files.eric.ed.gov/fulltext/ED615707.pdf


THANK YOU

Appendix D | Workshop 2: Program Engagement Worksheet

Breakout #1: Program Engagement

1. **What are the benefits of community groups engaging in WSOGG programs? These could be county resources, grant incentives, civic engagement, etc.**

2. What are potential barriers to program participation that you can identify? (Considerations might include access to broadband internet, social programs, varied income levels, race/ethnicity, special needs, fear of enforcement, and geographic distribution, among other known things).

Community	Benefits	Barriers	Strategies/Resources
Korean Residents	relationship building - access to resources utility $	language	translation service - in the field
Seniors (65+, still living independently	home improvement - rain gardens, reduce flooding less work	internet - access + use mobility	mailers - email + phone large font events @ Senior Centers
young, first time homeowner - maybe they are first-gen college	Connection to resources, save $ on costly repairs	fear + mistrust busy, no $,	online - social media
didn't grow up being taught			

Breakout #1: Program Engagement

1. **What are the benefits of community groups engaging in WSOGG programs? These could be county resources, grant incentives, civic engagement, etc.**

2. What are potential barriers to program participation that you can identify? (Considerations might include access to broadband internet, social programs, varied income levels, race/ethnicity, special needs, fear of enforcement, and geographic distribution, among other known things).

Community	Benefits	Barriers	Strategies/Resources
Korean	Accessibility to resources	Language.	Translation services AI?
(Independent) Senior 65+	Rain garden less work + cost	Internet Mobility Inflexibility	-Including written Material (Mailers) -Senior Living Centers
First time Homeowners	Learning how to do new things they might not know about. New habits.	BUSY! Not a lot of Money to spend.	

Breakout #1: Program Engagement

1. **What are the benefits of community groups engaging in WSOGG programs? These could be county resources, grant incentives, civic engagement, etc.**

2. What are potential barriers to program participation that you can identify? (Considerations might include access to broadband internet, social programs, varied income levels, race/ethnicity, special needs, fear of enforcement, and geographic distribution, among other known things).

Mutt Mitt Program

Demographic ~~Community Group~~	Benefits	Barriers	Strategies/Resources
Non-English as 1st language	Pride in community & cleaner H_2O.	Cost of maintaining stations. Differing values. Language.	Provide ads & website and email comms in 2nd language.
Low income		Cost of maintaining stations.	Partner with Housing Kitsap

Breakout #1: Program Engagement

1. **What are the benefits of community groups engaging in WSOGG programs? These could be county resources, grant incentives, civic engagement, etc.**

2. What are potential barriers to program participation that you can identify? (Considerations might include access to broadband internet, social programs, varied income levels, race/ethnicity, special needs, fear of enforcement, and geographic distribution, among other known things).

Mutt Mitt Programs

Community	Benefits	Barriers	Strategies/Resources
low income - ~~housing Kitsap~~	-decreased waste in living area	-cost -time -waste disposal -concern w/ gov't.	Partner w/ Housing Kitsap
homeless	-decreased waste -improved WQ	-cost -time -waste disposal -Knowing Prog. exists	Partner w/ Heart team
non-English speaking	↓	-Language -Differing values -Not understanding ~~barriers~~ benefits -concern abt. gov't	-Translated materials -Reaching comm. groups - have them be contact.

Appendix E | Workshop 2: Summary of Strengths & Needs Worksheet

Breakout #2: Summary of Strengths and Needs

This exercise is meant to provide information on the strength of current practices and insights about future directions or needed improvements in your community program. Use the chart below to begin identifying areas of strength, need, and action plans for improvement. Consider current initiatives as well as short- and long-term goals.

Choose one or two of the six areas to explore further in your group.

Program Standards	What are we doing well?	How could we improve?	First Step
Program Description			
Varied Communication			
Gathering Feedback			
Our Program Imagery			
Working with New Stakeholder Groups			
Collaborating with Community-Based Organizations & Leaders			

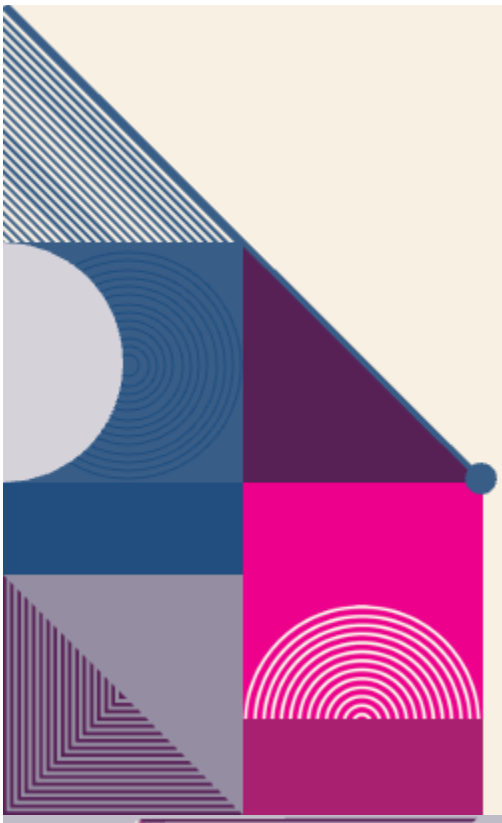
Appendix F | Workshop 3: Building & Maintaining Healthy Partnerships (slides)



AGENDA

	Timeframe	Participants
Open Workshop	1:00p	
Opening Remarks • Land Acknowledgement • Creating the Container	1:00p – 1:10p	Nettie Gould
Introductions	1:10p – 1:25p	Everyone
Deliberate and Mindful Design	1:25p – 1:35p	Nettie Gould & Anthony Campbell
Sharing Successes through Storytelling	1:35p – 2:05p	Panelists
BREAK	2:05p – 2:10p	
Quick Check-In	2:10p – 2:15p	Anthony Campbell
Knowledge Sharing (Breakout Rooms)	2:15p – 2:35p	Everyone
Report Out from Breakout Rooms	2:35p – 2:45p	Everyone
Activating Learning	2:45p – 3:00p	Nettie Gould & Anthony Campbell
Closing Thoughts Waterfall (Zoom Chat)	3:00p	Everyone
Adjourn Workshop	3:00p	

2



LAND ACKNOWLEDGMENT

3



CREATING THE CONTAINER

COMPLEX TOPICS

HEAVY EMOTIONS

DIVERSITY OF KNOWLEDGE

AVOIDING TRANSACTIONAL DYNAMICS

POTENTIAL FOR HARM AND DISCOMFORT

PLEASE STEP AWAY IF YOU NEED TO PRIORITIZE YOUR NEEDS.

4


INTRODUCTIONS
5
DELIBERATE DESIGN
IDENTIFY A STARTING PLACE
IDENTIFYING PEOPLE
THE INITIAL ASK
BE OPEN ABOUT POTENTIAL FOR HARM AND DISCOMFORT
SHIFTING POWER DYNAMICS
BEFORE & AFTER
6

SHARING SUCCESSES THROUGH STORYTELLING

DAVID BLODGETT III

Interim Project Manager, Yakama Nation Fisheries

David is an enrolled Yakama Tribal member and has been managing fish and wildlife Resources for nearly 20 years. The YN Fisheries Program's mission is to Honor, Protect, and Restore the culturally important fish populations and their habitats throughout the zone of influence of the Yakama Nation. To accomplish this mission, the Yakama Nation continuously interacts with many stakeholders and agencies with interests both in common and in conflict with the tribe's goals.

SHARING SUCCESSES THROUGH STORYTELLING

JEWEL SHEPHERED-SAMPSON

Executive Director/Founder, Kitsap Co. Black Student Union

Kitsap Black Student Union's mission is to provide youth with a safe space to celebrate culture, learn and preserve their rich history while empowering leadership through mentoring and community service. Their vision is to encourage local Black Indigenous People of Color (BIPOC) youth to take pride in our heritage while amplifying their voices through social justice initiatives.

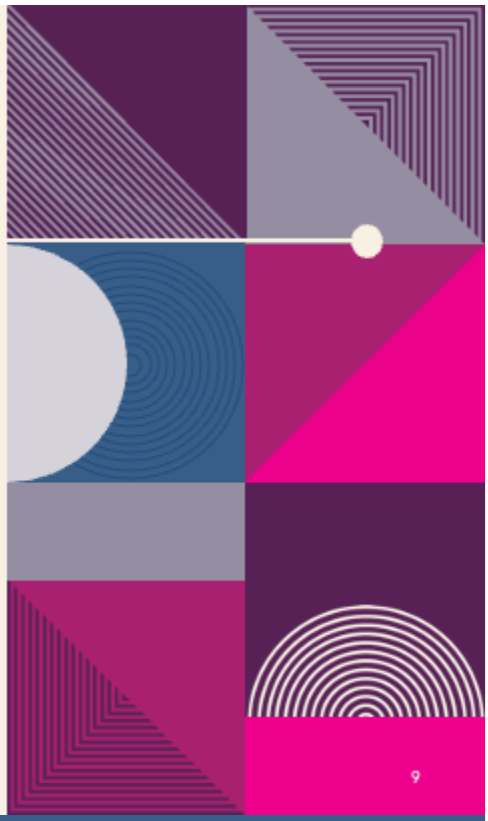


SHARING SUCCESSES THROUGH STORYTELLING

MARIA FERGUS

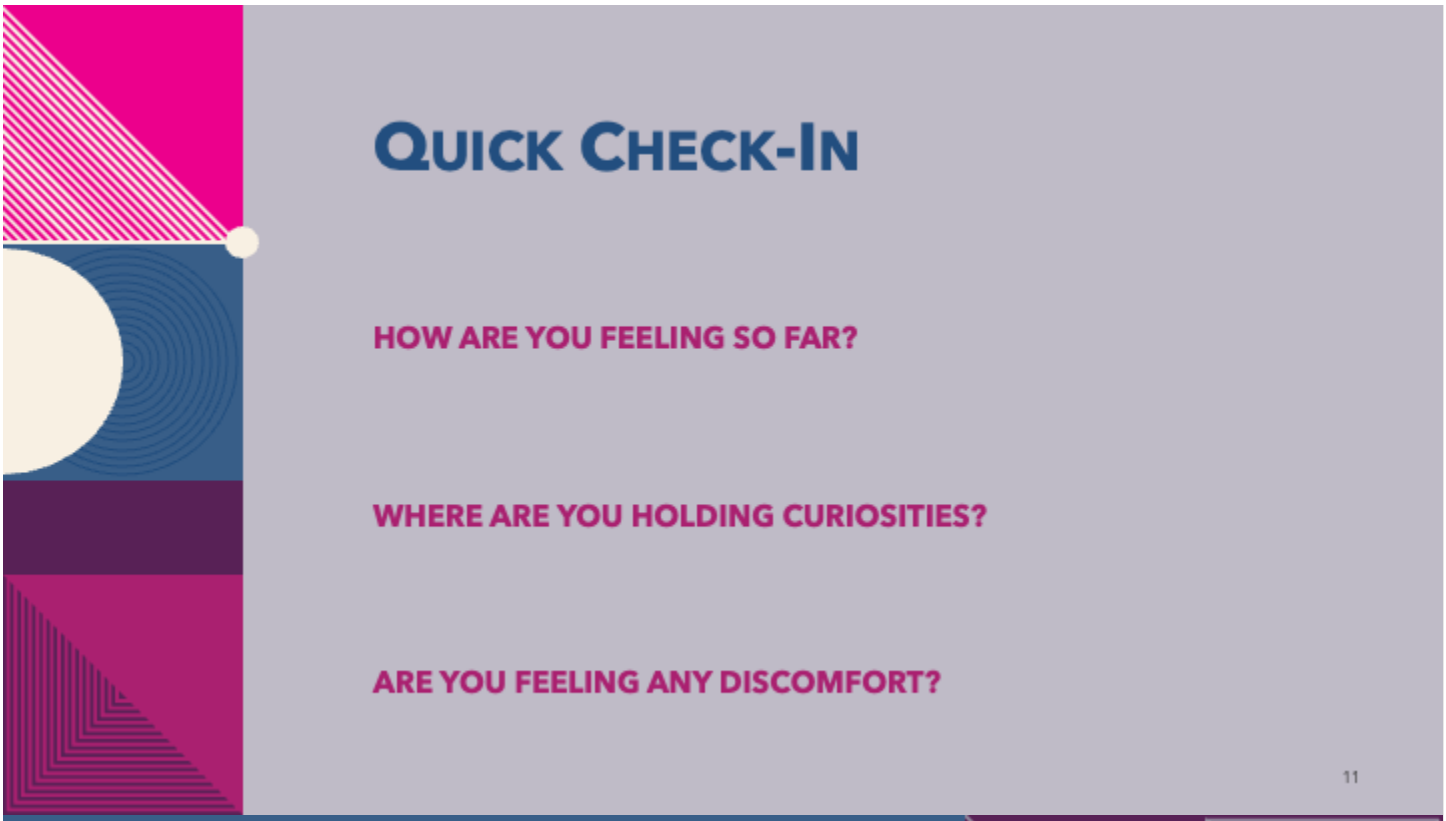
Community Engagement Specialist, Kitsap Public Health District

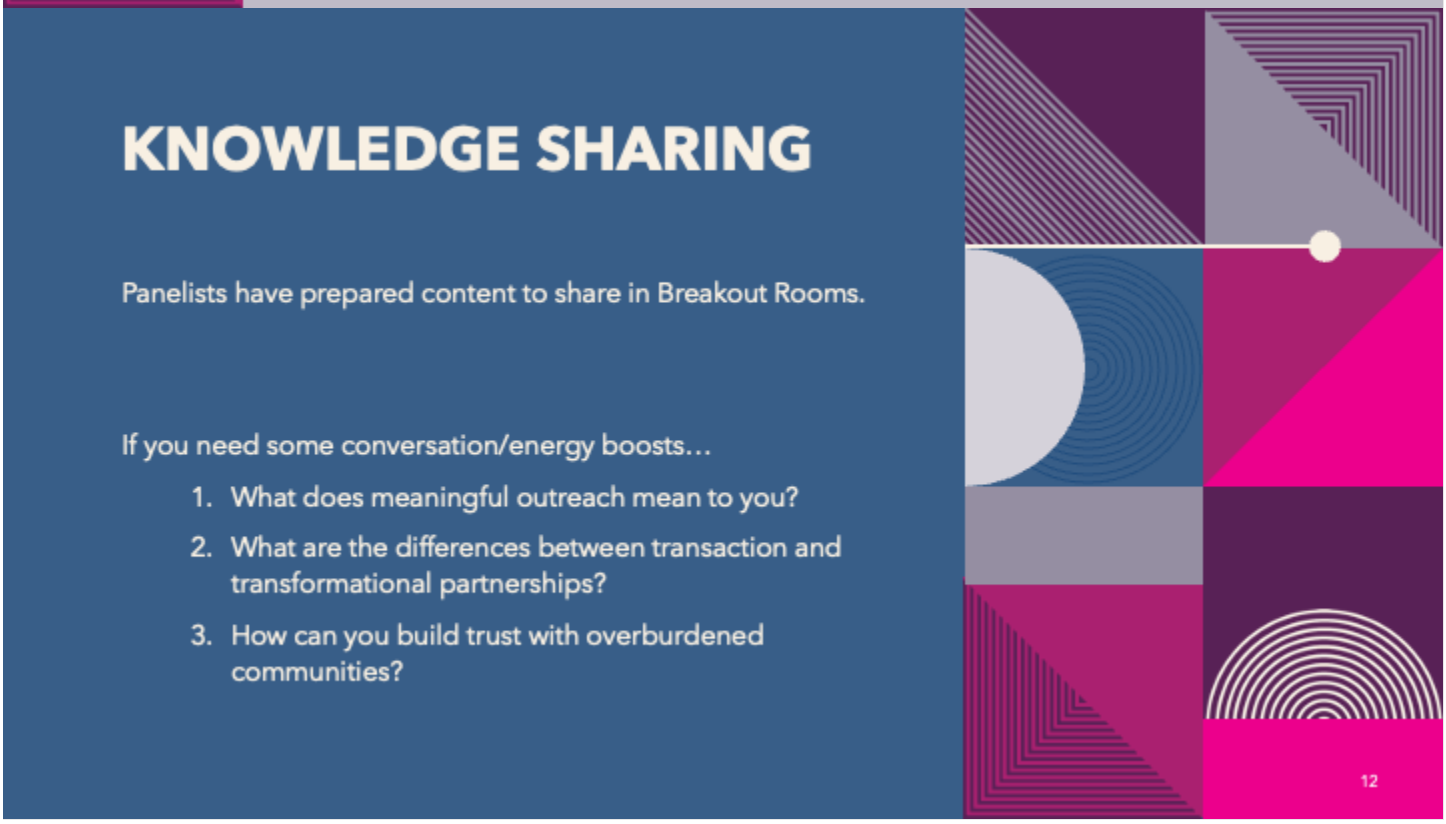
Ms. Fergus works full time to develop partnerships with community members. Maria has specifically been focused on Kitsap's Equity Program, which seeks to ensure that equity work is informed by the communities that experience health inequities.



BREAK

5 minutes


QUICK CHECK-IN
HOW ARE YOU FEELING SO FAR?
WHERE ARE YOU HOLDING CURIOSITIES?
ARE YOU FEELING ANY DISCOMFORT?
11


KNOWLEDGE SHARING
Panelists have prepared content to share in Breakout Rooms.
If you need some conversation/energy boosts…
1. What does meaningful outreach mean to you?
2. What are the differences between transaction and transformational partnerships?
3. How can you build trust with overburdened communities?
12

REPORT OUT



WHAT DID YOU NOTICE?



WHAT ARE YOU FEELING?



WHAT CAN YOU USE?

13

ACTIVATING THE LEARNING

IDENTIFY A COMMUNITY EVENT

FIND A COMMUNITY CONNECTOR

AVOID EXPECTATIONS

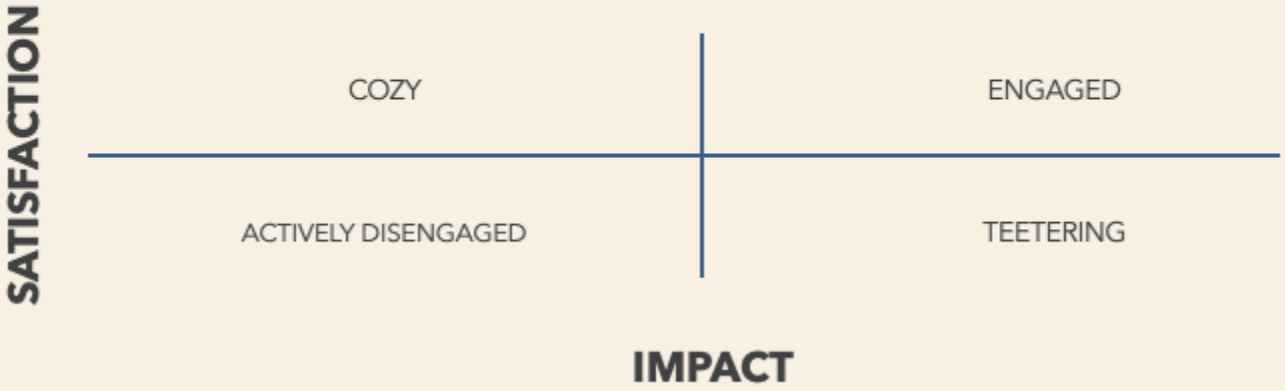
BE AWARE OF THE POTENTIAL FOR HARM... AND NAME IT

KNOW WHAT KIND OF PARTNERSHIP YOU'RE SEEKING – TRANSACTIONAL, RELATIONAL, OR TRANSFORMATIONAL

EMBRACE LEARNING WITH YOUR PARTNERS.

14

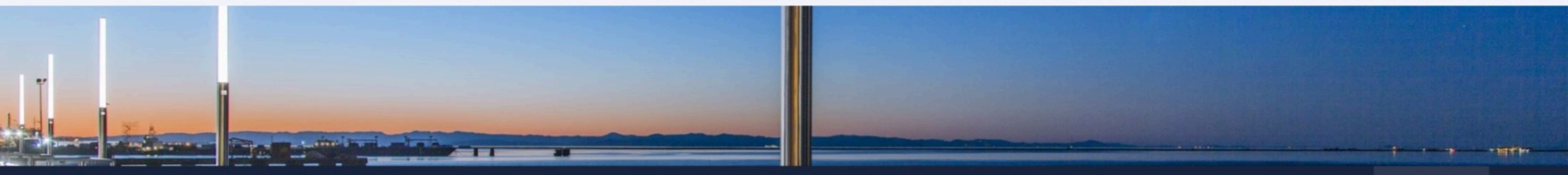
ENGAGEMENT QUADRANTS



15

THANK YOU

Drop your closing thoughts in the Zoom chat dialogue box **BUT** wait for Anthony to say "Waterfall" before clicking send/pressing enter.



- Stormwater Management Program
- Stormwater Management Action Plan
- Stormwater Resources +
- Reporting Spills
- Stormwater Incentives
- Rain Gardens
- Combined Sewer Overflows
- Natural Yard Care
- Storm Drain Art

Stormwater Management Action Plan

What is stormwater?

Stormwater, or urban runoff, is rainwater or snowmelt that runs over surfaces such as lawns, roofs, streets, and parking lots. With no action, stormwater can become polluted by litter, dirt, bacteria, chemicals, and oils that it picks up along its journey. When polluted stormwater reaches a water body, it can have a harmful impact on the plants and animals in and around the water. It can also affect people who swim or fish in the water.

Why is the City implementing a Stormwater Management Action Plan (SMAP)?

The Washington State Department of Ecology has added the development of a Stormwater Management Action Plan (SMAP) to their 2019-2024 Phase II Municipal Stormwater Permit requirements. Stormwater Planning, including development of a SMAP, is one of several components of the City of Port Angeles' Stormwater Management Program (SWMP), being implemented daily to protect our valuable fresh and marine receiving waters. More about the City's SWMP can be found here. More information about the Phase II Stormwater Permit is available on the Department of Ecology website.

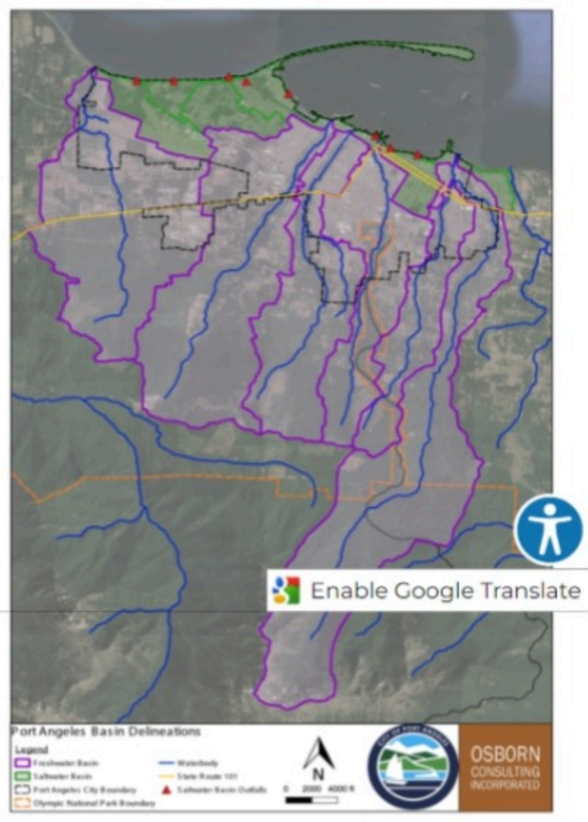
How will the SMAP benefit our community?

We all know that time and money are finite resources. We also know that actions must be taken now to preserve our pristine areas and improve those already impacted. This effort is intended to get the ball rolling in the most efficient and effective direction.

Developing a SMAP helps the City to critically asses our watersheds, identify priority basins that would receive the most benefit from intervention, and develop a basin-specific action plan for improvement. The resulting action plan will include best management practices (BMPs) that are applicable and tailored to the specific priority basin selected for consideration. Different basins have different challenges and will require different solutions. A fully developed basin may benefit most from a retrofit project-type BMP, such as the design of a regional stormwater facility where treatment and/or flow control is installed into an existing stormwater conveyance main. A more undeveloped basin may benefit more from a less-tangible BMP, such as improved ordinances geared towards minimizing impacts from future development and protecting receiving waters.

Once completed, this plan will be used to inform staff on how and where we can take action to receive the most benefit in our community. It may also be used to partner with basin-protection stakeholders and secure funding to bring the action plan to life.

View Port Angeles Basins Delineations (PDF)



Project Phases | **Project Documents** | **Interactive GIS Map**

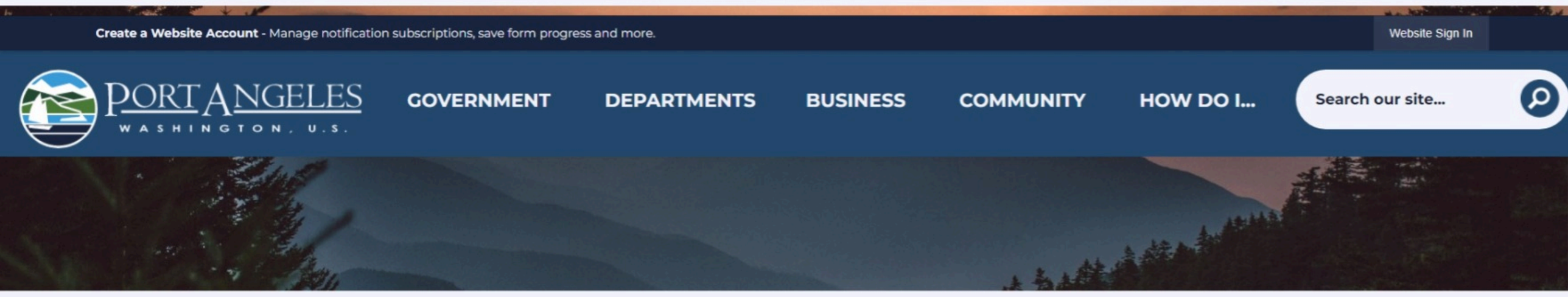
SMAP Phase	Action	Timeline
Phase 1: Receiving Water Conditions Assessment	Assess the conditions of our natural bodies of water to identify which are most likely to benefit from stormwater management planning and delineate the drainage basins	Completed March 2022
Phase 2: Prioritization	Categorize and rank drainage basins to identify one (1) priority basin that would benefit from implementation of Stormwater Best Management Practices (BMPs)	Completed June 2022
Phase 3: SMAP	Select stormwater projects, policy and code changes, and management actions for priority catchment	Completed March 2023

How can I get involved?

The review period closed on January 16, 2023. Comments received were considered and used to guide the final draft Phase 3 report for the Valley Creek Basin. The City of Port Angeles thanks you for your feedback!

Project Contact

If you have any questions regarding the development of a Stormwater Management Action Plan (SMAP), please contact the City's Stormwater Engineer at stormwater@cityofpa.us.



Stormwater Management Program

Stormwater Management Action Plan

Stormwater Resources +

Reporting Spills

Stormwater Incentives

Rain Gardens

bined Sewer Overflows

Natural Yard Care

Storm Drain Art

Stormwater Utility

NEW! The City of Port Angeles is building a regulatory source control program that will require businesses to take measures to stop water pollution before it enters the stormwater system. The development of this program is a requirement of the Department of Ecology's Western Washington Phase II Stormwater Permit. To learn more, please visit the dedicated project page.

The Stormwater Management Plan (SWMP) is a comprehensive plan designed to reduce the discharge of pollutants from the City of Port Angeles separate stormwater system in order to protect local waters. The SWMP is designed to improve water quality. To learn more, view the Plan here. After reading, you may provide your comments on the Plan.

The Stormwater Utility collects and conveys stormwater received from residential, commercial, and industrial sites. Much of the stormwater in Port Angeles flows through a separate stormwater system that discharges directly into local creeks and the harbor. Stormwater Utility responsibilities include:

- Managing the City's NPDES Municipal Stormwater Permit, with a primary focus on improving water quality
- Implementing capital projects which relieve flooding, protect the environment, health and safety, and foster economic growth
- Maintaining existing stormwater facilities such as pipes, catch basins, ponds, and treatment devices

The stormwater system consists of 65 miles of separate stormwater mains and ditches, as well as over 2500 catch basins. View the stormwater system map (PDF) to see details of the system. This Separate Stormwater System is not connected to the Combined Sewer Overflows (CSO). The Stormwater system drains to both freshwater streams and saltwater locations. View the stormwater discharge map (PDF) to see receiving water bodies.

What is Stormwater?

Stormwater is rainwater or snowmelt that runs over surfaces such as lawns, roofs, streets, and parking lots. With no action, stormwater can become polluted by litter, dirt, bacteria, chemicals, and oils that it picks up along its journey.

What Citizens Can Do About Stormwater

Protecting our water resources starts with each person, home, building, and work site. For the most part the City's Separate Stormwater System does not treat the stormwater, it simply conveys stormwater through pipes and ditches directly to our creeks and harbor. It's important to prevent stormwater from becoming polluted in the first place.

Citizens play an important role in improving stormwater in Port Angeles:

- Avoid using fertilizers or chemicals on your lawn, and blowing yard clippings into the street
- Check your car for leaks that may be running onto pavement
- Check your home plumbing and/or septic tank to make sure there are no leaks or discharges into the storm drain system
- Don't litter or dump trash illegally
- Educate yourself, your family, and your neighbors to be good stewards of the unique environment of Port Angeles and surrounding areas
- Never dump oils or chemicals into catch basins
- Pick up all pet waste, even in your backyard
- Plant bare and graded areas to reduce erosion
- Report any illegal discharges or other harmful activities to the City hotline at 360-417-4745
- Wash cars and boats on lawn areas, where the water percolates in, or at a local car wash
- Build a rain garden to help clean stormwater before it leaves your property

Annual Reports

The Stormwater Utility is required to submit an annual report as a condition of its NPDES Municipal Stormwater Permit.
View All Annual Reports

Useful Stormwater Information

- FAQ Residential Car Washing and Stormwater (PDF)
- Stormwater Information Sheet (PDF)
- Stormwater Management Program (PDF)

creek culvert

Contact Us

Stormwater Utility
Email Stormwater Utility Division

Physical Address
321 East 5th Stre
Port Angeles, WA 98362

Phone: 360-417-4830

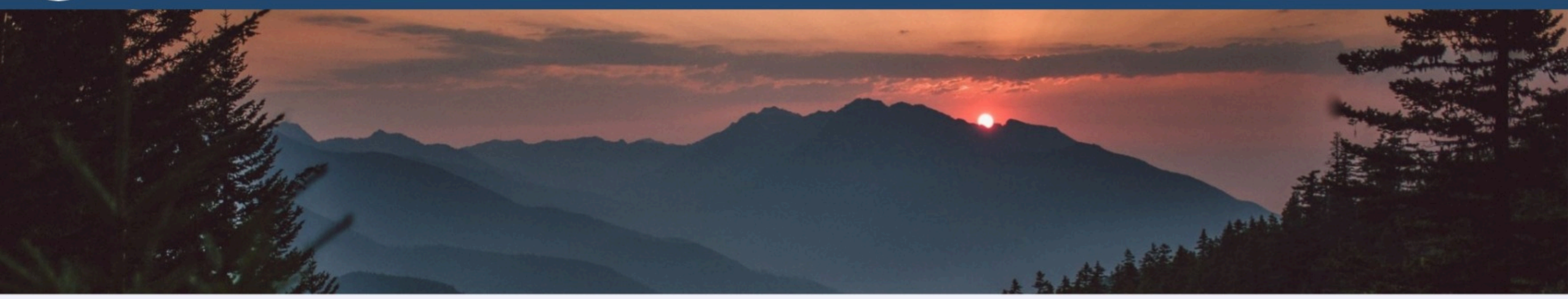
Streets and Stormwater Superintendent
Email Streets & Stormwater Superintendent
Phone: 360-417-4825

Enable Google Translate

Government Websites by CivicPlus®

Create a Website Account - Manage notification subscriptions, save form progress and more.

Website Sign In



Stormwater Management Program

Stormwater Management Action Plan

Stormwater Resources +

rting Spills

Stormwater Incentives

Rain Gardens

Combined Sewer Overflows

Natural Yard Care

Storm Drain Art

Stormwater Management Program

The Stormwater Management Plan (SWMP) is a comprehensive plan designed to reduce the discharge of pollutants from the City of Port Angeles separate stormwater system in order to protect local waters.

View the Stormwater Management Program planning document (PDF).

The plan addresses six minimum control measures, as identified by the EPA and required by the City NPDES Phase II Municipal Stormwater Permit. T minimum control measures are as follows:

Enable Google Translate

1. Public Education and Outreach

Provides informative information to the general public, environmental groups and nonprofits including:

- Information booths at the KONP Home Show and Clallam County Fair
- Distribution of the *Stormwater Rains* newsletter via utility bill mailers
- Providing grade school stormwater education in partnership with Feiro Marine Life Center
- Presentations to local community groups - schedule your group today!

2. Public Participation / Involvement

We want to hear from you! Take a moment to complete our stormwater plan survey.

3. Illicit (illegal) Discharge Detection and Elimination

Identify and reduce spills to protect the environment. Learn more about illicit discharges and how to report a spill, or view Appendix B of the SWMP (PDF) to learn about how the City responds to illicit discharges.

4. Construction Site Runoff Control

Utilizing a permitting process to address runoff from new development and redevelopment.

5. Post-Construction Runoff Control

Maintain and clean new stormwater controls.

6. Pollution Prevention / Good Housekeeping

Yearly inspection of all City stormwater controls such as filter units and detention facilities. The City cleans over 1500 catch basins and sweeps about 10,000 miles of streets each year.

Current Stormwater Regulations

In 1987, Congress amended the Clean Water Act to include stormwater discharges in the National Pollutant Discharge Elimination System (NPDES) permit program. The Environmental Protection Agency (EPA) developed rules to implement the new stormwater requirements in two phases. The Washington Department of Ecology implements the stormwater rules through municipal stormwater permits. The City of Port Angeles was issued a NPDES Phase II permit on January 17, 2007, authorizing the City to discharge stormwater into receiving water bodies.

Online Payments

Job Openings

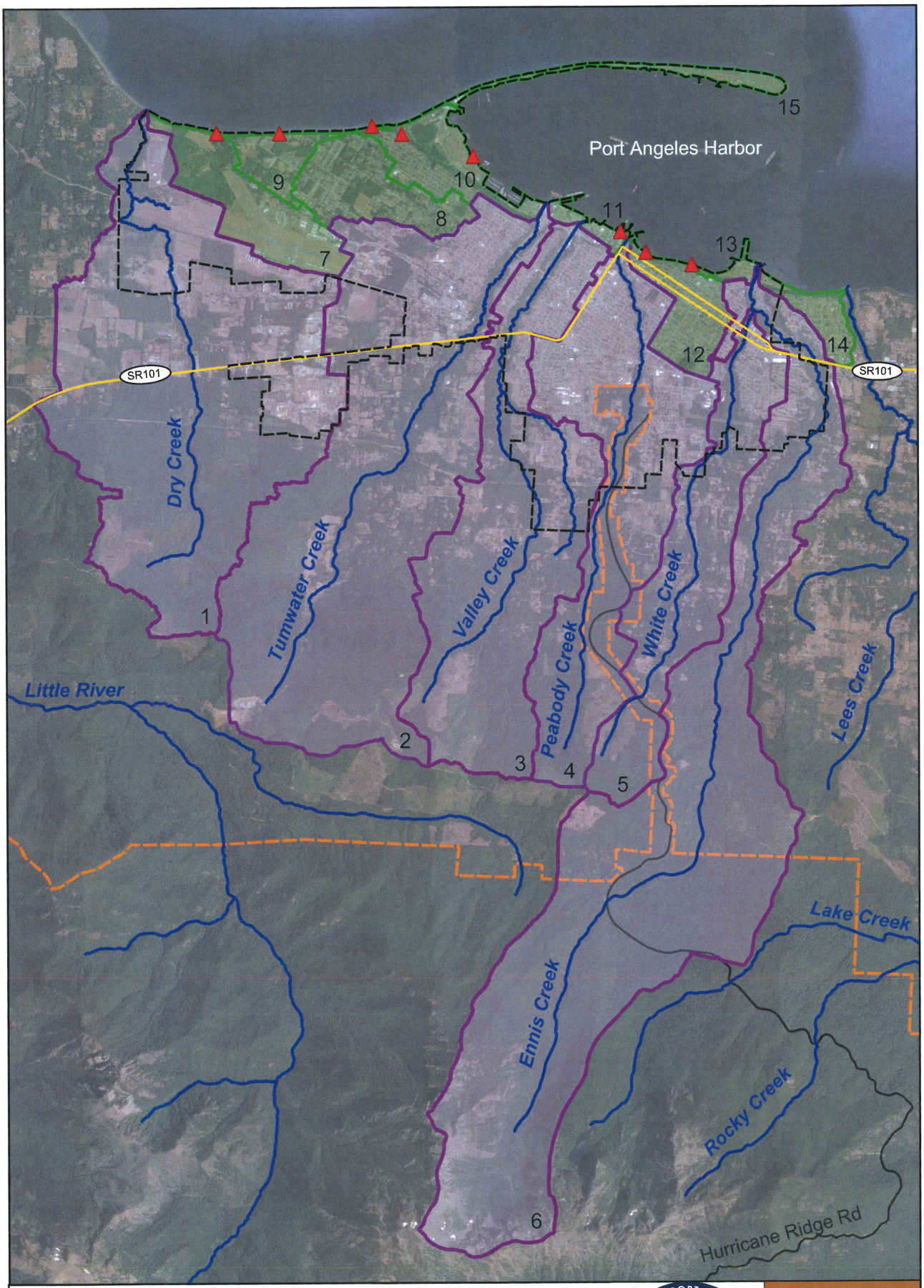
Open Data & Public Records

Meetings & Agendas

Permit Center

Garbage Collection

Government Websites by CivicPlus®



Port Angeles Basin Delineations

Legend

- Freshwater Basin
- Saltwater Basin
- Port Angeles City Boundary
- Olympic National Park Boundary
- Waterbody
- State Route 101
- Saltwater Basin Outfalls
- X Basin ID

N

0 2000 4000 ft

CITY OF PORT ANGELES

OSBORN CONSULTING INCORPORATED

City of Port Angeles GIS
Consultant data requirements, specificaltions, and standarization

The City of PA is currently running vs 10.7 ESRI

When creating and updating data for the City of Port Angeles, it is impertative to use the following standarization, naming convention, specifications and data requirements. A blank file geodatabase may be requested from the City of Port Angeles when creating a new dataset.

Data Types:

Other data types must be approved by the GIS department before it will be accepted

- File geodatabases (gdb)
- Arcpro project files (aprx)
- Map files (Mapx)

Geographic coordinate system:

All data is mandatory to represent the following geographic coordinate system. Other systems must be approved by the GIS department before it will be accepted.

- NAD 1983 StatePlane Washington North FIPS 4601 Feet

Metadata:

Thumbnails

- Clip art type of thumbnail that is an icon or image representing the item is acceptable. PNG image is preferred.

Tags

- At minimum, 3 key works should represent the data
- At least one should represent the data name
- Add acronyms and spell out acronyms (COPA, City of Port Angeles)

Summary

- A summary is required for all content that is received, created, or updated. Include a project summary, if necessary.

Description

- A description is required for all content that is received, created, or updated. This must include the data type, why it is created, what it contains, and what is its purpose.

Credits

- Include your company and the City of Port Angeles

Use limitations

- Include the following disclaimer for all content:
  The data and related materials may contain some nonconformities, defects, or errors. The City of Port Angeles does not warrant that the data will meet user's needs or expectations; that the use of the data will be uninterrupted; or that all nonconformities, defects, or errors can or will be corrected. The City of Port Angeles is not inviting reliance on this data, and the user should always verify actual data. These maps are not intended for use as a legal description. Locations of features are approximate only (+-10 feet). These maps are produced for the City of Port Angeles for its own use and purposes. Any other use of these maps shall not be the responsibility of the City. The boundaries and locations of features shown on these maps are approximate. These maps have not been prepared for, and are not suitable for legal, engineering, surveying purposes, or for creating legal descriptions. These maps are produced for the City of Port Angeles for its own use and purposes. Any other use of these maps is not authorized, and the City disclaims any and all responsibility for any injury or liability that results from the use of these maps for any purpose not authorized by the City.

Naming Standardization:

- Fields

Each attribute field needs to have an alias that describes the data

- AssetID

Each item needs a prefix with a concatenated object ID number calculated to create a unique asset ID.

Example: Street Centerline:
AssetID value: STCL12345

Mandatory Data fields:

A geodatabase template can be provided.
(City Staff) Templates are available on the S:/ArcInfo/GISData/ConsultantDBTemplate.gdb

- Line

LineTemplate

Field Name	Data Type
OBJECTID	AutoNumber
SHAPE	OLE Object
AssetID	Short Text
LegacyID	Short Text
Jurisdiction	Short Text
Administration	Short Text
Name	Short Text
Status	Short Text
InstallDate	Date/Time
AbandonDate	Date/Time
Address	Short Text
Location	Short Text
StreetX_NE	Short Text
StreetX_SW	Short Text
DataSource	Short Text
Notes	Short Text
Project	Short Text
ImagePrimary	Short Text
ImageMinor	Short Text
Video	Short Text
SHAPE_Length	Number

- Point

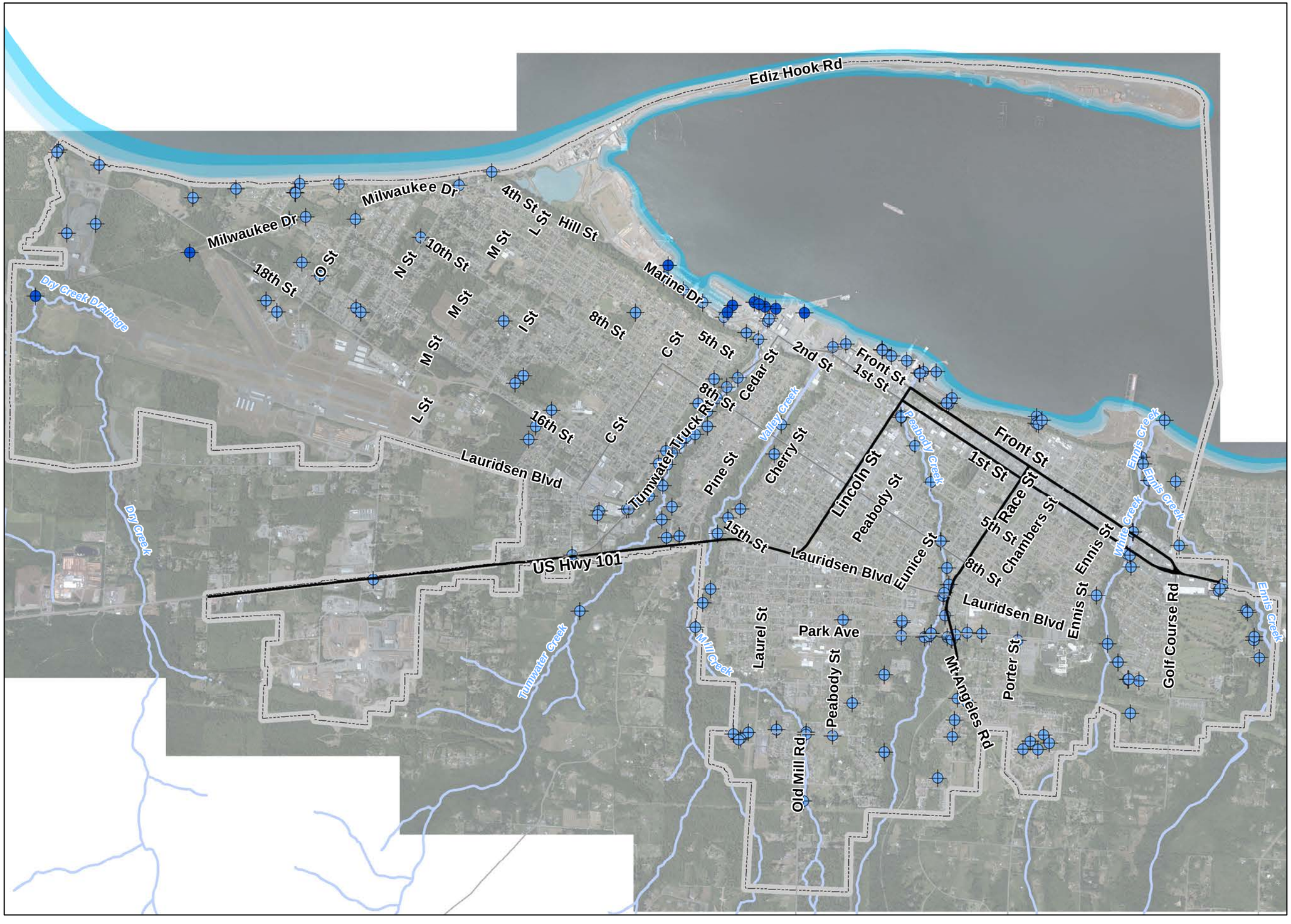
PointTemplate

Field Name	Data Type
OBJECTID	AutoNumber
SHAPE	OLE Object
AssetID	Short Text
LegacyID	Short Text
Jurisdiction	Short Text
Administration	Short Text
Status	Short Text
Address	Short Text
LocationID	Short Text
Intersection	Short Text
StreetX_NS	Short Text
StreetX_EW	Short Text
Notes	Short Text
AssetPhoto	Short Text
Project	Short Text
ImagePrimary	Short Text
ImageMinor	Short Text
Video	Short Text
TxtRot0	Number
TxtRot33	Number
SymRot0	Number
SymRot33	Number

- Polygon

PolygonTemplate

Field Name	Data Type
OBJECTID	AutoNumber
SHAPE	OLE Object
AssetID	Short Text
LegacyID	Short Text
Jurisdiction	Short Text
Administration	Short Text
Status	Short Text
InstallDate	Date/Time
Address	Short Text
Location	Short Text
Street	Short Text
StreetX_NE	Short Text
StreetX_SW	Short Text
DataSource	Short Text
Notes	Short Text
AssetPhoto	Short Text
Project	Short Text
ImagePrimary	Short Text
ImageMinor	Short Text
Video	Short Text
Edited	Short Text
TxtRot0	Number
TxtRot33	Number
SHAPE_Length	Number
SHAPE_Area	Number



CITY OF PORT ANGELES
PUBLIC WORKS & UTILITIES DEPARTMENT

N

Outfall Discharge Map

1,600
Feet

Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91

Printed: 3/12/2020

Legend

- COPA Outfall
- POPA Outfall
- City boundary
- Creek
- River

This map is not intended for use as a legal description. Locations of features are approximate only. Topographic/Map features are +-5 feet of actual locations. This map/drawing is produced by the city of Port Angeles for its own use and purposes. Any other use of this map/drawing shall not be the responsibility of the City.

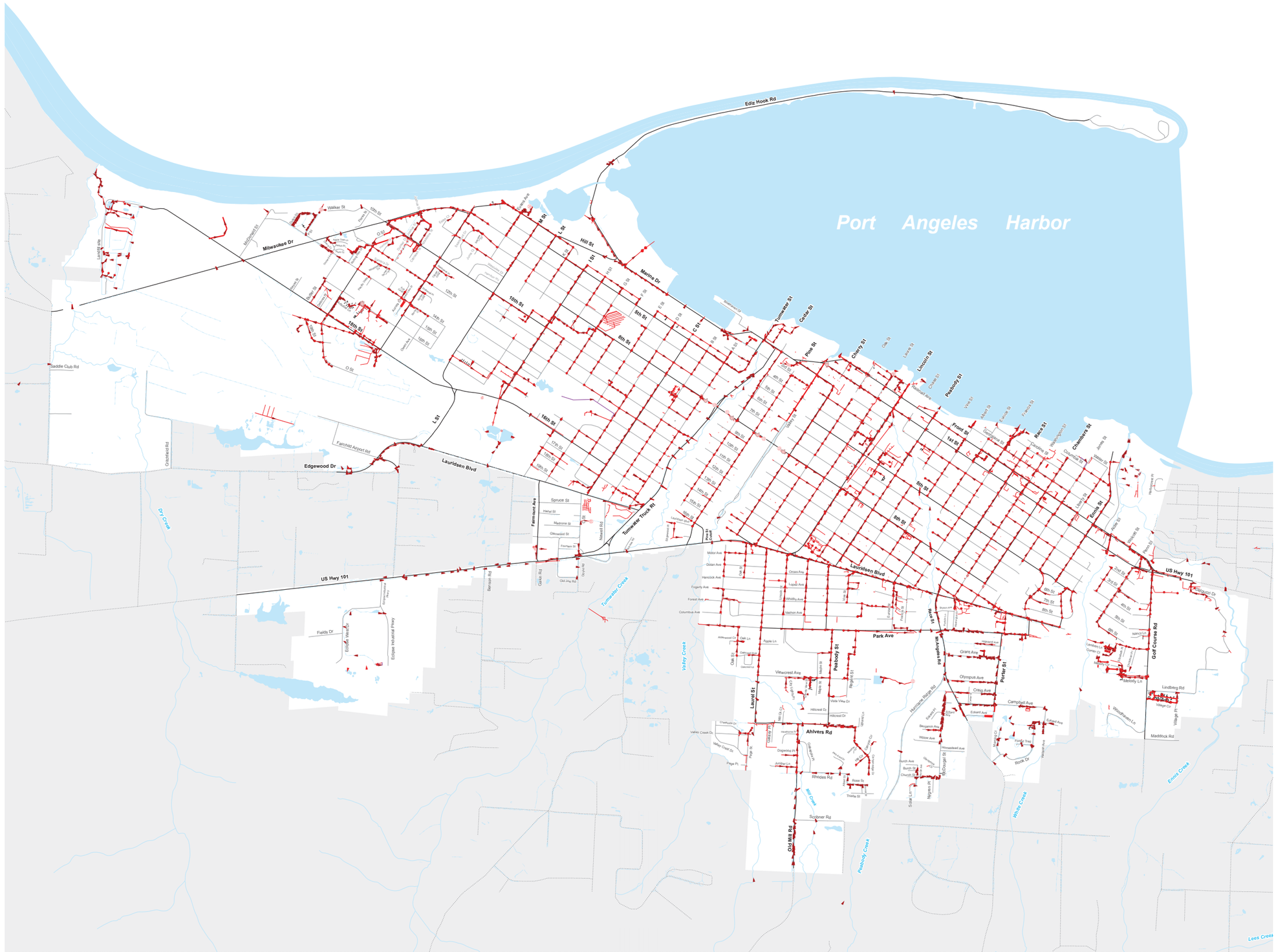
AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI1	1	1	City of PA	City of PA	1/1/1968	Active	OutfallCreek	<Null>	117	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	14th St	<Null>
SWDI2	2	2	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	90	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	13th St	<Null>
SWDI3	3	3	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	24	StormRunOff	Inspection	Outfall to Dry creek. Pipe outlet with rip rap.	Dry Creek Outfall	16-May	Dry Creek	Landfill site	<Null>	<Null>	<Null>	<Null>
SWDI4	4	3135	City of PA	County	<Null>	Active	OutfallCreek	<Null>	246	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Reservoir Rd	<Null>	Davis St	<Null>	<Null>
SWDI5	5	3146	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	358	<Null>	<Null>	Outlet to ditch	<Null>	<Null>	<Null>	Melody Ln	<Null>	Melody Cir	<Null>	<Null>
SWDI6	6	3147	Private	City of PA	1/1/1988	Active	OutfallCreek	<Null>	465	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Mill Ck Ct	<Null>	Ahlvers Rd	<Null>	<Null>
SWDI7	7	3155	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	104	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	15th St	<Null>
SWDI9	9	3158	City of PA	City of PA	1/1/1995	Active	Outfall	<Null>	129	<Null>	<Null>	Top of bluff outfall	<Null>	<Null>	<Null>	McDonald St	<Null>	<Null>	<Null>	<Null>
SWDI10	10	3074	City of PA	City of PA	1/1/1929	Active	OutfallHarbor	30	10	StormRunOff	<Null>	<Null>	Culvert discharge	<Null>	South east corner of boat harbor.	Marine Dr	<Null>	<Null>	B St	<Null>
SWDI11	11	3075	City of PA	City of PA	1/1/1971	Active	Outfall	<Null>	230	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	6th St	<Null>	E St	<Null>	<Null>
SWDI12	12	3076	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	250	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	Reyes St	<Null>	19th St	<Null>	<Null>
SWDI13	13	3077	City of PA	City of PA	1/1/1955	Active	OutfallHarbor	36	8	StormRunOff	<Null>	<Null>	Culvert discharge	<Null>	Boat harbor.	Marine Dr	<Null>	<Null>	D St	<Null>
SWDI14	14	3079	City of PA	City of PA	1/1/1955	Active	OutfallHarbor	15	6	StormRunOff	<Null>	<Null>	Culvert discharge	<Null>	Boat harbor.	Marine Dr	<Null>	<Null>	E St	<Null>
SWDI15	15	3082	City of PA	City of PA	1/1/1956	Active	OutfallCreek	<Null>	131	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	9th St	<Null>	Cherry St	Valley St	<Null>
SWDI17	17	3084	City of PA	City of PA	1/1/1961	Active	OutfallCreek	24	14	<Null>	Inspection	Outfall to Ennis creek	<Null>	<Null>	Rayonier parking lot.	Ennis St	<Null>	<Null>	Water St	<Null>
SWDI18	18	3087	City of PA	City of PA	1/1/1954	Active	OutfallHarbor	18	0	StormRunOff	<Null>	Outlet for old County sanitary sewer.	<Null>	<Null>	Northwest of Francis St park.	Francis St	<Null>	<Null>	Georgiana St	Concrete
SWDI19	19	3088	Private	City of PA	1/1/1993	Active	Outfall	6	16	StormRunOff	Plan Set	OUTFALL	Pipe discharge	<Null>	Runs over the bluff from Albert St. Discharges to ditch parallel to harbor.	Albert St	<Null>	<Null>	Georgiana St	PolyE
SWDI20	20	3089	Private	City of PA	1/1/1993	Active	Outfall	4	16	StormRunOff	Plan Set	OUTFALL	Pipe discharge	<Null>	Runs over the bluff from Albert St. Discharges to ditch parallel to harbor.	Albert St	<Null>	<Null>	Georgiana St	PVC
SWDI21	21	07A	City of PA	City of PA	1/1/1927	Active	OutfallHarbor	84	12	CombinedWW	Plan Set	See main for inspections and photos. Field note locates N end of storm culvert	CSO discharge site 8	<Null>	Peabody creek outfall west of the City peir parking lot.	Lincoln St	<Null>	<Null>	Railroad Ave	Concrete
SWDI22	22	3096	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	21	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater St	<Null>	3rd St	<Null>	<Null>
SWDI23	23	3100	City of PA	City of PA	1/1/1995	Active	Outfall	<Null>	218	<Null>	<Null>	Outfall	<Null>	<Null>	<Null>	Butler St	<Null>	16th St	<Null>	<Null>
SWDI24	24	3101	City of PA	City of PA	<Null>	Active	Outfall	<Null>	222	<Null>	<Null>	<Null>	Lincoln park Big Boys pond outfall.	<Null>	South west edge of Big Boys pond.	14th St	<Null>	<Null>	I St	<Null>
SWDI25	25	3104	City of PA	City of PA	1/1/1995	Active	Outfall	<Null>	248	<Null>	<Null>	STORM OUTFALL.	<Null>	<Null>	<Null>	16th St	<Null>	O St	16th St	<Null>
SWDI26	26	09A	City of PA	City of PA	1/1/1961	Active	Outfall	<Null>	8	<Null>	<Null>	See main for inspections and photos.	<Null>	<Null>	<Null>	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI27	27	05A	City of PA	City of PA	1/1/1952	Active	OutfallCreek	<Null>	45	<Null>	<Null>	See main for inspections and photos. Outfall to Peabody creek	<Null>	<Null>	<Null>	Peabody St	<Null>	3rd St	4th St	<Null>
SWDI28	28	08A	City of PA	City of PA	1/1/1957	Active	OutfallHarbor	54	16	StormRunOff	<Null>	See main for inspections and photos. Valley creek culvert outfall to harbor	Culvert discharge	<Null>	Valley creek esturary.	Valley St	<Null>	<Null>	Marine Dr	<Null>
SWDI29	29	3640	City of PA	City of PA	5/1/2006	Active	Outfall	<Null>	162	<Null>	<Null>	4ft x 4ft quarry spall	<Null>	Rolling Hills plan-set	<Null>	O St	<Null>	<Null>	<Null>	<Null>
SWDI30	30	3387	City of PA	City of PA	9/15/2016	Active	OutfallHarbor	12	12	StormRunOff	AsBuilt	Outfall to Harbor. This outfall is first shown on the 1970 City storm map. However I think it is much older than that. Exact install date unknown.	See sheet SD-1 (pg 17)	Project WW10-08 (06-01 Phase 2)	Valley creek esturary	Marine Dr	<Null>	<Null>	Front St	<Null>
SWDI31	31	3394	City of PA	City of PA	4/1/2001	Active	Outfall	<Null>	24	<Null>	<Null>	<Null>	<Null>	Francis St Park Impvts	<Null>	Francis St	<Null>	<Null>	<Null>	<Null>
SWDI32	32	3395	City of PA	City of PA	4/1/2001	Active	Outfall	<Null>	24	<Null>	<Null>	<Null>	<Null>	Francis St Park Impvts	<Null>	Francis St	<Null>	<Null>	<Null>	<Null>
SWDI33	33	3396	City of PA	City of PA	1/1/1915	Active	OutfallHarbor	24	0	CombinedWW	<Null>	CSO outfall.	CSO discharge site 10 east.	<Null>	Northeast of Francis St park.	Francis St	<Null>	<Null>	Georgiana St	Concrete
SWDI34	34	01A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	260	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI35	35	02A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	120	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	8th St	<Null>	Francis St	Eunice St	<Null>
SWDI36	36	03A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	120	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	8th St	<Null>	Francis St	Eunice St	<Null>
SWDI37	37	04A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	83	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	5th St	<Null>	Albert St	Vine St	<Null>
SWDI38	38	06A	City of PA	City of PA	1/1/1914	Active	Outfall	<Null>	32	Creek	<Null>	See main for inspections and photos. 2nd St St culvert outfall	<Null>	<Null>	North side of 2nd St culvert in trailer park.	2nd St	<Null>	<Null>	Lincoln St	<Null>
SWDI39	39	10A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	120	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	Front St	<Null>	Penn St	Alder St	<Null>
SWDI40	40	3561	City of PA	City of PA	<Null>	Active	Outfall	<Null>	244	<Null>	<Null>	Also see fieldbooks T47-2 and T47A	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	Lauridsen Blvd	<Null>
SWDI41	41	3562	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	104	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	A St	<Null>
SWDI42	42	3563	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	92	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	A St	<Null>
SWDI43	43	3564	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	150	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	10th St	<Null>	<Null>	Tumwater Truck Rt	<Null>
SWDI44	44	3619	City of PA	City of PA	10/1/2005	Active	Outfall	<Null>	313.82	<Null>	<Null>	<Null>	Park Ave Impvts	4-Apr	<Null>	Park Ave	<Null>	<Null>	Washington St	<Null>
SWDI45	45	3620	City of PA	City of PA	10/1/2005	Active	Outfall	<Null>	308.36	<Null>	<Null>	<Null>	Park Ave Impvts	4-Apr	<Null>	Park Ave	<Null>	<Null>	Washington St	<Null>
SWDI46	46	2329	City of PA	City of PA	1/1/1985	Active	OutfallCreek	<Null>	200	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	US Hwy 101	<Null>	<Null>	Delguzzi Dr	<Null>
SWDI47	47	2330	City of PA	County	1/1/1970	Active	OutfallCreek	<Null>	76	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Ennis Creek Rd	<Null>	<Null>	<Null>	<Null>
SWDI48	48	2319	City of PA	City of PA	1/1/1964	Active	OutfallCreek	<Null>	158	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	South side of Lauridsen Blvd bridge.	Lauridsen Blvd	<Null>	Race St	<Null>	<Null>
SWDI49	49	2322	City of PA	City of PA	1/1/1952	Active	OutfallCreek	<Null>	156	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	9th St	<Null>	Race St	Francis St	<Null>
SWDI50	50	2323	City of PA	City of PA	1/1/1970	Active	OutfallCreek	<Null>	226.61	<Null>	<Null>	Outfall to Whites creek. 18inx12in tee in ditch.	<Null>	<Null>	<Null>	Alder St	<Null>	<Null>	5th St	<Null>
SWDI51	51	2213	City of PA	County	1/1/1976	Active	OutfallCreek	<Null>	262	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Cherry St	<Null>	<Null>
SWDI52	52	2214	City of PA	City of PA	1/1/1962	Active	OutfallCreek	<Null>	290	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Fogarty Ave	<Null>	Cherry St	<Null>	<Null>
SWDI53	53	2217	City of PA	City of PA	1/1/1956	Active	OutfallCreek	<Null>	219	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	14th/15th Alley	<Null>	Cherry St	<Null>	<Null>
SWDI54	54	2218	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	148	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Edgewood Pl	<Null>	Lauridsen Blvd	<Null>	<Null>
SWDI55	55	2219	City of PA	City of PA	1/1/1956	Active	Outfall	<Null>	208	<Null>	<Null>	PIPE OUTLET AT TOP OF BANK.	<Null>	<Null>	<Null>	13th/14th Alley	<Null>	Cherry St	<Null>	<Null>
SWDI56	56	2221	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	200	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	Lauridsen Blvd	<Null>
SWDI57	57	2224	City of PA	City of PA	1/1/1968	Active	Outfall	<Null>	204	<Null>	<Null>	OUTFALL	Tumwater creek outfall	<Null>	<Null>	15th St	<Null>	A St	<Null>	<Null>
SWDI58	58	2225	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	235	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI59	59	2238	City of PA	City of PA	1/1/1977	Active	Outfall	<Null>	504	<Null>	<Null>	OUTLET	<Null>	77-2	<Null>	Glenbrook Cir	<Null>	McDougal St	McGill Ave	<Null>
SWDI60	60	2239	City of PA	City of PA	1/1/1974	Active	OutfallCreek	<Null>	470	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Canyon Cir	<Null>	<Null>	Canyonedge Dr	<Null>
SWDI61	61	2248	City of PA	City of PA	1/1/1974	Active	Outfall	<Null>	476	<Null>	<Null>	PIPE OUTLET FROM MH APO12.	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	Peabody St	<Null>	<Null>
SWDI62	62	2249	City of PA	City of PA	1/1/1971	Active	OutfallCreek	<Null>	476	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	Peabody St	Old Mill Rd	<Null>
SWDI63	63	2251	City of PA	City of PA	1/1/1980	Active	OutfallCreek	<Null>	468	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	Peabody St	Old Mill Rd	<Null>
SWDI64	64	2252	City of PA	City of PA	1/1/1991	Active	OutfallCreek	<Null>	482	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	<Null>	Galaxy Pl	<Null>

AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI65	65	2254	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	476	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	McDougal St	<Null>	<Null>	Benjamin Ave	<Null>
SWDI66	66	2257	City of PA	City of PA	1/1/1976	Active	Outfall	<Null>	448	<Null>	<Null>	OUTLET OF PIPE FROM CB UP038.	<Null>	<Null>	<Null>	Regent St	<Null>	Viewcrest Ave	Vista View Dr	<Null>
SWDI67	67	2268	City of PA	City of PA	1/1/1986	Active	OutfallCreek	<Null>	404	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	McDougal St	<Null>	Mt Angeles Rd	<Null>	<Null>
SWDI68	68	2273	City of PA	City of PA	1/1/1986	Active	Outfall	<Null>	412	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	Mt Angeles Rd	<Null>	Craig Ave	<Null>	<Null>
SWDI69	69	2278	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	362	<Null>	<Null>	Outlet to ditch	<Null>	<Null>	<Null>	Melody Ln	<Null>	Melody Cir	<Null>	<Null>
SWDI70	70	2279	Private	City of PA	1/1/1993	Active	Outfall	<Null>	346	<Null>	<Null>	<Null>	<Null>	93-13	<Null>	Lauridsen Blvd	<Null>	Currier Ct	Lambert Ln	<Null>
SWDI71	71	2283	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	242	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI72	72	2287	City of PA	City of PA	1/1/1965	Active	Outfall	<Null>	336	<Null>	<Null>	PIPE OUTLET	<Null>	<Null>	<Null>	Porter St	<Null>	Park Ave	Highland Ave	<Null>
SWDI73	73	2288	City of PA	City of PA	1/1/1954	Active	OutfallCreek	<Null>	260	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI74	74	2289	City of PA	City of PA	1/1/1973	Active	Outfall	<Null>	266	<Null>	<Null>	OUTLET	<Null>	<Null>	<Null>	Eunice St	<Null>	<Null>	Vashon Ave	<Null>
SWDI75	75	2290	City of PA	City of PA	1/1/1973	Active	Outfall	<Null>	266	<Null>	<Null>	OUTLET	<Null>	<Null>	<Null>	Eunice St	<Null>	<Null>	Vashon Ave	<Null>
SWDI76	76	2301	City of PA	City of PA	1/1/1983	Active	OutfallCreek	<Null>	231	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Race St	<Null>	Bryson Ave	<Null>	<Null>
SWDI77	77	2304	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	226	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI78	78	2309	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	184	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI79	79	2310	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	170	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI80	80	2317	City of PA	City of PA	1/1/1952	Active	OutfallCreek	<Null>	190	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	10th St	<Null>	Race St	<Null>	<Null>
SWDI81	81	2334	City of PA	City of PA	1/1/1972	Active	OutfallCreek	<Null>	112	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Harborcrest Pl	<Null>	<Null>	<Null>	<Null>
SWDI82	82	2336	City of PA	City of PA	1/1/1976	Active	OutfallCreek	<Null>	148	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	US Hwy 101	<Null>	15th St	<Null>	<Null>
SWDI83	83	2337	City of PA	City of PA	1/1/1955	Active	OutfallHarbor	42	6	StormRunOff	<Null>	Outfall	Culvert discharge	<Null>	Boat harbor.	Marine Dr	<Null>	<Null>	C St	<Null>
SWDI84	84	2339	City of PA	City of PA	1/1/1968	Active	Outfall	<Null>	168	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	13th St	<Null>	Tumwater Truck Rt	A St	<Null>
SWDI85	85	2341	City of PA	City of PA	1/1/1968	Active	Outfall	<Null>	210	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	14th St	<Null>	Tumwater Truck Rt	A St	<Null>
SWDI86	86	2342	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	294	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	F St	<Null>	17th St	18th St	<Null>
SWDI87	87	2343	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	80	<Null>	<Null>	Outfall from 11th St to Tumwater creek	<Null>	<Null>	East of Tumwater Truck Rt.	11th St	<Null>	Tumwater Truck Rt	<Null>	<Null>
SWDI88	88	2345	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	290	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	F St	<Null>	16th St	17th St	<Null>
SWDI89	89	3466	City of PA	City of PA	1/1/1953	Active	OutfallHarbor	6	7.3	CombinedWW	Plan Set	I.E. determined with hand level. The install date is probably older than 1953.	CSO discharge site 6	<Null>	Discharges at the end of Oak St.	Railroad Ave	<Null>	Oak St	Cherry St	Concrete
SWDI90	90	3117	City of PA	City of PA	1/1/1967	Active	Outfall	<Null>	310	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	Vashon Ave	<Null>	<Null>	Peabody St	<Null>
SWDI91	91	3119	City of PA	City of PA	1/1/1979	Active	Outfall	<Null>	238	<Null>	<Null>	OUTLET OF PIPE	<Null>	<Null>	<Null>	11th/12th Alley	<Null>	K St	<Null>	<Null>
SWDI92	92	3121	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	362	<Null>	<Null>	Outlet to ditch	<Null>	<Null>	<Null>	Melody Ln	<Null>	Melody Cir	<Null>	<Null>
SWDI93	93	3122	City of PA	City of PA	1/1/1994	Active	Outfall	<Null>	282	<Null>	Plan Set	Outfall	Clallam County Transit	Clallam Transit site improvements	Clallam Transit site	Lauridsen Blvd	<Null>	Tumwater Truck Rt	Newell Rd	<Null>
SWDI94	94	3123	City of PA	City of PA	1/1/1994	Active	Outfall	<Null>	280	<Null>	<Null>	Outfall	<Null>	<Null>	<Null>	Newell Rd	<Null>	<Null>	<Null>	<Null>
SWDI95	95	3124	City of PA	City of PA	1/1/1994	Active	Outfall	<Null>	260	<Null>	Plan Set	Outfall	Clallam County Transit	Clallam Transit site improvements	Clallam Transit site	Lauridsen Blvd	<Null>	Tumwater Truck Rt	Newell Rd	<Null>
SWDI96	96	3126	City of PA	City of PA	1/1/1994	Active	Outfall	<Null>	262	<Null>	Plan Set	Outfall	Clallam County Transit	Clallam Transit site improvements	Clallam Transit site	Lauridsen Blvd	<Null>	Tumwater Truck Rt	Newell Rd	<Null>
SWDI97	97	3127	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	258	<Null>	<Null>	outlet to detention	<Null>	<Null>	<Null>	19th St	<Null>	<Null>	<Null>	<Null>
SWDI98	98	3332	City of PA	City of PA	1/1/2002	Active	Outfall	<Null>	294	<Null>	<Null>	Outfall	<Null>	<Null>	<Null>	15th St	F St and 15th St	<Null>	F St	<Null>
SWDI99	99	3334	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	200	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	16th St	<Null>	Cedar St	<Null>	<Null>
SWDI100	100	3477	City of PA	City of PA	<Null>	Active	Outfall	<Null>	50	<Null>	<Null>	Located by Mike Szatlocky. Baffled outlet.	<Null>	<Null>	<Null>	McDonald St	<Null>	McDonald St	18th St	<Null>
SWDI101	101	3511	City of PA	City of PA	<Null>	Active	Outfall	<Null>	450	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Rook Dr	<Null>	Rook Dr	Forest Trail	<Null>
SWDI102	102	3565	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	62	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	9th St	<Null>	<Null>
SWDI103	103	3566	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	49	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	8th St	<Null>	<Null>
SWDI104	104	3567	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	41	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	8th St	<Null>
SWDI105	105	3568	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	38	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	8th St	<Null>
SWDI106	106	3569	City of PA	City of PA	<Null>	Active	Outfall	<Null>	126	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	7th St	<Null>	<Null>	A St	<Null>
SWDI107	107	3570	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	36	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Valley St	<Null>	<Null>	8th St	<Null>
SWDI108	108	3571	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	250	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI109	109	3572	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	260	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI110	110	3573	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	284	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI111	111	3574	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	292	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Mt Angeles Rd	<Null>	Park Ave	<Null>	<Null>
SWDI112	112	3575	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	294	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Mt Angeles Rd	<Null>	Park Ave	<Null>	<Null>
SWDI113	113	3576	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	16	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Rayonier	<Null>	<Null>	Rayonier	<Null>
SWDI114	114	3617	City of PA	City of PA	10/1/2005	Active	Outfall	<Null>	295.32	<Null>	<Null>	<Null>	Park Ave Impvts	4-Apr	<Null>	Park Ave	<Null>	<Null>	Mt Angeles Rd	<Null>
SWDI115	115	3646	City of PA	City of PA	6/1/2006	Active	Outfall	12	170	StormRunOff	Inspection	<Null>	<Null>	The Orchards Subdivision	<Null>	14th St	Milwaukee Dr and 14th St	Milwaukee Dr	<Null>	<Null>
SWDI117	117	3653	City of PA	City of PA	6/1/2006	Active	Outfall	<Null>	160	<Null>	<Null>	Outfall to detention pond	<Null>	The Orchards Subdivision	<Null>	Orchard Ave	<Null>	<Null>	Apple Tree Ln	<Null>
SWDI118	118	3658	City of PA	City of PA	6/1/2006	Active	Outfall	<Null>	464	<Null>	<Null>	Quarry spall discharge	<Null>	Green Crow-Reidel phase2	<Null>	Forest Trail	<Null>	Rook Dr	Forest Trail	<Null>
SWDI119	119	3679	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	28	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	2nd St	<Null>	<Null>	Lincoln St	<Null>
SWDI120	120	3587	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	410	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	Woodhaven Dr	<Null>	<Null>	<Null>	<Null>
SWDI121	121	3588	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	352	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	Currier Ct	<Null>	Lambert Ln	<Null>	<Null>
SWDI122	122	3589	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	150	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	2nd St	<Null>	<Null>	Wolcott St	<Null>
SWDI123	123	3590	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	162	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	1st/2nd Alley	<Null>	Wolcott St	Alder St	<Null>
SWDI124	124	3591	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	162	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	1st/2nd Alley	<Null>	Wolcott St	Alder St	<Null>
SWDI125	125	3592	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	115	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	Front St	<Null>	Wolcott St	Alder St	<Null>
SWDI126	126	3839	City of PA	City of PA	12/1/2006	Active	Outfall	<Null>	238	<Null>	<Null>	extend pipe to daylight.	<Null>	15th street and I	<Null>	15th St	<Null>	H St	I St	<Null>
SWDI127	127	3848	City of PA	City of PA	<Null>	Active	Outfall	<Null>	315	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	US Hwy 101	<Null>	Tumwater Truck Rt	Doyle Rd	<Null>
SWDI129	129	3997	City of PA	City of PA	<Null>	Active	Outfall	<Null>	8	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI130	130	3833	City of PA	City of PA	12/1/2006	Active	Outfall	<Null>	452.96	<Null>	<Null>	Outfall to pond	<Null>	Green Crow phase 3	<Null>	Morning Ct	<Null>	Rook Dr	Forest Trail	<Null>
SWDI131	131	2281	City of PA	City of PA	1/1/1993	Active	OutfallCreek	<Null>	218	<Null>	<Null>	Diffuser. Outfall to Whites creek	<Null>	93-13	<Null>	Penn St	<Null>	6th St	Lambert Ln	<Null>
SWDI132	132	4230	City of PA	City of PA	<Null>	Active	Outfall	<Null>	244	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	Lauridsen Blvd	<Null>
SWDI133	133	4226	City of PA	City of PA	<Null>	Active	Outfall	<Null>	476.2	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	Laurel St	Creekside Dr.	<Null>
SWDI134	134	4104	City of PA	City of PA	1/29/2009	Active	Outfall	<Null>	472	<Null>	<Null>	Flow dispersion structure.	<Null>	Reserve at Valley Creek plan set 2009	<Null>	Crestside Dr.	<Null>	Ahlvers Rd	Valley Creek Dr.	<Null>
SWDI135	135	4121	City of PA	City of PA	1/29/2009	Active	Outfall	<Null>	474	<Null>	<Null>	Flow dispersion structure.	<Null>	Reserve at Valley Creek plan set 2009	<Null>	Creekside Dr.	<Null>	Ahlvers Rd	Valley Creek Dr.	<Null>
SWDI136	136	4166	City of PA	City of PA	2/26/2019	Removed	Outfall	<Null>	441	StormRunOff	AsBuilt	<Null>	<Null>	Campbell Ave PRD Phase 2	Near lot 32 and 33	Rook Dr	<Null>	Eckard Ave	<Null>	<Null>
SWDI137	137	3659	City of PA	City of PA	6/1/2006	Active	Outfall	<Null>	452	<Null>	<Null>	<Null>	<Null>	Green Crow-Reidel phase2	<Null>	Rook Dr	<Null>	Rook Dr	Forest Trail	<Null>
SWDI138	138	4206	Private	City of PA	<Null>	Active	OutfallCreek	<Null>	340	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Lauridsen Blvd	<Null>	<Null>	Ennis St	<Null>
SWDI139	139	3140	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	270	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	16th St	<Null>	N St	Maloney Ct	<Null>
SWDI140	140	3141	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	270	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	16th St	<Null>	N St	Maloney Ct	<Null>
SWDI142	142	3150	City of PA	City of PA	1/1/1985	Active	Outfall	<Null>	208	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI143	143	3151	City of PA	City of PA	1/1/1985	Active	Outfall	<Null>	202	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI144	144	3153	City of PA	City of PA	1/1/1925	Active	Outfall	<Null>	376	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Viewcrest Ave	<Null>	<Null>	<Null>	<Null>

AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI145	145	2215	City of PA	City of PA	1/1/1987	Active	Outfall	<Null>	246	<Null>	<Null>	LOCATED FROM AERIALS AND AS-BUILT "PINE ROAD VILL	<Null>	<Null>	<Null>	Edgewood Dr	<Null>	Pine St	US Hwy 101	<Null>
SWDI146	146	2216	City of PA	City of PA	1/1/1987	Active	Outfall	<Null>	246	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Edgewood Dr	<Null>	Pine St	US Hwy 101	<Null>
SWDI147	147	2256	City of PA	City of PA	1/1/1977	Active	Outfall	<Null>	445	<Null>	<Null>	<Null>	<Null>	Pinebrook Sub Eckard Pl water wwater	<Null>	McDougal St	<Null>	Craig Ave	Eckard Ave	<Null>
SWDI148	148	2291	City of PA	City of PA	1/1/1954	Active	Outfall	<Null>	308	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI150	150	2347	City of PA	City of PA	1/1/1968	Active	Outfall	<Null>	150	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	9th St	<Null>	Tumwater Truck Rt	A St	<Null>
SWDI152	152	3113	City of PA	City of PA	1/1/1955	Inactive	OutfallHarbor	8	14	WWEffluent	Inspection	Valve that activates this outflow is in the off condition.	CSO inactive	<Null>	Daishowa lagoon	Marine Dr	<Null>	Hill St	Ediz Hook Rd	Concrete
SWDI153	153	3726	City of PA	City of PA	<Null>	Proposed	Outfall	<Null>	322	<Null>	<Null>	Outfall to ditch. 6 in quarry spall.	<Null>	<Null>	<Null>	Highland Ave	<Null>	Park Ave	Grant Ave	<Null>
SWDI154	154	3931	City of PA	City of PA	<Null>	Active	Outfall	<Null>	38	<Null>	<Null>	Energy dissipater. See plans for detail.	<Null>	Juan De Fuca Bluffs plan set	<Null>	P St	<Null>	Walker St	Dutch Dr	<Null>
SWDI155	155	4093	City of PA	City of PA	1/29/2009	Active	Outfall	<Null>	474	<Null>	<Null>	<Null>	<Null>	Reserve at Valley Creek plan set 2009	<Null>	Creekside Dr.	<Null>	Ahlvers Rd	Valley Creek Dr.	<Null>
SWDI156	156	<Null>	City of PA	City of PA	1/1/2006	Active	Outfall	<Null>	130	StormRunOff	<Null>	Overflow storm water discharge from Walker Subd to ditch that flows to Strait outfall.	<Null>	<Null>	<Null>	P St	<Null>	Walker St	Dutch Dr	<Null>
SWDI157	157	<Null>	City of PA	City of PA	1/1/2006	Active	Outfall	<Null>	130	StormRunOff	<Null>	Storm water discharge from Walker Subd to ditch that flows to Strait outfall.	<Null>	<Null>	<Null>	P St	<Null>	Walker St	Dutch Dr	<Null>
SWDI159	159	<Null>	City of PA	City of PA	<Null>	Active	OutfallCreek	12	546	StormRunOff	<Null>	Creek outfall to Mill Creek.	<Null>	<Null>	<Null>	Old Mill Rd	<Null>	Rhodes Rd	<Null>	<Null>
SWDI160	160	<Null>	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	30	StormRunOff	Inspection	Overflow	Dry Creek Diversion Outfall	16-May	Landfill site along Dry Creek.	Landfill site	<Null>	<Null>	<Null>	<Null>
SWDI161	161	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	184	StormRunOff	<Null>	Outfall to parking lot ditch.	Wal mart superstore	<Null>	Wal mart superstore parking lot	US Hwy 101	<Null>	Masters Rd	<Null>	<Null>
SWDI166	166	<Null>	City of PA	City of PA	1/1/1953	Active	Outfall	15	12	StormRunOff	Plan Set	Originally installed before 1953 and upgraded since. The pond is tidal influenced.	Culvert discharge	<Null>	East of Red Lion motel. Over the bluff from Front St then discharges to pond.	Peabody St	<Null>	<Null>	Front St	Concrete
SWDI167	167	<Null>	City of PA	City of PA	1/1/1915	Active	OutfallHarbor	12	6	StormRunOff	<Null>	Installation date is approximate and coincides with the building of the Railroad. Many improvements have been made over the years.	Culvert discharge	<Null>	East of Red Lion motel from pond culvert complex.	Peabody St	<Null>	<Null>	Front St	PVC
SWDI168	168	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	174	StormRunOff	<Null>	<Null>	<Null>	<Null>	North of MRWF pond and east of gun range.	Landfill site	<Null>	<Null>	<Null>	<Null>
SWDI171	171	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	184	StormRunOff	<Null>	<Null>	<Null>	<Null>	<Null>	Landfill site	<Null>	<Null>	<Null>	<Null>
SWDI173	173	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	14	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	Marine Dr	<Null>	<Null>	<Null>	<Null>
SWDI174	174	174	City of PA	City of PA	1/1/1979	Active	OutfallHarbor	12	9.54	StormRunOff	Plan Set	<Null>	Culvert discharge	78-2 PA Municipal Pier	Rip rap north of the City pier parking lot and near the Peabody Creek outfall	Railroad Ave	<Null>	<Null>	Lincoln St	Concrete
SWDI175	175	175	City of PA	City of PA	<Null>	Active	IDDE	<Null>	16	<Null>	Inspection	<Null>	<Null>	<Null>	Dairy Queen	Railroad Ave	<Null>	Lincoln St	Laurel St	<Null>
SWDI176	176	<Null>	City of PA	City of PA	1/1/1967	Active	OutfallHarbor	24	10	CombinedWW	Plan Set	This discharge site is inderectly referenced in 67-4 and is not shown on the 1953 storm map. Install date is approximate.	CSO discharge site 7	<Null>	Discharges on the east side of the Blackball ferry dock.	Railroad Ave	<Null>	Lincoln St	Laurel St	Concrete
SWDI177	177	<Null>	City of PA	City of PA	<Null>	Active	OutfallHarbor	<Null>	14	StormRunOff	Inspection	<Null>	Pipe discharge	<Null>	Discharges at the end of Lincoln St. to the west of Peabody Ck culvert.	Lincoln St	<Null>	<Null>	Railroad Ave	<Null>
SWDI178	178	<Null>	City of PA	City of PA	1/1/1937	Abandoned	OutfallHarbor	15	0	StormRunOff	<Null>	Destroyed during graving yard construction (2002) and inactive prior to that.	Old CSO discharge site	<Null>	Near graving yard area.	Marine Dr	<Null>	<Null>	Hill St	Steel
SWDI179	179	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	30	StormRunOff	<Null>	<Null>	<Null>	<Null>	On beach north of old pump station one location.	4th St	<Null>	Evans Ave	<Null>	<Null>
SWDI180	180	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	122	StormRunOff	<Null>	<Null>	<Null>	<Null>	Discharges near top of bluff and flows to beach	4th St	<Null>	<Null>	<Null>	<Null>
SWDI181	181	<Null>	City of PA	City of PA	<Null>	Abandoned	OutfallCreek	<Null>	512	StormRunOff	<Null>	Old CSO outfall to seasonal creek	Old CSO	<Null>	<Null>	Church St	<Null>	McDougal St	<Null>	<Null>
SWDI182	182	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site E	<Null>	Rayonier site south west side of pier	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI183	183	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site A	<Null>	Rayonier site west side of pier	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI184	184	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site B	<Null>	Rayonier site south end of pier	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI185	185	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site C	<Null>	Rayonier site east side of pier	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI186	186	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site D	<Null>	Rayonier site east side of pier at Ennis creek outfall	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI166	166	<Null>	City of PA	City of PA	1/1/1970	Active	Outfall	4	28	StormRunOff	Cards	The pond is tidal influenced. This pipe shows up on the 1970 storm map but I think it is much older.	Culvert discharge	<Null>	Over the bluff from Front St then to Red Lion motel parking lot then discharges to pond.	Peabody St	<Null>	<Null>	Front St	PVC
SWDI188	188	<Null>	Port of PA	City of PA	4/1/1996	Active	OutfallHarbor	12	7.94	StormRunOff	Plan Set	See pdf page 11 of the primary image plan set. End of pipe is fitted with tide flex valve.	Culvert discharge	<Null>	Westport Marine area.	Cedar St	<Null>	<Null>	Marine Dr	Ductile Iron
SWDI189	189	<Null>	City of PA	City of PA	1/1/1979	Active	OutfallHarbor	12	0	StormRunOff	<Null>	<Null>	Pipe discharge	<Null>	City pier east of the stage area in rip rap.	Railroad Ave	<Null>	<Null>	Lincoln St	Concrete
SWDI190	190	<Null>	City of PA	City of PA	<Null>	Active	OutfallHarbor	<Null>	12	StormRunOff	<Null>	<Null>	Pipe discharge	<Null>	Near entrance to the City Pier parking lot.	Railroad Ave	<Null>	<Null>	Lincoln St	<Null>
SWDI191	191	<Null>	City of PA	City of PA	1/1/1979	Abandoned	OutfallHarbor	12	0	StormRunOff	<Null>	See pdf page 12 of the plan set. This culvert has been removed.	Historical site	<Null>	Rayonier mill site near the old clarifier tank.	Ennis St	<Null>	<Null>	<Null>	Concrete
SWDI192	192	<Null>	Port of PA	City of PA	<Null>	Abandoned	OutfallHarbor	<Null>	14	StormRunOff	OrthoPhoto	Outfall of Tumwater creek	Tumwater Creek	<Null>	Near the POPA pier	Tumwater St	<Null>	<Null>	Marine Dr	<Null>

AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI193	193	<Null>	City of PA	City of PA	<Null>	Active	OutfallHarbor	<Null>	0	StormRunOff	OrthoPhoto	<Null>	Ennis Creek	<Null>	Ennis creek outfall east of the Rayonier pier	Elwha St	<Null>	<Null>	<Null>	<Null>
SWDI194	194	<Null>	Private	City of PA	<Null>	Active	Outfall	4	447.6	StormRunOff	Inspection	Outfall with drain rock.	<Null>	<Null>	West side of house.	Rook Dr	<Null>	<Null>	<Null>	<Null>
SWDI195	195	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	94	<Null>	Inspection	<Null>	<Null>	<Null>	South portion of Fiesta Jalisco's parking lot near 1st Front alley.	Front St	<Null>	Eunice St	1st/Front Alley	<Null>
SWDI196	196	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	15	StormRunOff	Inspection	Outfall to ditch that runs toward Marine dr.	<Null>	<Null>	South side of 3rd street to ditch	3rd St	<Null>	Tumwater St	Marine Dr	<Null>
SWDI197	197	<Null>	City of PA	City of PA	10/1/2012	Active	IDDE	<Null>	16	ParkingLot	Inspection	IDDE location inside catch basin	<Null>	<Null>	Red loin parking lot	Lincoln St	<Null>	Railroad Ave	Front St	<Null>
SWDI198	198	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	100	<Null>	WorkSketch	<Null>	<Null>	<Null>	VBCC main entrance	5th St	<Null>	Peabody St	Chase St	<Null>
SWDI199	199	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	94	StormRunOff	<Null>	<Null>	See WO 1630	<Null>	SE corner of Eunice Front/First Alley.	Eunice St	<Null>	Front St	1st St	<Null>
SWDI200	200	<Null>	City of PA	City of PA	12/31/2018	Active	Outfall	48	185	StormRunOff	AsBuilt	See sheet 56/59 for details and 16/59 for plan. Beehive outfall structure.	<Null>	TR-11-00	NW corner	N St	N St and 10th St	Seamount Dr	10th St	CONC
SWDI201	201	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	120	StormRunOff	<Null>	<Null>	<Null>	<Null>	<Null>	Walker St	<Null>	10th St	<Null>	<Null>
SWDI202	202	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	120	<Null>	Inspection	<Null>	<Null>	<Null>	South side of 1st Street and east of the restaurant.	1st St	<Null>	Penn St	Alder St	<Null>
SWDI203	203	<Null>	City of PA	City of PA	4/1/2012	Active	IDDE	<Null>	144	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	Albert St	Albert St and 8th St	8th St	9th St	<Null>
SWDI204	204	<Null>	City of PA	City of PA	2/18/2012	Active	IDDE	<Null>	300	<Null>	<Null>	<Null>	<Null>	<Null>	South of Lauridsen near 1362 W Lauridsen Blvd	Lauridsen Blvd	<Null>	F St	L St	<Null>
SWDI205	205	<Null>	City of PA	City of PA	3/18/2013	Active	IDDE	<Null>	16	<Null>	Inspection	Source of discharge 219 Hwy 117	<Null>	<Null>	Just east of the intersection.	Marine Dr	Tumwater Truck Rt and Marine Dr	Cedar St	Tumwater Truck Rt	<Null>
SWDI206	206		City of PA	City of PA	1/5/2012	Active	Outfall	<Null>	420				<Null>	<Null>		US HWY 101	Airport Rd and US Hwy 101	Airport Rd	Eclipse Industrial Pkwy	<Null>
SWDI207	207		City of PA	City of PA	<Null>	Active	Outfall	<Null>	28				<Null>	<Null>	Near the culvert inlet	2nd St		Peabody st	Lincoln st	<Null>
SWDI208	<Null>	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	33	StormRunOff	<Null>	Sample point for CSO SWPPP permit.	DC-3	<Null>	CSO site	Ennis St	<Null>	Water St	Columbia St	<Null>
SWDI209	209	<Null>	City of PA	City of PA	6/18/2013	Active	IDDE	<Null>	126	ComercialSite	Inspection	<Null>	<Null>	<Null>	East of Bruce's Specialty Auto near the 1st / Front alley.	Ennis St	<Null>	Front St	1st St	<Null>
SWDI210	210	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	130	ComercialSite	<Null>	<Null>	<Null>	<Null>	Mid point of west property line	Front St	<Null>	Penn St	Ennis St	<Null>
SWDI211	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	50	StormRunOff	<Null>	<Null>	<Null>	<Null>	North side of Front street	Front St	<Null>	<Null>	<Null>	<Null>
SWDI212	212	212	City of PA	City of PA	<Null>	Active	IDDE	<Null>	548	<Null>	Inspection	<Null>	<Null>	<Null>	Northeast corner of intersection on private lot.	Scrivner Rd	<Null>	<Null>	Mt Angeles Rd	<Null>
SWDI213	213	213	City of PA	City of PA	<Null>	Active	IDDE	<Null>	430	<Null>	<Null>	<Null>	<Null>	<Null>	SW corner of intersection.	Campbell Ave	<Null>	<Null>	Mt Angeles Rd	<Null>
SWDI214	214	<Null>	Penn Coll	City of PA	<Null>	Active	OutfallCreek	12	355	StormRunOff	AsBuilt	<Null>	<Null>	<Null>	College campus	Alder St	<Null>	Melody Cir	<Null>	<Null>
SWDI215	215	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	93	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	Jones St	Jones St and Front St	Front St	<Null>	<Null>
SWDI216	216	<Null>	City of PA	City of PA	1/1/2012	Active	OutfallHarbor	<Null>	10	StormRunOff	Plan Set	<Null>	<Null>	Waterfront Phase 2	<Null>	Railroad Ave	<Null>	Laurel St	Oak St	<Null>
SWDI217	217	<Null>	City of PA	City of PA	1/1/2013	Active	OutfallHarbor	<Null>	8	StormRunOff	Plan Set	<Null>	<Null>	Waterfront Phase 2	Harbor side through rip rap.	Oak St	<Null>	<Null>	Railroad Ave	<Null>
SWDI218	218	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	118	<Null>	Inspection	See related work order	<Null>	<Null>	North side of Fairchild floors.	Front St	1st St and US Hwy 101	<Null>	Ennis St	<Null>
SWDI618	618	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	236	ParkingLot	Inspection	<Null>	<Null>	<Null>	Albertsons Grocery Store parking lot	Lauridsen Blvd	Laurel St and Lauridsen Blvd	Lincoln St	Laurel St	<Null>
SWDI619	619	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	22	<Null>	Inspection	<Null>	<Null>	<Null>	NE corner of intersection	1st St	Cherry St and 1st St	Oak St	Cherry St	<Null>
SWDI620	620	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	18	<Null>	Inspection	<Null>	<Null>	<Null>	Near the SW corner of the intersection.	Lincoln St	Lincoln St and Railroad Ave	Railroad Ave	Front St	<Null>
SWDI621	621	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	86	<Null>	Inspection	<Null>	<Null>	<Null>	Safeway parking lot	3rd St	Laurel St and 4th/5th Alley	Lincoln St	Laurel St	<Null>
SWDI622	622	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	276	<Null>	Inspection	<Null>	<Null>	<Null>	East Lincoln Park Pond 1	Lauridsen Blvd	L St and Lauridsen Blvd	16th St	Lauridsen Blvd	<Null>
SWDI623	623	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	100	<Null>	Inspection	<Null>	<Null>	<Null>	The SW corner of the intersection	Laurel St	Laurel St and 5th St	5th St	5th/6th Alley	<Null>
SWDI624	624	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	48	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	1st St	Lincoln St and 1st St	Chase St	Lincoln St	<Null>
SWDI625	625	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	218	<Null>	Inspection	<Null>	<Null>	<Null>	SE corner of intersection	4th/5th Alley	<Null>	G St	H St	<Null>
SWDI626	626	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	252	<Null>	<Null>	<Null>	<Null>	<Null>	SW corner of the intersection.	8th St	I St and 8th St	I St	K St	<Null>
SWDI1018	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	316	<Null>	Inspection	<Null>	<Null>	<Null>	County maintenance yard	Lauridsen Blvd	<Null>	C St	<Null>	<Null>
SWDI1418	<Null>	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	128	<Null>	Inspection	Discharge point was to the storm main in Ennis St.	<Null>	<Null>	Car wash	1st St	Ennis St and 1st St	Ennis St	<Null>	<Null>
SWDI1818	1818	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	298	ComercialSite	Inspection	Vehicle wash water	<Null>	<Null>	Olympic Electric in ditch along Tumwater Truck Rte.	Tumwater Truck Rt	Tumwater Truck Rt and Lauridsen Blvd	Lauridsen Blvd	<Null>	<Null>
SWDI1819	1819	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	96	ParkingLot	Inspection	<Null>	<Null>	<Null>	In front of city hall (south parking lot) along 5th St.	5th St	Peabody St and 5th St	<Null>	<Null>	<Null>
SWDI2218	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	196	<Null>	WorkSketch	See work order 2095	<Null>	<Null>	<Null>	O St	<Null>	12th St	Samara Dr	<Null>
SWDI2618	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	110	<Null>	WorkSketch	See workorder 2820	<Null>	<Null>	105 N Liberty	Liberty St	<Null>	<Null>	<Null>	<Null>
SWDI3018	<Null>	<Null>	Port of PA	City of PA	4/9/2009	Active	OutfallHarbor	<Null>	8.27	StormRunOff	Plan Set	<Null>	<Null>	<Null>	West boat harbor parking lot.	Marine Dr	<Null>	<Null>	<Null>	<Null>
SWDI3418	<Null>	<Null>	City of PA	City of PA	1/1/2014	Active	OutfallCreek	24	158	StormRunOff	<Null>	<Null>	<Null>	Lauridsen bridge replacement project BRM-7568-001	Peabody creek along the north side of Lauridsen Blvd bridge	Lauridsen Blvd	<Null>	Race St	Lauridsen Ct	<Null>
SWDI3818	<Null>	<Null>	County	City of PA	<Null>	Active	IDDE	<Null>	90	<Null>	Inspection	Discharge location	<Null>	<Null>	Clallam Co Courthouse parking lot	4th St	<Null>	Peabody St	Lincoln St	<Null>
SWDI3819	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	84	<Null>	Inspection	Discharge point	<Null>	<Null>	Ne corner of intersection	Race St	Race St and Georgiana St	Carolina/Georgiana Alley	Georgiana St	<Null>
SWDI3820	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	94	<Null>	Inspection	<Null>	<Null>	<Null>	OMC parking lot	Caroline St	Washington St and Caroline St	<Null>	Washington St	<Null>
SWDI3821	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	14	<Null>	Inspection	Discharge point	<Null>	<Null>	Near the boat harbor across the street from 930 Marine Dr.	Marine Dr	<Null>	<Null>	D St	<Null>
SWDI3822	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	212	<Null>	Inspection	Discharge point	<Null>	<Null>	South side of 4th st	4th St	<Null>	F St	G St	<Null>
SWDI4218	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	20	<Null>	Inspection	<Null>	<Null>	<Null>	Mid block on the south side of the street	1st St	<Null>	Cherry St	Valley St	<Null>
SWDI4219	<Null>	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	412	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	US Hwy 101	<Null>	<Null>	Eclipse Industrial Pkwy	<Null>
SWDI4220	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	175	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	O St	O St and 12th St	<Null>	12th St	<Null>
SWDI4221	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	30	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	1st St	Laurel St and 1st St	<Null>	<Null>	<Null>
SWDI4618	<Null>	<Null>	City of PA	City of PA	9/14/2016	Active	Outfall	12	30	StormRunOff	Plan Set	Outfall to the Strait of Juan De Fuca	SW02-12 Landfill cell stabilization	SW02-12	North cell of the City landfill.	18th St	<Null>	Milwaukee Dr	<Null>	Ductile Iron
SWDI5018	<Null>	<Null>	City of PA	City of PA	4/16/2015	Active	IDDE	<Null>	16	ComercialSite	Inspection	<Null>	<Null>	<Null>	Red Lion west parking area	Lincoln St	<Null>	Railroad Ave	<Null>	<Null>
SWDI5020	<Null>	<Null>	City of PA	City of PA	3/3/2016	Active	IDDE	<Null>	196	Street	Inspection	See WO3640	<Null>	<Null>	<Null>	Clipper Cove	<Null>	Seabreeze Pl	<Null>	<Null>
SWDI5021	<Null>	<Null>	City of PA	City of PA	2/2/2016	Active	IDDE	<Null>	14	ComercialSite	Inspection	Discharged CSO water	<Null>	<Null>	<Null>	Marine Dr	<Null>	Cherry St	<Null>	<Null>
SWDI5022	<Null>	<Null>	City of PA	City of PA	<Null>	Active	OutfallCreek	24	311	StormRunOff	Inspection	<Null>	<Null>	<Null>	West end of Forest Ave.	Forest Ave	Cherry St and Forest Ave	Cherry St	<Null>	<Null>
SWDI5418	<Null>	<Null>	Port of PA	City of PA	7/1/2019	Proposed	OutfallHarbor	<Null>	12	StormRunOff	Plan Set	Marina outfall	Outfall 4	POPA Storm treatment	West of the Marine Boathaven intersection.	Boathaven Dr	<Null>	Marine Dr	<Null>	<Null>
SWDI5419	<Null>	<Null>	Port of PA	City of PA	7/1/2019	Proposed	OutfallHarbor	<Null>	12	StormRunOff	Plan Set	<Null>	Outfall 3	POPA Storm treatment	West of the Marine Boathaven intersection.	Boathaven Dr	<Null>	Marine Dr	<Null>	<Null>
SWDI5818	<Null>	<Null>	Port of PA	City of PA	<Null>	Active	OutfallHarbor	<Null>	14	StormRunOff	Plan Set	Existing structure prior to this project. Link for refrence only.	<Null>	<Null>	West of Tumwater bridge.	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI6218	<Null>	<Null>	Port of PA	City of PA	<Null>	Abandoned	OutfallHarbor	<Null>	14	StormRunOff	Plan Set	<Null>	<Null>	<Null>	POPA site west of tumwater bridge.	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI6219	<Null>	<Null>	Port of PA	City of PA	<Null>	Abandoned	OutfallHarbor	<Null>	14	StormRunOff	Plan Set	<Null>	<Null>	<Null>	POPA site west of tumwater bridge.	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI6618	<Null>	<Null>	Private	City of PA	8/1/2019	Proposed	Outfall	<Null>	412	StormRunOff	Plan Set	Outfall to ditch	<Null>	<Null>	<Null>	Campbell Ave	Porter St and Campbell Ave	<Null>	Porter St	<Null>
SWDI7018	<Null>	<Null>	Private	City of PA	2/26/2019	Active	Outfall	<Null>	430	StormRunOff	AsBuilt	Quarry spall outfall	<Null>	Campbell Ave PRD Phase 2	Just south of Campbell Ave	Campbell Ave	Wabash Ave and Campbell Ave	Rook Dr	<Null>	<Null>

AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI7019	<Null>	<Null>	Private	City of PA	2/26/2019	Active	Outfall	<Null>	422	StormRunOff	AsBuilt	<Null>	<Null>	Campbell Ave PRD Phase 2	<Null>	Campbell Ave	<Null>	<Null>	<Null>	<Null>
SWDI7418	<Null>	<Null>	Private	City of PA	2/26/2019	Active	Outfall	<Null>	440	StormRunOff	AsBuilt	Quarry spall outfall	<Null>	Campbell Ave PRD Phase 2	The pond near lots 19 and 20	Rook Dr	Wabash Ave and Campbell Ave	Rook Dr	Morning Ct	<Null>
SWDI7818	<Null>	<Null>	Port of PA	City of PA	<Null>	Active	Outfall	<Null>	202	StormRunOff	Plan Set	Discharge to MS4	Outfall B	<Null>	<Null>	Milwaukee Dr	<Null>	18th St	<Null>	<Null>
SWDI7819	<Null>	<Null>	Port of PA	City of PA	<Null>	Active	Outfall	<Null>	168	StormRunOff	Plan Set	Sample location	Outfall A	<Null>	<Null>	Kaycee Wy	<Null>	<Null>	Lower Elwha Rd	<Null>



CITY OF PORT ANGELES
PUBLIC WORKS & UTILITIES

N

825
Feet

Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91

Storm Water Map

Map legend

- Ditches and drainage
- River and creek
- Ponds and marshes
- Saltwater
- City arterial
- City side street
- County road
- County jurisdiction

Storm utility legend

Chamber
- <all other values>
- DAquaswirl
- DDiversionChamber
- DDryWell
- DEnergyDissipator
- DFilterChamber
- DVortech
- DWetWell
- SystemValve
- ControlValve
- Manhole
- Ponds
- LateralLine
- DOther active mains
- DDitches
- DOverflow
- DInterceptor
- DMain
- DCulvert
- DInlineStorage
- DCollector
- DOutfall
- PressurizedMain

This map is not intended for use as a legal description. Locations of features are approximate only. Topographic/Map features are +-5 feet of actual locations. This map/drawing is produced by the city of Port Angeles for its own use and purposes. Any other use of this map/drawing shall not be the responsibility of the City.

S:\ARC\NFO\GIS\Water\36x48 Stormwater map.mxd

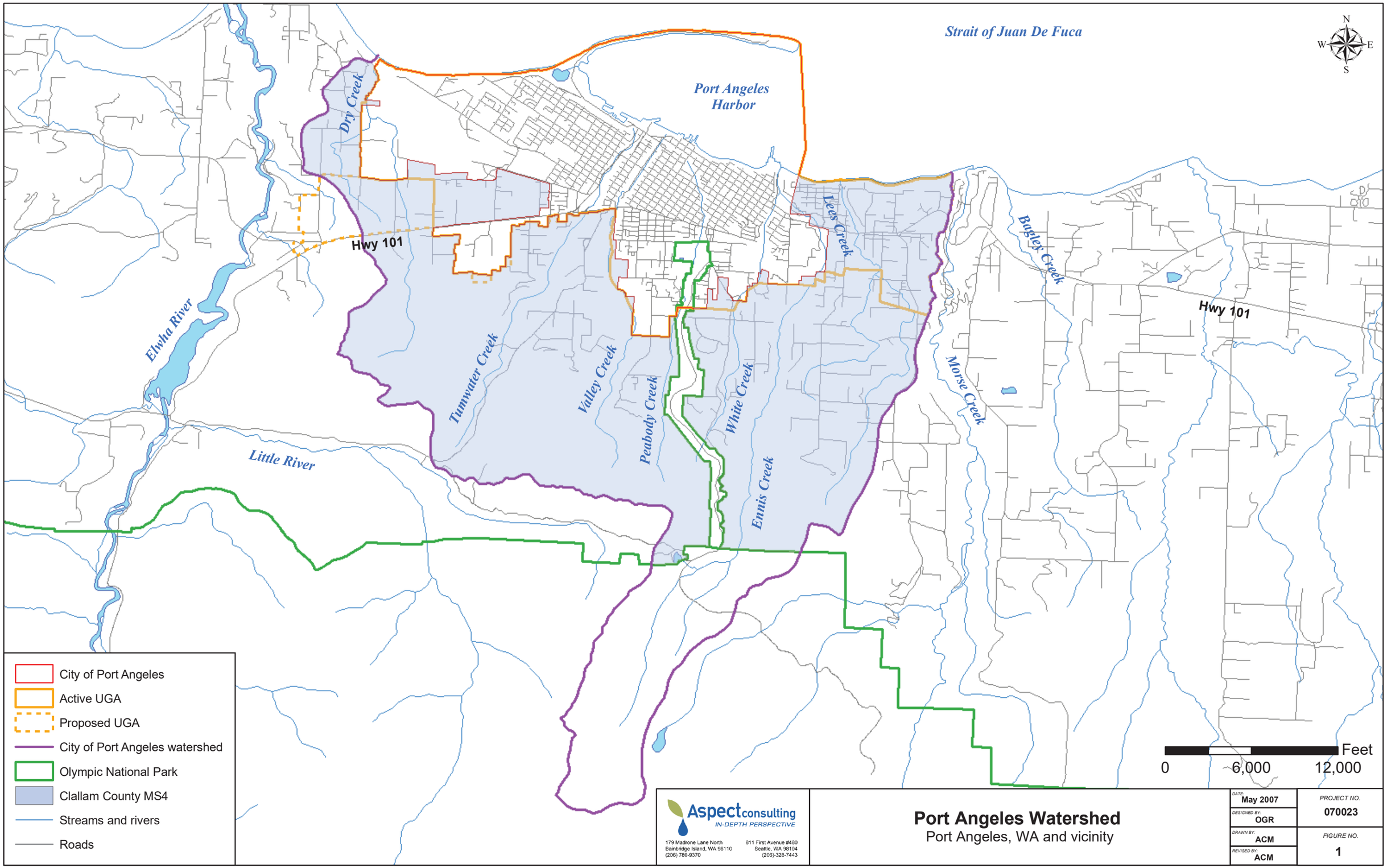
AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI1	1	1	City of PA	City of PA	1/1/1968	Active	OutfallCreek	<Null>	117	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	14th St	<Null>
SWDI2	2	2	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	90	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	13th St	<Null>
SWDI3	3	3	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	24	StormRunOff	Inspection	Outfall to Dry creek. Pipe outlet with rip rap.	Dry Creek Outfall	16-May	Dry Creek	Landfill site	<Null>	<Null>	<Null>	<Null>
SWDI4	4	3135	City of PA	County	<Null>	Active	OutfallCreek	<Null>	246	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Reservoir Rd	<Null>	Davis St	<Null>	<Null>
SWDI5	5	3146	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	358	<Null>	<Null>	Outlet to ditch	<Null>	<Null>	<Null>	Melody Ln	<Null>	Melody Cir	<Null>	<Null>
SWDI6	6	3147	Private	City of PA	1/1/1988	Active	OutfallCreek	<Null>	465	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Mill Ck Ct	<Null>	Ahlvers Rd	<Null>	<Null>
SWDI7	7	3155	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	104	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	15th St	<Null>
SWDI9	9	3158	City of PA	City of PA	1/1/1995	Active	Outfall	<Null>	129	<Null>	<Null>	Top of bluff outfall	<Null>	<Null>	<Null>	McDonald St	<Null>	<Null>	<Null>	<Null>
SWDI10	10	3074	City of PA	City of PA	1/1/1929	Active	OutfallHarbor	30	10	StormRunOff	<Null>	<Null>	Culvert discharge	<Null>	South east corner of boat harbor.	Marine Dr	<Null>	<Null>	B St	<Null>
SWDI11	11	3075	City of PA	City of PA	1/1/1971	Active	Outfall	<Null>	230	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	6th St	<Null>	E St	<Null>	<Null>
SWDI12	12	3076	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	250	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	Reyes St	<Null>	19th St	<Null>	<Null>
SWDI13	13	3077	City of PA	City of PA	1/1/1955	Active	OutfallHarbor	36	8	StormRunOff	<Null>	<Null>	Culvert discharge	<Null>	Boat harbor.	Marine Dr	<Null>	<Null>	D St	<Null>
SWDI14	14	3079	City of PA	City of PA	1/1/1955	Active	OutfallHarbor	15	6	StormRunOff	<Null>	<Null>	Culvert discharge	<Null>	Boat harbor.	Marine Dr	<Null>	<Null>	E St	<Null>
SWDI15	15	3082	City of PA	City of PA	1/1/1956	Active	OutfallCreek	<Null>	131	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	9th St	<Null>	Cherry St	Valley St	<Null>
SWDI17	17	3084	City of PA	City of PA	1/1/1961	Active	OutfallCreek	24	14	<Null>	Inspection	Outfall to Ennis creek	<Null>	<Null>	Rayonier parking lot.	Ennis St	<Null>	<Null>	Water St	<Null>
SWDI18	18	3087	City of PA	City of PA	1/1/1954	Active	OutfallHarbor	18	0	StormRunOff	<Null>	Outlet for old County sanitary sewer.	<Null>	<Null>	Northwest of Francis St park.	Francis St	<Null>	<Null>	Georgiana St	Concrete
SWDI19	19	3088	Private	City of PA	1/1/1993	Active	Outfall	6	16	StormRunOff	Plan Set	OUTFALL	Pipe discharge	<Null>	Runs over the bluff from Albert St. Discharges to ditch parallel to harbor.	Albert St	<Null>	<Null>	Georgiana St	PolyE
SWDI20	20	3089	Private	City of PA	1/1/1993	Active	Outfall	4	16	StormRunOff	Plan Set	OUTFALL	Pipe discharge	<Null>	Runs over the bluff from Albert St. Discharges to ditch parallel to harbor.	Albert St	<Null>	<Null>	Georgiana St	PVC
SWDI21	21	07A	City of PA	City of PA	1/1/1927	Active	OutfallHarbor	84	12	CombinedWW	Plan Set	See main for inspections and photos. Field note locates N end of storm culvert	CSO discharge site 8	<Null>	Peabody creek outfall west of the City peir parking lot.	Lincoln St	<Null>	<Null>	Railroad Ave	Concrete
SWDI22	22	3096	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	21	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater St	<Null>	3rd St	<Null>	<Null>
SWDI23	23	3100	City of PA	City of PA	1/1/1995	Active	Outfall	<Null>	218	<Null>	<Null>	Outfall	<Null>	<Null>	<Null>	Butler St	<Null>	16th St	<Null>	<Null>
SWDI24	24	3101	City of PA	City of PA	<Null>	Active	Outfall	<Null>	222	<Null>	<Null>	<Null>	Lincoln park Big Boys pond outfall.	<Null>	South west edge of Big Boys pond.	14th St	<Null>	<Null>	I St	<Null>
SWDI25	25	3104	City of PA	City of PA	1/1/1995	Active	Outfall	<Null>	248	<Null>	<Null>	STORM OUTFALL.	<Null>	<Null>	<Null>	16th St	<Null>	O St	16th St	<Null>
SWDI26	26	09A	City of PA	City of PA	1/1/1961	Active	Outfall	<Null>	8	<Null>	<Null>	See main for inspections and photos.	<Null>	<Null>	<Null>	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI27	27	05A	City of PA	City of PA	1/1/1952	Active	OutfallCreek	<Null>	45	<Null>	<Null>	See main for inspections and photos. Outfall to Peabody creek	<Null>	<Null>	<Null>	Peabody St	<Null>	3rd St	4th St	<Null>
SWDI28	28	08A	City of PA	City of PA	1/1/1957	Active	OutfallHarbor	54	16	StormRunOff	<Null>	See main for inspections and photos. Valley creek culvert outfall to harbor	Culvert discharge	<Null>	Valley creek esturary.	Valley St	<Null>	<Null>	Marine Dr	<Null>
SWDI29	29	3640	City of PA	City of PA	5/1/2006	Active	Outfall	<Null>	162	<Null>	<Null>	4ft x 4ft quarry spall	<Null>	Rolling Hills plan-set	<Null>	O St	<Null>	<Null>	<Null>	<Null>
SWDI30	30	3387	City of PA	City of PA	9/15/2016	Active	OutfallHarbor	12	12	StormRunOff	AsBuilt	Outfall to Harbor. This outfall is first shown on the 1970 City storm map. However I think it is much older than that. Exact install date unknown.	See sheet SD-1 (pg 17)	Project WW10-08 (06-01 Phase 2)	Valley creek esturary	Marine Dr	<Null>	<Null>	Front St	<Null>
SWDI31	31	3394	City of PA	City of PA	4/1/2001	Active	Outfall	<Null>	24	<Null>	<Null>	<Null>	<Null>	Francis St Park Impvts	<Null>	Francis St	<Null>	<Null>	<Null>	<Null>
SWDI32	32	3395	City of PA	City of PA	4/1/2001	Active	Outfall	<Null>	24	<Null>	<Null>	<Null>	<Null>	Francis St Park Impvts	<Null>	Francis St	<Null>	<Null>	<Null>	<Null>
SWDI33	33	3396	City of PA	City of PA	1/1/1915	Active	OutfallHarbor	24	0	CombinedWW	<Null>	CSO outfall.	CSO discharge site 10 east.	<Null>	Northeast of Francis St park.	Francis St	<Null>	<Null>	Georgiana St	Concrete
SWDI34	34	01A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	260	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI35	35	02A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	120	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	8th St	<Null>	Francis St	Eunice St	<Null>
SWDI36	36	03A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	120	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	8th St	<Null>	Francis St	Eunice St	<Null>
SWDI37	37	04A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	83	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	5th St	<Null>	Albert St	Vine St	<Null>
SWDI38	38	06A	City of PA	City of PA	1/1/1914	Active	Outfall	<Null>	32	Creek	<Null>	See main for inspections and photos. 2nd St St culvert outfall	<Null>	<Null>	North side of 2nd St culvert in trailer park.	2nd St	<Null>	<Null>	Lincoln St	<Null>
SWDI39	39	10A	City of PA	City of PA	<Null>	Active	Outfall	<Null>	120	<Null>	<Null>	See main for inspections and photos. Culvert outfall	<Null>	<Null>	<Null>	Front St	<Null>	Penn St	Alder St	<Null>
SWDI40	40	3561	City of PA	City of PA	<Null>	Active	Outfall	<Null>	244	<Null>	<Null>	Also see fieldbooks T47-2 and T47A	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	Lauridsen Blvd	<Null>
SWDI41	41	3562	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	104	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	A St	<Null>
SWDI42	42	3563	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	92	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	A St	<Null>
SWDI43	43	3564	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	150	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	10th St	<Null>	<Null>	Tumwater Truck Rt	<Null>
SWDI44	44	3619	City of PA	City of PA	10/1/2005	Active	Outfall	<Null>	313.82	<Null>	<Null>	<Null>	Park Ave Impvts	4-Apr	<Null>	Park Ave	<Null>	<Null>	Washington St	<Null>
SWDI45	45	3620	City of PA	City of PA	10/1/2005	Active	Outfall	<Null>	308.36	<Null>	<Null>	<Null>	Park Ave Impvts	4-Apr	<Null>	Park Ave	<Null>	<Null>	Washington St	<Null>
SWDI46	46	2329	City of PA	City of PA	1/1/1985	Active	OutfallCreek	<Null>	200	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	US Hwy 101	<Null>	<Null>	Delguzzi Dr	<Null>
SWDI47	47	2330	City of PA	County	1/1/1970	Active	OutfallCreek	<Null>	76	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Ennis Creek Rd	<Null>	<Null>	<Null>	<Null>
SWDI48	48	2319	City of PA	City of PA	1/1/1964	Active	OutfallCreek	<Null>	158	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	South side of Lauridsen Blvd bridge.	Lauridsen Blvd	<Null>	Race St	<Null>	<Null>
SWDI49	49	2322	City of PA	City of PA	1/1/1952	Active	OutfallCreek	<Null>	156	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	9th St	<Null>	Race St	Francis St	<Null>
SWDI50	50	2323	City of PA	City of PA	1/1/1970	Active	OutfallCreek	<Null>	226.61	<Null>	<Null>	Outfall to Whites creek. 18inx12in tee in ditch.	<Null>	<Null>	<Null>	Alder St	<Null>	<Null>	5th St	<Null>
SWDI51	51	2213	City of PA	County	1/1/1976	Active	OutfallCreek	<Null>	262	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Cherry St	<Null>	<Null>
SWDI52	52	2214	City of PA	City of PA	1/1/1962	Active	OutfallCreek	<Null>	290	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Fogarty Ave	<Null>	Cherry St	<Null>	<Null>
SWDI53	53	2217	City of PA	City of PA	1/1/1956	Active	OutfallCreek	<Null>	219	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	14th/15th Alley	<Null>	Cherry St	<Null>	<Null>
SWDI54	54	2218	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	148	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Edgewood Pl	<Null>	Lauridsen Blvd	<Null>	<Null>
SWDI55	55	2219	City of PA	City of PA	1/1/1956	Active	Outfall	<Null>	208	<Null>	<Null>	PIPE OUTLET AT TOP OF BANK.	<Null>	<Null>	<Null>	13th/14th Alley	<Null>	Cherry St	<Null>	<Null>
SWDI56	56	2221	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	200	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	Lauridsen Blvd	<Null>
SWDI57	57	2224	City of PA	City of PA	1/1/1968	Active	Outfall	<Null>	204	<Null>	<Null>	OUTFALL	Tumwater creek outfall	<Null>	<Null>	15th St	<Null>	A St	<Null>	<Null>
SWDI58	58	2225	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	235	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI59	59	2238	City of PA	City of PA	1/1/1977	Active	Outfall	<Null>	504	<Null>	<Null>	OUTLET	<Null>	77-2	<Null>	Glenbrook Cir	<Null>	McDougal St	McGill Ave	<Null>
SWDI60	60	2239	City of PA	City of PA	1/1/1974	Active	OutfallCreek	<Null>	470	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Canyon Cir	<Null>	<Null>	Canyonedge Dr	<Null>
SWDI61	61	2248	City of PA	City of PA	1/1/1974	Active	Outfall	<Null>	476	<Null>	<Null>	PIPE OUTLET FROM MH APO12.	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	Peabody St	<Null>	<Null>
SWDI62	62	2249	City of PA	City of PA	1/1/1971	Active	OutfallCreek	<Null>	476	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	Peabody St	Old Mill Rd	<Null>
SWDI63	63	2251	City of PA	City of PA	1/1/1980	Active	OutfallCreek	<Null>	468	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	Peabody St	Old Mill Rd	<Null>
SWDI64	64	2252	City of PA	City of PA	1/1/1991	Active	OutfallCreek	<Null>	482	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	<Null>	Galaxy Pl	<Null>

AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI65	65	2254	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	476	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	McDougal St	<Null>	<Null>	Benjamin Ave	<Null>
SWDI66	66	2257	City of PA	City of PA	1/1/1976	Active	Outfall	<Null>	448	<Null>	<Null>	OUTLET OF PIPE FROM CB UP038.	<Null>	<Null>	<Null>	Regent St	<Null>	Viewcrest Ave	Vista View Dr	<Null>
SWDI67	67	2268	City of PA	City of PA	1/1/1986	Active	OutfallCreek	<Null>	404	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	McDougal St	<Null>	Mt Angeles Rd	<Null>	<Null>
SWDI68	68	2273	City of PA	City of PA	1/1/1986	Active	Outfall	<Null>	412	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	Mt Angeles Rd	<Null>	Craig Ave	<Null>	<Null>
SWDI69	69	2278	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	362	<Null>	<Null>	Outlet to ditch	<Null>	<Null>	<Null>	Melody Ln	<Null>	Melody Cir	<Null>	<Null>
SWDI70	70	2279	Private	City of PA	1/1/1993	Active	Outfall	<Null>	346	<Null>	<Null>	<Null>	<Null>	93-13	<Null>	Lauridsen Blvd	<Null>	Currier Ct	Lambert Ln	<Null>
SWDI71	71	2283	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	242	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI72	72	2287	City of PA	City of PA	1/1/1965	Active	Outfall	<Null>	336	<Null>	<Null>	PIPE OUTLET	<Null>	<Null>	<Null>	Porter St	<Null>	Park Ave	Highland Ave	<Null>
SWDI73	73	2288	City of PA	City of PA	1/1/1954	Active	OutfallCreek	<Null>	260	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI74	74	2289	City of PA	City of PA	1/1/1973	Active	Outfall	<Null>	266	<Null>	<Null>	OUTLET	<Null>	<Null>	<Null>	Eunice St	<Null>	<Null>	Vashon Ave	<Null>
SWDI75	75	2290	City of PA	City of PA	1/1/1973	Active	Outfall	<Null>	266	<Null>	<Null>	OUTLET	<Null>	<Null>	<Null>	Eunice St	<Null>	<Null>	Vashon Ave	<Null>
SWDI76	76	2301	City of PA	City of PA	1/1/1983	Active	OutfallCreek	<Null>	231	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Race St	<Null>	Bryson Ave	<Null>	<Null>
SWDI77	77	2304	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	226	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI78	78	2309	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	184	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI79	79	2310	City of PA	City of PA	1/1/1989	Active	OutfallCreek	<Null>	170	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI80	80	2317	City of PA	City of PA	1/1/1952	Active	OutfallCreek	<Null>	190	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	10th St	<Null>	Race St	<Null>	<Null>
SWDI81	81	2334	City of PA	City of PA	1/1/1972	Active	OutfallCreek	<Null>	112	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Harborcrest Pl	<Null>	<Null>	<Null>	<Null>
SWDI82	82	2336	City of PA	City of PA	1/1/1976	Active	OutfallCreek	<Null>	148	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	US Hwy 101	<Null>	15th St	<Null>	<Null>
SWDI83	83	2337	City of PA	City of PA	1/1/1955	Active	OutfallHarbor	42	6	StormRunOff	<Null>	Outfall	Culvert discharge	<Null>	Boat harbor.	Marine Dr	<Null>	<Null>	C St	<Null>
SWDI84	84	2339	City of PA	City of PA	1/1/1968	Active	Outfall	<Null>	168	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	13th St	<Null>	Tumwater Truck Rt	A St	<Null>
SWDI85	85	2341	City of PA	City of PA	1/1/1968	Active	Outfall	<Null>	210	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	14th St	<Null>	Tumwater Truck Rt	A St	<Null>
SWDI86	86	2342	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	294	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	F St	<Null>	17th St	18th St	<Null>
SWDI87	87	2343	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	80	<Null>	<Null>	Outfall from 11th St to Tumwater creek	<Null>	<Null>	East of Tumwater Truck Rt.	11th St	<Null>	Tumwater Truck Rt	<Null>	<Null>
SWDI88	88	2345	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	290	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	F St	<Null>	16th St	17th St	<Null>
SWDI89	89	3466	City of PA	City of PA	1/1/1953	Active	OutfallHarbor	6	7.3	CombinedWW	Plan Set	I.E. determined with hand level. The install date is probably older than 1953.	CSO discharge site 6	<Null>	Discharges at the end of Oak St.	Railroad Ave	<Null>	Oak St	Cherry St	Concrete
SWDI90	90	3117	City of PA	City of PA	1/1/1967	Active	Outfall	<Null>	310	<Null>	<Null>	OUTFALL	<Null>	<Null>	<Null>	Vashon Ave	<Null>	<Null>	Peabody St	<Null>
SWDI91	91	3119	City of PA	City of PA	1/1/1979	Active	Outfall	<Null>	238	<Null>	<Null>	OUTLET OF PIPE	<Null>	<Null>	<Null>	11th/12th Alley	<Null>	K St	<Null>	<Null>
SWDI92	92	3121	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	362	<Null>	<Null>	Outlet to ditch	<Null>	<Null>	<Null>	Melody Ln	<Null>	Melody Cir	<Null>	<Null>
SWDI93	93	3122	City of PA	City of PA	1/1/1994	Active	Outfall	<Null>	282	<Null>	Plan Set	Outfall	Clallam County Transit	Clallam Transit site improvements	Clallam Transit site	Lauridsen Blvd	<Null>	Tumwater Truck Rt	Newell Rd	<Null>
SWDI94	94	3123	City of PA	City of PA	1/1/1994	Active	Outfall	<Null>	280	<Null>	<Null>	Outfall	<Null>	<Null>	<Null>	Newell Rd	<Null>	<Null>	<Null>	<Null>
SWDI95	95	3124	City of PA	City of PA	1/1/1994	Active	Outfall	<Null>	260	<Null>	Plan Set	Outfall	Clallam County Transit	Clallam Transit site improvements	Clallam Transit site	Lauridsen Blvd	<Null>	Tumwater Truck Rt	Newell Rd	<Null>
SWDI96	96	3126	City of PA	City of PA	1/1/1994	Active	Outfall	<Null>	262	<Null>	Plan Set	Outfall	Clallam County Transit	Clallam Transit site improvements	Clallam Transit site	Lauridsen Blvd	<Null>	Tumwater Truck Rt	Newell Rd	<Null>
SWDI97	97	3127	City of PA	City of PA	1/1/1978	Active	Outfall	<Null>	258	<Null>	<Null>	outlet to detention	<Null>	<Null>	<Null>	19th St	<Null>	<Null>	<Null>	<Null>
SWDI98	98	3332	City of PA	City of PA	1/1/2002	Active	Outfall	<Null>	294	<Null>	<Null>	Outfall	<Null>	<Null>	<Null>	15th St	F St and 15th St	<Null>	F St	<Null>
SWDI99	99	3334	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	200	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	16th St	<Null>	Cedar St	<Null>	<Null>
SWDI100	100	3477	City of PA	City of PA	<Null>	Active	Outfall	<Null>	50	<Null>	<Null>	Located by Mike Szatlocky. Baffled outlet.	<Null>	<Null>	<Null>	McDonald St	<Null>	McDonald St	18th St	<Null>
SWDI101	101	3511	City of PA	City of PA	<Null>	Active	Outfall	<Null>	450	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Rook Dr	<Null>	Rook Dr	Forest Trail	<Null>
SWDI102	102	3565	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	62	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	9th St	<Null>	<Null>
SWDI103	103	3566	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	49	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	8th St	<Null>	<Null>
SWDI104	104	3567	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	41	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	8th St	<Null>
SWDI105	105	3568	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	38	<Null>	<Null>	Outfall to Tumwater creek	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	8th St	<Null>
SWDI106	106	3569	City of PA	City of PA	<Null>	Active	Outfall	<Null>	126	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	7th St	<Null>	<Null>	A St	<Null>
SWDI107	107	3570	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	36	<Null>	<Null>	Outfall to Valley creek	<Null>	<Null>	<Null>	Valley St	<Null>	<Null>	8th St	<Null>
SWDI108	108	3571	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	250	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI109	109	3572	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	260	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI110	110	3573	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	284	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI111	111	3574	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	292	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Mt Angeles Rd	<Null>	Park Ave	<Null>	<Null>
SWDI112	112	3575	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	294	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	Mt Angeles Rd	<Null>	Park Ave	<Null>	<Null>
SWDI113	113	3576	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	16	<Null>	<Null>	Outfall to Ennis creek	<Null>	<Null>	<Null>	Rayonier	<Null>	<Null>	Rayonier	<Null>
SWDI114	114	3617	City of PA	City of PA	10/1/2005	Active	Outfall	<Null>	295.32	<Null>	<Null>	<Null>	Park Ave Impvts	4-Apr	<Null>	Park Ave	<Null>	<Null>	Mt Angeles Rd	<Null>
SWDI115	115	3646	City of PA	City of PA	6/1/2006	Active	Outfall	12	170	StormRunOff	Inspection	<Null>	<Null>	The Orchards Subdivision	<Null>	14th St	Milwaukee Dr and 14th St	Milwaukee Dr	<Null>	<Null>
SWDI117	117	3653	City of PA	City of PA	6/1/2006	Active	Outfall	<Null>	160	<Null>	<Null>	Outfall to detention pond	<Null>	The Orchards Subdivision	<Null>	Orchard Ave	<Null>	<Null>	Apple Tree Ln	<Null>
SWDI118	118	3658	City of PA	City of PA	6/1/2006	Active	Outfall	<Null>	464	<Null>	<Null>	Quarry spall discharge	<Null>	Green Crow-Reidel phase2	<Null>	Forest Trail	<Null>	Rook Dr	Forest Trail	<Null>
SWDI119	119	3679	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	28	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	2nd St	<Null>	<Null>	Lincoln St	<Null>
SWDI120	120	3587	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	410	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	Woodhaven Dr	<Null>	<Null>	<Null>	<Null>
SWDI121	121	3588	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	352	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	Currier Ct	<Null>	Lambert Ln	<Null>	<Null>
SWDI122	122	3589	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	150	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	2nd St	<Null>	<Null>	Wolcott St	<Null>
SWDI123	123	3590	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	162	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	1st/2nd Alley	<Null>	Wolcott St	Alder St	<Null>
SWDI124	124	3591	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	162	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	1st/2nd Alley	<Null>	Wolcott St	Alder St	<Null>
SWDI125	125	3592	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	115	<Null>	<Null>	Outfall to Whites creek	<Null>	<Null>	<Null>	Front St	<Null>	Wolcott St	Alder St	<Null>
SWDI126	126	3839	City of PA	City of PA	12/1/2006	Active	Outfall	<Null>	238	<Null>	<Null>	extend pipe to daylight.	<Null>	15th street and I	<Null>	15th St	<Null>	H St	I St	<Null>
SWDI127	127	3848	City of PA	City of PA	<Null>	Active	Outfall	<Null>	315	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	US Hwy 101	<Null>	Tumwater Truck Rt	Doyle Rd	<Null>
SWDI129	129	3997	City of PA	City of PA	<Null>	Active	Outfall	<Null>	8	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI130	130	3833	City of PA	City of PA	12/1/2006	Active	Outfall	<Null>	452.96	<Null>	<Null>	Outfall to pond	<Null>	Green Crow phase 3	<Null>	Morning Ct	<Null>	Rook Dr	Forest Trail	<Null>
SWDI131	131	2281	City of PA	City of PA	1/1/1993	Active	OutfallCreek	<Null>	218	<Null>	<Null>	Diffuser. Outfall to Whites creek	<Null>	93-13	<Null>	Penn St	<Null>	6th St	Lambert Ln	<Null>
SWDI132	132	4230	City of PA	City of PA	<Null>	Active	Outfall	<Null>	244	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Tumwater Truck Rt	<Null>	<Null>	Lauridsen Blvd	<Null>
SWDI133	133	4226	City of PA	City of PA	<Null>	Active	Outfall	<Null>	476.2	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Ahlvers Rd	<Null>	Laurel St	Creekside Dr.	<Null>
SWDI134	134	4104	City of PA	City of PA	1/29/2009	Active	Outfall	<Null>	472	<Null>	<Null>	Flow dispersion structure.	<Null>	Reserve at Valley Creek plan set 2009	<Null>	Crestside Dr.	<Null>	Ahlvers Rd	Valley Creek Dr.	<Null>
SWDI135	135	4121	City of PA	City of PA	1/29/2009	Active	Outfall	<Null>	474	<Null>	<Null>	Flow dispersion structure.	<Null>	Reserve at Valley Creek plan set 2009	<Null>	Creekside Dr.	<Null>	Ahlvers Rd	Valley Creek Dr.	<Null>
SWDI136	136	4166	City of PA	City of PA	2/26/2019	Removed	Outfall	<Null>	441	StormRunOff	AsBuilt	<Null>	<Null>	Campbell Ave PRD Phase 2	Near lot 32 and 33	Rook Dr	<Null>	Eckard Ave	<Null>	<Null>
SWDI137	137	3659	City of PA	City of PA	6/1/2006	Active	Outfall	<Null>	452	<Null>	<Null>	<Null>	<Null>	Green Crow-Reidel phase2	<Null>	Rook Dr	<Null>	Rook Dr	Forest Trail	<Null>
SWDI138	138	4206	Private	City of PA	<Null>	Active	OutfallCreek	<Null>	340	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Lauridsen Blvd	<Null>	<Null>	Ennis St	<Null>
SWDI139	139	3140	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	270	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	16th St	<Null>	N St	Maloney Ct	<Null>
SWDI140	140	3141	City of PA	City of PA	1/1/1996	Active	Outfall	<Null>	270	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	16th St	<Null>	N St	Maloney Ct	<Null>
SWDI142	142	3150	City of PA	City of PA	1/1/1985	Active	Outfall	<Null>	208	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI143	143	3151	City of PA	City of PA	1/1/1985	Active	Outfall	<Null>	202	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Delguzzi Dr	<Null>	US Hwy 101	<Null>	<Null>
SWDI144	144	3153	City of PA	City of PA	1/1/1925	Active	Outfall	<Null>	376	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Viewcrest Ave	<Null>	<Null>	<Null>	<Null>

AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI145	145	2215	City of PA	City of PA	1/1/1987	Active	Outfall	<Null>	246	<Null>	<Null>	LOCATED FROM AERIALS AND AS-BUILT "PINE ROAD VILL	<Null>	<Null>	<Null>	Edgewood Dr	<Null>	Pine St	US Hwy 101	<Null>
SWDI146	146	2216	City of PA	City of PA	1/1/1987	Active	Outfall	<Null>	246	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Edgewood Dr	<Null>	Pine St	US Hwy 101	<Null>
SWDI147	147	2256	City of PA	City of PA	1/1/1977	Active	Outfall	<Null>	445	<Null>	<Null>	<Null>	<Null>	Pinebrook Sub Eckard Pl water wwater	<Null>	McDougal St	<Null>	Craig Ave	Eckard Ave	<Null>
SWDI148	148	2291	City of PA	City of PA	1/1/1954	Active	Outfall	<Null>	308	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	Park Ave	<Null>	Race St	Eunice St	<Null>
SWDI150	150	2347	City of PA	City of PA	1/1/1968	Active	Outfall	<Null>	150	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	9th St	<Null>	Tumwater Truck Rt	A St	<Null>
SWDI152	152	3113	City of PA	City of PA	1/1/1955	Inactive	OutfallHarbor	8	14	WWEffluent	Inspection	Valve that activates this outflow is in the off condition.	CSO inactive	<Null>	Daishowa lagoon	Marine Dr	<Null>	Hill St	Ediz Hook Rd	Concrete
SWDI153	153	3726	City of PA	City of PA	<Null>	Proposed	Outfall	<Null>	322	<Null>	<Null>	Outfall to ditch. 6 in quarry spall.	<Null>	<Null>	<Null>	Highland Ave	<Null>	Park Ave	Grant Ave	<Null>
SWDI154	154	3931	City of PA	City of PA	<Null>	Active	Outfall	<Null>	38	<Null>	<Null>	Energy dissipater. See plans for detail.	<Null>	Juan De Fuca Bluffs plan set	<Null>	P St	<Null>	Walker St	Dutch Dr	<Null>
SWDI155	155	4093	City of PA	City of PA	1/29/2009	Active	Outfall	<Null>	474	<Null>	<Null>	<Null>	<Null>	Reserve at Valley Creek plan set 2009	<Null>	Creekside Dr.	<Null>	Ahlvers Rd	Valley Creek Dr.	<Null>
SWDI156	156	<Null>	City of PA	City of PA	1/1/2006	Active	Outfall	<Null>	130	StormRunOff	<Null>	Overflow storm water discharge from Walker Subd to ditch that flows to Strait outfall.	<Null>	<Null>	<Null>	P St	<Null>	Walker St	Dutch Dr	<Null>
SWDI157	157	<Null>	City of PA	City of PA	1/1/2006	Active	Outfall	<Null>	130	StormRunOff	<Null>	Storm water discharge from Walker Subd to ditch that flows to Strait outfall.	<Null>	<Null>	<Null>	P St	<Null>	Walker St	Dutch Dr	<Null>
SWDI159	159	<Null>	City of PA	City of PA	<Null>	Active	OutfallCreek	12	546	StormRunOff	<Null>	Creek outfall to Mill Creek.	<Null>	<Null>	<Null>	Old Mill Rd	<Null>	Rhodes Rd	<Null>	<Null>
SWDI160	160	<Null>	City of PA	City of PA	<Null>	Active	OutfallCreek	<Null>	30	StormRunOff	Inspection	Overflow	Dry Creek Diversion Outfall	16-May	Landfill site along Dry Creek.	Landfill site	<Null>	<Null>	<Null>	<Null>
SWDI161	161	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	184	StormRunOff	<Null>	Outfall to parking lot ditch.	Wal mart superstore	<Null>	Wal mart superstore parking lot	US Hwy 101	<Null>	Masters Rd	<Null>	<Null>
SWDI166	166	<Null>	City of PA	City of PA	1/1/1953	Active	Outfall	15	12	StormRunOff	Plan Set	Originally installed before 1953 and upgraded since. The pond is tidal influenced.	Culvert discharge	<Null>	East of Red Lion motel. Over the bluff from Front St then discharges to pond.	Peabody St	<Null>	<Null>	Front St	Concrete
SWDI167	167	<Null>	City of PA	City of PA	1/1/1915	Active	OutfallHarbor	12	6	StormRunOff	<Null>	Installation date is approximate and coincides with the building of the Railroad. Many improvements have been made over the years.	Culvert discharge	<Null>	East of Red Lion motel from pond culvert complex.	Peabody St	<Null>	<Null>	Front St	PVC
SWDI168	168	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	174	StormRunOff	<Null>	<Null>	<Null>	<Null>	North of MRWF pond and east of gun range.	Landfill site	<Null>	<Null>	<Null>	<Null>
SWDI171	171	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	184	StormRunOff	<Null>	<Null>	<Null>	<Null>	<Null>	Landfill site	<Null>	<Null>	<Null>	<Null>
SWDI173	173	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	14	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	Marine Dr	<Null>	<Null>	<Null>	<Null>
SWDI174	174	174	City of PA	City of PA	1/1/1979	Active	OutfallHarbor	12	9.54	StormRunOff	Plan Set	<Null>	Culvert discharge	78-2 PA Municipal Pier	Rip rap north of the City pier parking lot and near the Peabody Creek outfall	Railroad Ave	<Null>	<Null>	Lincoln St	Concrete
SWDI175	175	175	City of PA	City of PA	<Null>	Active	IDDE	<Null>	16	<Null>	Inspection	<Null>	<Null>	<Null>	Dairy Queen	Railroad Ave	<Null>	Lincoln St	Laurel St	<Null>
SWDI176	176	<Null>	City of PA	City of PA	1/1/1967	Active	OutfallHarbor	24	10	CombinedWW	Plan Set	This discharge site is inderectly referenced in 67-4 and is not shown on the 1953 storm map. Install date is approximate.	CSO discharge site 7	<Null>	Discharges on the east side of the Blackball ferry dock.	Railroad Ave	<Null>	Lincoln St	Laurel St	Concrete
SWDI177	177	<Null>	City of PA	City of PA	<Null>	Active	OutfallHarbor	<Null>	14	StormRunOff	Inspection	<Null>	Pipe discharge	<Null>	Discharges at the end of Lincoln St. to the west of Peabody Ck culvert.	Lincoln St	<Null>	<Null>	Railroad Ave	<Null>
SWDI178	178	<Null>	City of PA	City of PA	1/1/1937	Abandoned	OutfallHarbor	15	0	StormRunOff	<Null>	Destroyed during graving yard construction (2002) and inactive prior to that.	Old CSO discharge site	<Null>	Near graving yard area.	Marine Dr	<Null>	<Null>	Hill St	Steel
SWDI179	179	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	30	StormRunOff	<Null>	<Null>	<Null>	<Null>	On beach north of old pump station one location.	4th St	<Null>	Evans Ave	<Null>	<Null>
SWDI180	180	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	122	StormRunOff	<Null>	<Null>	<Null>	<Null>	Discharges near top of bluff and flows to beach	4th St	<Null>	<Null>	<Null>	<Null>
SWDI181	181	<Null>	City of PA	City of PA	<Null>	Abandoned	OutfallCreek	<Null>	512	StormRunOff	<Null>	Old CSO outfall to seasonal creek	Old CSO	<Null>	<Null>	Church St	<Null>	McDougal St	<Null>	<Null>
SWDI182	182	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site E	<Null>	Rayonier site south west side of pier	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI183	183	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site A	<Null>	Rayonier site west side of pier	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI184	184	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site B	<Null>	Rayonier site south end of pier	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI185	185	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site C	<Null>	Rayonier site east side of pier	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI186	186	<Null>	City of PA	City of PA	1/1/1950	Abandoned	OutfallHarbor	<Null>	0	StormRunOff	<Null>	Historical outfall per study 95-09 Marine environment near Rayonier. Shown on a 1963 aerial photo but the install date was probably much earlier due to the maturity of the structures in the photograph. Unknown pipe data.	Historical site D	<Null>	Rayonier site east side of pier at Ennis creek outfall	Ennis St	<Null>	<Null>	<Null>	<Null>
SWDI166	166	<Null>	City of PA	City of PA	1/1/1970	Active	Outfall	4	28	StormRunOff	Cards	The pond is tidal influenced. This pipe shows up on the 1970 storm map but I think it is much older.	Culvert discharge	<Null>	Over the bluff from Front St then to Red Lion motel parking lot then discharges to pond.	Peabody St	<Null>	<Null>	Front St	PVC
SWDI188	188	<Null>	Port of PA	City of PA	4/1/1996	Active	OutfallHarbor	12	7.94	StormRunOff	Plan Set	See pdf page 11 of the primary image plan set. End of pipe is fitted with tide flex valve.	Culvert discharge	<Null>	Westport Marine area.	Cedar St	<Null>	<Null>	Marine Dr	Ductile Iron
SWDI189	189	<Null>	City of PA	City of PA	1/1/1979	Active	OutfallHarbor	12	0	StormRunOff	<Null>	<Null>	Pipe discharge	<Null>	City pier east of the stage area in rip rap.	Railroad Ave	<Null>	<Null>	Lincoln St	Concrete
SWDI190	190	<Null>	City of PA	City of PA	<Null>	Active	OutfallHarbor	<Null>	12	StormRunOff	<Null>	<Null>	Pipe discharge	<Null>	Near entrance to the City Pier parking lot.	Railroad Ave	<Null>	<Null>	Lincoln St	<Null>
SWDI191	191	<Null>	City of PA	City of PA	1/1/1979	Abandoned	OutfallHarbor	12	0	StormRunOff	<Null>	See pdf page 12 of the plan set. This culvert has been removed.	Historical site	<Null>	Rayonier mill site near the old clarifier tank.	Ennis St	<Null>	<Null>	<Null>	Concrete
SWDI192	192	<Null>	Port of PA	City of PA	<Null>	Abandoned	OutfallHarbor	<Null>	14	StormRunOff	OrthoPhoto	Outfall of Tumwater creek	Tumwater Creek	<Null>	Near the POPA pier	Tumwater St	<Null>	<Null>	Marine Dr	<Null>

AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI193	193	<Null>	City of PA	City of PA	<Null>	Active	OutfallHarbor	<Null>	0	StormRunOff	OrthoPhoto	<Null>	Ennis Creek	<Null>	Ennis creek outfall east of the Rayonier pier	Elwha St	<Null>	<Null>	<Null>	<Null>
SWDI194	194	<Null>	Private	City of PA	<Null>	Active	Outfall	4	447.6	StormRunOff	Inspection	Outfall with drain rock.	<Null>	<Null>	West side of house.	Rook Dr	<Null>	<Null>	<Null>	<Null>
SWDI195	195	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	94	<Null>	Inspection	<Null>	<Null>	<Null>	South portion of Fiesta Jalisco's parking lot near 1st Front alley.	Front St	<Null>	Eunice St	1st/Front Alley	<Null>
SWDI196	196	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	15	StormRunOff	Inspection	Outfall to ditch that runs toward Marine dr.	<Null>	<Null>	South side of 3rd street to ditch	3rd St	<Null>	Tumwater St	Marine Dr	<Null>
SWDI197	197	<Null>	City of PA	City of PA	10/1/2012	Active	IDDE	<Null>	16	ParkingLot	Inspection	IDDE location inside catch basin	<Null>	<Null>	Red loin parking lot	Lincoln St	<Null>	Railroad Ave	Front St	<Null>
SWDI198	198	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	100	<Null>	WorkSketch	<Null>	<Null>	<Null>	VBCC main entrance	5th St	<Null>	Peabody St	Chase St	<Null>
SWDI199	199	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	94	StormRunOff	<Null>	<Null>	See WO 1630	<Null>	SE corner of Eunice Front/First Alley.	Eunice St	<Null>	Front St	1st St	<Null>
SWDI200	200	<Null>	City of PA	City of PA	12/31/2018	Active	Outfall	48	185	StormRunOff	AsBuilt	See sheet 56/59 for details and 16/59 for plan. Beehive outfall structure.	<Null>	TR-11-00	NW corner	N St	N St and 10th St	Seamount Dr	10th St	CONC
SWDI201	201	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	120	StormRunOff	<Null>	<Null>	<Null>	<Null>	<Null>	Walker St	<Null>	10th St	<Null>	<Null>
SWDI202	202	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	120	<Null>	Inspection	<Null>	<Null>	<Null>	South side of 1st Street and east of the restaurant.	1st St	<Null>	Penn St	Alder St	<Null>
SWDI203	203	<Null>	City of PA	City of PA	4/1/2012	Active	IDDE	<Null>	144	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	Albert St	Albert St and 8th St	8th St	9th St	<Null>
SWDI204	204	<Null>	City of PA	City of PA	2/18/2012	Active	IDDE	<Null>	300	<Null>	<Null>	<Null>	<Null>	<Null>	South of Lauridsen near 1362 W Lauridsen Blvd	Lauridsen Blvd	<Null>	F St	L St	<Null>
SWDI205	205	<Null>	City of PA	City of PA	3/18/2013	Active	IDDE	<Null>	16	<Null>	Inspection	Source of discharge 219 Hwy 117	<Null>	<Null>	Just east of the intersection.	Marine Dr	Tumwater Truck Rt and Marine Dr	Cedar St	Tumwater Truck Rt	<Null>
SWDI206	206		City of PA	City of PA	1/5/2012	Active	Outfall	<Null>	420				<Null>	<Null>		US HWY 101	Airport Rd and US Hwy 101	Airport Rd	Eclipse Industrial Pkwy	<Null>
SWDI207	207		City of PA	City of PA	<Null>	Active	Outfall	<Null>	28				<Null>	<Null>	Near the culvert inlet	2nd St		Peabody st	Lincoln st	<Null>
SWDI208	<Null>	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	33	StormRunOff	<Null>	Sample point for CSO SWPPP permit.	DC-3	<Null>	CSO site	Ennis St	<Null>	Water St	Columbia St	<Null>
SWDI209	209	<Null>	City of PA	City of PA	6/18/2013	Active	IDDE	<Null>	126	ComercialSite	Inspection	<Null>	<Null>	<Null>	East of Bruce's Specialty Auto near the 1st / Front alley.	Ennis St	<Null>	Front St	1st St	<Null>
SWDI210	210	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	130	ComercialSite	<Null>	<Null>	<Null>	<Null>	Mid point of west property line	Front St	<Null>	Penn St	Ennis St	<Null>
SWDI211	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	50	StormRunOff	<Null>	<Null>	<Null>	<Null>	North side of Front street	Front St	<Null>	<Null>	<Null>	<Null>
SWDI212	212	212	City of PA	City of PA	<Null>	Active	IDDE	<Null>	548	<Null>	Inspection	<Null>	<Null>	<Null>	Northeast corner of intersection on private lot.	Scrivner Rd	<Null>	<Null>	Mt Angeles Rd	<Null>
SWDI213	213	213	City of PA	City of PA	<Null>	Active	IDDE	<Null>	430	<Null>	<Null>	<Null>	<Null>	<Null>	SW corner of intersection.	Campbell Ave	<Null>	<Null>	Mt Angeles Rd	<Null>
SWDI214	214	<Null>	Penn Coll	City of PA	<Null>	Active	OutfallCreek	12	355	StormRunOff	AsBuilt	<Null>	<Null>	<Null>	College campus	Alder St	<Null>	Melody Cir	<Null>	<Null>
SWDI215	215	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	93	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	Jones St	Jones St and Front St	Front St	<Null>	<Null>
SWDI216	216	<Null>	City of PA	City of PA	1/1/2012	Active	OutfallHarbor	<Null>	10	StormRunOff	Plan Set	<Null>	<Null>	Waterfront Phase 2	<Null>	Railroad Ave	<Null>	Laurel St	Oak St	<Null>
SWDI217	217	<Null>	City of PA	City of PA	1/1/2013	Active	OutfallHarbor	<Null>	8	StormRunOff	Plan Set	<Null>	<Null>	Waterfront Phase 2	Harbor side through rip rap.	Oak St	<Null>	<Null>	Railroad Ave	<Null>
SWDI218	218	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	118	<Null>	Inspection	See related work order	<Null>	<Null>	North side of Fairchild floors.	Front St	1st St and US Hwy 101	<Null>	Ennis St	<Null>
SWDI618	618	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	236	ParkingLot	Inspection	<Null>	<Null>	<Null>	Albertsons Grocery Store parking lot	Lauridsen Blvd	Laurel St and Lauridsen Blvd	Lincoln St	Laurel St	<Null>
SWDI619	619	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	22	<Null>	Inspection	<Null>	<Null>	<Null>	NE corner of intersection	1st St	Cherry St and 1st St	Oak St	Cherry St	<Null>
SWDI620	620	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	18	<Null>	Inspection	<Null>	<Null>	<Null>	Near the SW corner of the intersection.	Lincoln St	Lincoln St and Railroad Ave	Railroad Ave	Front St	<Null>
SWDI621	621	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	86	<Null>	Inspection	<Null>	<Null>	<Null>	Safeway parking lot	3rd St	Laurel St and 4th/5th Alley	Lincoln St	Laurel St	<Null>
SWDI622	622	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	276	<Null>	Inspection	<Null>	<Null>	<Null>	East Lincoln Park Pond 1	Lauridsen Blvd	L St and Lauridsen Blvd	16th St	Lauridsen Blvd	<Null>
SWDI623	623	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	100	<Null>	Inspection	<Null>	<Null>	<Null>	The SW corner of the intersection	Laurel St	Laurel St and 5th St	5th St	5th/6th Alley	<Null>
SWDI624	624	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	48	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	1st St	Lincoln St and 1st St	Chase St	Lincoln St	<Null>
SWDI625	625	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	218	<Null>	Inspection	<Null>	<Null>	<Null>	SE corner of intersection	4th/5th Alley	<Null>	G St	H St	<Null>
SWDI626	626	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	252	<Null>	<Null>	<Null>	<Null>	<Null>	SW corner of the intersection.	8th St	I St and 8th St	I St	K St	<Null>
SWDI1018	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	316	<Null>	Inspection	<Null>	<Null>	<Null>	County maintenance yard	Lauridsen Blvd	<Null>	C St	<Null>	<Null>
SWDI1418	<Null>	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	128	<Null>	Inspection	Discharge point was to the storm main in Ennis St.	<Null>	<Null>	Car wash	1st St	Ennis St and 1st St	Ennis St	<Null>	<Null>
SWDI1818	1818	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	298	ComercialSite	Inspection	Vehicle wash water	<Null>	<Null>	Olympic Electric in ditch along Tumwater Truck Rte.	Tumwater Truck Rt	Tumwater Truck Rt and Lauridsen Blvd	Lauridsen Blvd	<Null>	<Null>
SWDI1819	1819	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	96	ParkingLot	Inspection	<Null>	<Null>	<Null>	In front of city hall (south parking lot) along 5th St.	5th St	Peabody St and 5th St	<Null>	<Null>	<Null>
SWDI2218	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	196	<Null>	WorkSketch	See work order 2095	<Null>	<Null>	<Null>	O St	<Null>	12th St	Samara Dr	<Null>
SWDI2618	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	110	<Null>	WorkSketch	See workorder 2820	<Null>	<Null>	105 N Liberty	Liberty St	<Null>	<Null>	<Null>	<Null>
SWDI3018	<Null>	<Null>	Port of PA	City of PA	4/9/2009	Active	OutfallHarbor	<Null>	8.27	StormRunOff	Plan Set	<Null>	<Null>	<Null>	West boat harbor parking lot.	Marine Dr	<Null>	<Null>	<Null>	<Null>
SWDI3418	<Null>	<Null>	City of PA	City of PA	1/1/2014	Active	OutfallCreek	24	158	StormRunOff	<Null>	<Null>	<Null>	Lauridsen bridge replacement project BRM-7568-001	Peabody creek along the north side of Lauridsen Blvd bridge	Lauridsen Blvd	<Null>	Race St	Lauridsen Ct	<Null>
SWDI3818	<Null>	<Null>	County	City of PA	<Null>	Active	IDDE	<Null>	90	<Null>	Inspection	Discharge location	<Null>	<Null>	Clallam Co Courthouse parking lot	4th St	<Null>	Peabody St	Lincoln St	<Null>
SWDI3819	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	84	<Null>	Inspection	Discharge point	<Null>	<Null>	Ne corner of intersection	Race St	Race St and Georgiana St	Carolina/Georgiana Alley	Georgiana St	<Null>
SWDI3820	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	94	<Null>	Inspection	<Null>	<Null>	<Null>	OMC parking lot	Caroline St	Washington St and Caroline St	<Null>	Washington St	<Null>
SWDI3821	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	14	<Null>	Inspection	Discharge point	<Null>	<Null>	Near the boat harbor across the street from 930 Marine Dr.	Marine Dr	<Null>	<Null>	D St	<Null>
SWDI3822	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	212	<Null>	Inspection	Discharge point	<Null>	<Null>	South side of 4th st	4th St	<Null>	F St	G St	<Null>
SWDI4218	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	20	<Null>	Inspection	<Null>	<Null>	<Null>	Mid block on the south side of the street	1st St	<Null>	Cherry St	Valley St	<Null>
SWDI4219	<Null>	<Null>	Private	City of PA	<Null>	Active	IDDE	<Null>	412	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	US Hwy 101	<Null>	<Null>	Eclipse Industrial Pkwy	<Null>
SWDI4220	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	175	<Null>	<Null>	<Null>	<Null>	<Null>	<Null>	O St	O St and 12th St	<Null>	12th St	<Null>
SWDI4221	<Null>	<Null>	City of PA	City of PA	<Null>	Active	IDDE	<Null>	30	<Null>	Inspection	<Null>	<Null>	<Null>	<Null>	1st St	Laurel St and 1st St	<Null>	<Null>	<Null>
SWDI4618	<Null>	<Null>	City of PA	City of PA	9/14/2016	Active	Outfall	12	30	StormRunOff	Plan Set	Outfall to the Strait of Juan De Fuca	SW02-12 Landfill cell stabilization	SW02-12	North cell of the City landfill.	18th St	<Null>	Milwaukee Dr	<Null>	Ductile Iron
SWDI5018	<Null>	<Null>	City of PA	City of PA	4/16/2015	Active	IDDE	<Null>	16	ComercialSite	Inspection	<Null>	<Null>	<Null>	Red Lion west parking area	Lincoln St	<Null>	Railroad Ave	<Null>	<Null>
SWDI5020	<Null>	<Null>	City of PA	City of PA	3/3/2016	Active	IDDE	<Null>	196	Street	Inspection	See WO3640	<Null>	<Null>	<Null>	Clipper Cove	<Null>	Seabreeze Pl	<Null>	<Null>
SWDI5021	<Null>	<Null>	City of PA	City of PA	2/2/2016	Active	IDDE	<Null>	14	ComercialSite	Inspection	Discharged CSO water	<Null>	<Null>	<Null>	Marine Dr	<Null>	Cherry St	<Null>	<Null>
SWDI5022	<Null>	<Null>	City of PA	City of PA	<Null>	Active	OutfallCreek	24	311	StormRunOff	Inspection	<Null>	<Null>	<Null>	West end of Forest Ave.	Forest Ave	Cherry St and Forest Ave	Cherry St	<Null>	<Null>
SWDI5418	<Null>	<Null>	Port of PA	City of PA	7/1/2019	Proposed	OutfallHarbor	<Null>	12	StormRunOff	Plan Set	Marina outfall	Outfall 4	POPA Storm treatment	West of the Marine Boathaven intersection.	Boathaven Dr	<Null>	Marine Dr	<Null>	<Null>
SWDI5419	<Null>	<Null>	Port of PA	City of PA	7/1/2019	Proposed	OutfallHarbor	<Null>	12	StormRunOff	Plan Set	<Null>	Outfall 3	POPA Storm treatment	West of the Marine Boathaven intersection.	Boathaven Dr	<Null>	Marine Dr	<Null>	<Null>
SWDI5818	<Null>	<Null>	Port of PA	City of PA	<Null>	Active	OutfallHarbor	<Null>	14	StormRunOff	Plan Set	Existing structure prior to this project. Link for refrence only.	<Null>	<Null>	West of Tumwater bridge.	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI6218	<Null>	<Null>	Port of PA	City of PA	<Null>	Abandoned	OutfallHarbor	<Null>	14	StormRunOff	Plan Set	<Null>	<Null>	<Null>	POPA site west of tumwater bridge.	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI6219	<Null>	<Null>	Port of PA	City of PA	<Null>	Abandoned	OutfallHarbor	<Null>	14	StormRunOff	Plan Set	<Null>	<Null>	<Null>	POPA site west of tumwater bridge.	Tumwater St	<Null>	<Null>	Marine Dr	<Null>
SWDI6618	<Null>	<Null>	Private	City of PA	8/1/2019	Proposed	Outfall	<Null>	412	StormRunOff	Plan Set	Outfall to ditch	<Null>	<Null>	<Null>	Campbell Ave	Porter St and Campbell Ave	<Null>	Porter St	<Null>
SWDI7018	<Null>	<Null>	Private	City of PA	2/26/2019	Active	Outfall	<Null>	430	StormRunOff	AsBuilt	Quarry spall outfall	<Null>	Campbell Ave PRD Phase 2	Just south of Campbell Ave	Campbell Ave	Wabash Ave and Campbell Ave	Rook Dr	<Null>	<Null>

AssetID *	FacilityID	LegacyID	Administration	Jurisdiction	InstallDate	Status	SubType	Diameter	Elevation	WaterType	DataSource	Notes	Name	Project	Location	Street	Intersection	StreetX_NE	StreetX_SW	Material
SWDI7019	<Null>	<Null>	Private	City of PA	2/26/2019	Active	Outfall	<Null>	422	StormRunOff	AsBuilt	<Null>	<Null>	Campbell Ave PRD Phase 2	<Null>	Campbell Ave	<Null>	<Null>	<Null>	<Null>
SWDI7418	<Null>	<Null>	Private	City of PA	2/26/2019	Active	Outfall	<Null>	440	StormRunOff	AsBuilt	Quarry spall outfall	<Null>	Campbell Ave PRD Phase 2	The pond near lots 19 and 20	Rook Dr	Wabash Ave and Campbell Ave	Rook Dr	Morning Ct	<Null>
SWDI7818	<Null>	<Null>	Port of PA	City of PA	<Null>	Active	Outfall	<Null>	202	StormRunOff	Plan Set	Discharge to MS4	Outfall B	<Null>	<Null>	Milwaukee Dr	<Null>	18th St	<Null>	<Null>
SWDI7819	<Null>	<Null>	Port of PA	City of PA	<Null>	Active	Outfall	<Null>	168	StormRunOff	Plan Set	Sample location	Outfall A	<Null>	<Null>	Kaycee Wy	<Null>	<Null>	Lower Elwha Rd	<Null>



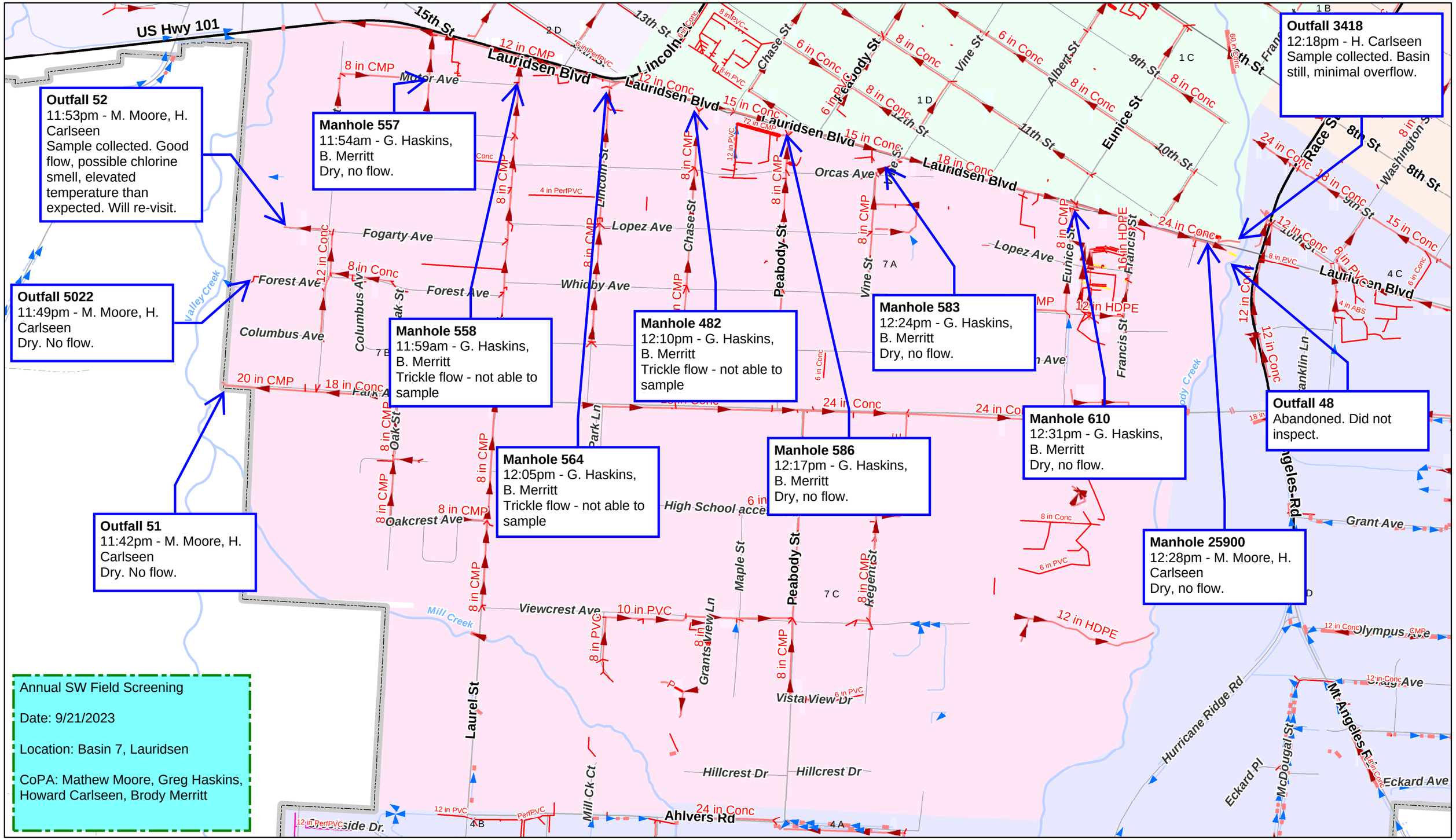
Aspect consulting
IN-DEPTH PERSPECTIVE
179 Madrone Lane North
Bainbridge Island, WA 98110
(206) 780-9370
811 First Avenue #480
Seattle, WA 98104
(206)-326-7443

Port Angeles Watershed

Port Angeles, WA and vicinity

DATE: May 2007	PROJECT NO. 070023
DESIGNED BY: OGR	
DRAWN BY: ACM	FIGURE NO. 1
REVISED BY: ACM	

T:\projects_8\port_angeles\sitemap



Printed: 8/8/2023

This map is not intended for use as a legal description. Locations of features are approximate only. Topographic/Map features are +-5 feet of actual locations. This map/drawing is produced by the city of Port Angeles for its own use and purposes. Any other use of this map/drawing shall not be the responsibility of the City.

Water main
WWater main
SWater main
Electrical distribution OH
Electrical distribution UG

580
Feet

N

Area Map

Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91

IDDE Screening Strategy

For the City to comply with the 2013-2018 NPDES phase II permit, which dictates that all permittees shall complete field screening for at least 40% of the MS4 system no later than December 31, 2017, the City of Port Angeles elected to screen on average 12% of its MS4 system beginning in 2014. Screening basins were divided up by number of catch basins within the right of way; the summation of catch basins in the first five screening areas resulted in 83% of the cities total catch basins, meeting the 40% minimum screening goal set for 2013-2018 Phase II NPDES permittee.
This requirement is also reflected in the current 2019-2023 Permit:

> *All Permittees shall complete field screening for an average of 12% of the MS4 each year. Permittees shall annually track total percentage of the MS4 screened beginning August 1, 2019.*

The City's existing methodology for IDDE screening strategy requires no change to meet these requirements.

Streams and creeks within the yearly screening area are inspected for the purpose of verifying outfall locations, identifying previously unknown outfalls, and detecting illicit discharges. Primary catch basins within the screening area are inspected for odor, color, and floatables that are indicative of illicit discharges. Results of the catch basin inspection and in office basin investigation are used to select monitoring nodes, typically manholes. During dry weather primary indicator testing is performed at these manhole locations, and at the basin's primary outfalls. If primary indicator thresholds are exceeded, the area upstream from the monitoring site is flagged for further investigation; if no indicators are found then areas of the screening basin can quickly be eliminated from further screening. When a discharge has been detected and traced back to a specific branch of the MS4 network, methods such as die testing, smoke testing, or video inspections are employed to trace the discharge to its source.

2023 – Field Screening Lauridsen, Basin 7:

Review of the existing storm drainage system information began with an office investigation of basin 7. This screening method was combined with other field screening methodologies like catch basin and manhole inspections, and outfall inspections to determine the most effective way to screen the basin for illicit discharge and connections. The basin is serviced by one primary outfall and three smaller outfalls. Because the majority of the basin flows out of a single outfall, the City elected to select strategic monitoring manholes, and to perform primary indictor testing at these locations. All Stormwater catch basins within basin 7 were also inspected for visual and olfactory indicators, suspected illicit discharges were then flagged for further investigation. A portion of Peabody Creek was screened to verify outfall locations, identifying previously unknown outfalls, and to detect illicit discharges. Although the basin is primarily residential, the City's Source Control and Pollution Prevention Specialist visited industrial businesses in the Lauridsen basin during the 2023 year. Manholes and outfalls in the basin had little to no flow and those that did were tested for fecal coliform, which returned negligible values. The only

flow of interest was from Outfall 52 off Fogarty Avenue. This outfall had greater flow than expected and will be revisited in 2024.

Table 1. Basins

Year Inspected:	Basin #:	Description:	Catch Basins (%):	Running Total (%):	19-24 Permit (S5.C.5.d.i) Total (%):
2014	1	Urbanized Peabody	14.8	14.8	-
2015	7	Lauridsen	9.4	24.2	-
2016	2	Tumwater/Valley	11.7	35.9	-
2017	8	West/Airport	15.5	51.4	-
2018	3	Francis/Ennis	15.1	66.5	-
2019	5	A St.	12.0	78.5	12.0
2020	4	Southwest	13.4	91.9	25.4
2021	6	I St./Eclipse	8.1	100	33.5
2022	1	Urbanized Peabody	14.8	100	48.3
2023	7	Lauridsen	9.4	100	57.7
2024	2	Tumwater/Valley	11.7	100	69.4

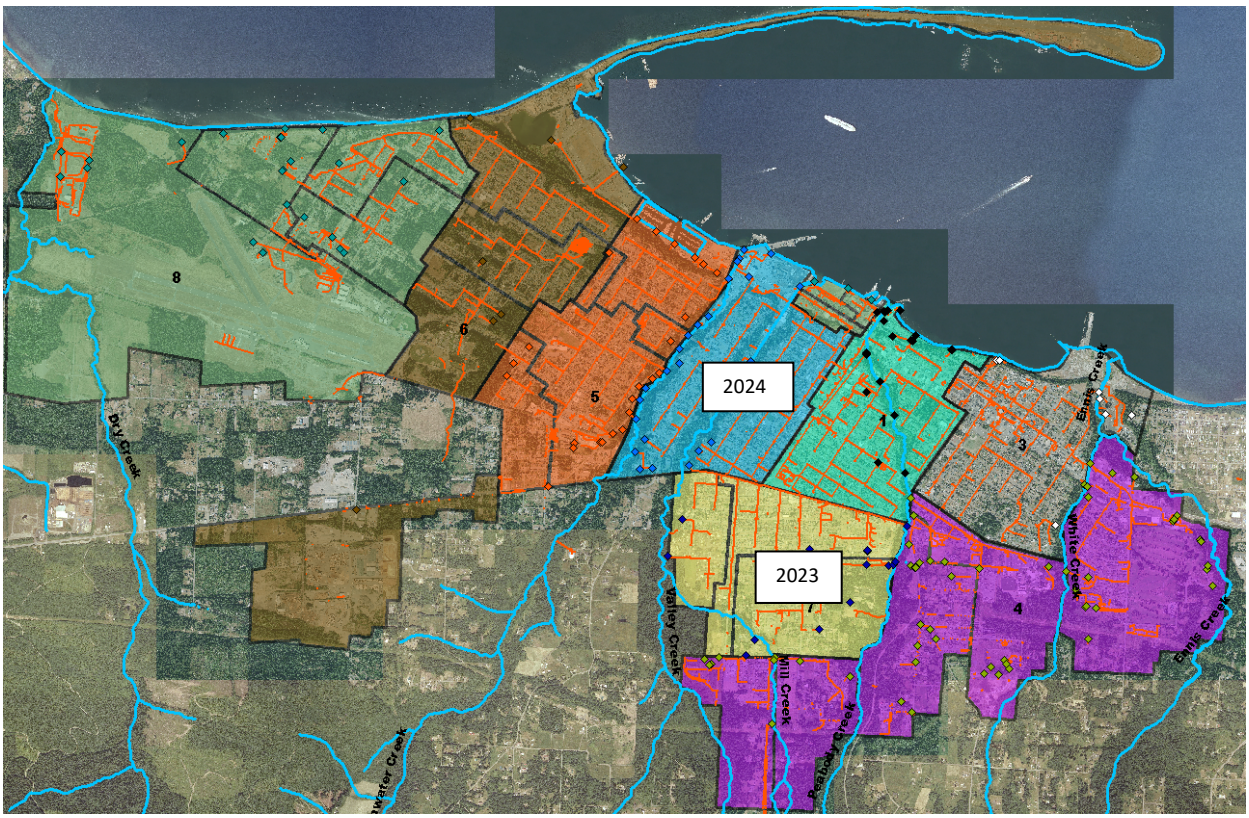


Figure 1 Basin Boundaries

Lauridsen Basin #7 Outfall Inspections	
Outfall:	**Location Description:**
# 52 Outfall to Valley Creek	West end of Fogarty St.
# 18585 Outfall to Valley Creek	West end of Forest Ave.
# 51 Outfall to Valley Creek	West end of Park Ave.
# 3418 Outfall 1.2c to Peabody Creek	North of Lauridsen Bridge, New Outfall with energy dissipater

Lauridsen Basin #7 Priority Manhole Locations	
Manhole	**Location Description**
482	At the intersection of Chase St. and Lauridsen Blvd.
557	At the intersection of Oak St. and Motor Ave.
558	At the intersection of Laurel St. and Motor Ave.
564	At the intersection of Lincoln St. and Lauridsen Blvd.
583	At the intersection of Vine St. and Orcas Ave.

586	At the intersection of Peabody St. and Lauridsen Blvd.
610	At the intersection of Eunice St. and Lauridsen Blvd.
25900	At the intersection of Lauridsen Ct. and Lauridsen Blvd.

2023 Illicit Discharge Detection and Elimination (IDDE) Tracking Spreadsheet

2019-2024 NPDES Stormwater Phase II Permit, per S5.C.5 and Appendix 12

0	1	2	3	4	5	6	7a	7b	8	9	10	11	12
Count	**Jurisdiction name and permit number**	**Date incident discovered or reported to you**	**Date of beginning your response**	**Date of end of your response**	**How was the incident discovered or reported to you? (select all that apply)**	**Discharge to MS4? (select one)**	**Incident Location (address or Lat.Long)**		**Pollutants Identified (select all that apply)**	**Source or Cause (select all that apply)**	**Source tracing approach(es) used (select all that apply)**	**Correction/elimination methods used (select all that apply)**	**Field notes, explanations, and/or other comments**
1	City of Port Angeles, WAR045028	1/24/2023	1/25/2023	1/25/2023	Pollution hotline (phone, web, app)	Yes – did not notify	US HWY 101 & W Nicholas Rd	48.107078, -123.461122	Paint	Intentional dumping	Not applicable	Clean-up, Other (Explanation required)	Suspected to be associated with ongoing paint dumping within city limits and county area. PAPD working to identify vandel. Stormwater operations responded with Vactor truck and removed all that was recoverable.
2	City of Port Angeles, WAR045028	2/19/2023	2/19/2023	2/19/2023	Pollution hotline (phone, web, app)	No – cleaned up before reached MS4	333 Fogarty Ave		Sewage/septage/pet waste/human waste	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	Sanitary sewer backup. Citizen used pollution hotline on utility bill mailer. Operations vactor truck was on site within 30 minutes for clean up before the spill could reach the MS4 or creek.
3	City of Port Angeles, WAR045028	2/21/2023	2/21/2023	2/27/2023	Other agency referral	Yes – did not notify	11th St SW Outfall		Sediment/soil		Observation (color/sheen/turbidity/floatables/odor)	Other (Explanation required)	Streamkeepers called to report turbid discharge from outfall in Tumwater Creek. Investigation of nearby Corp Yard and surrounding area was conducted. Most likely suspect of discharge was due to landscaping activities at a property owners home with exposed soils and trackout. Could not definitely determine cause before discharge discontinued.
4	City of Port Angeles, WAR045028	3/6/2023	3/6/2023	3/6/2023	ERTS referral	Unknown	114 E 6th St		Other (Explanation required)	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Education/technical assistance	Concrete contractor for job dumped slurry into rock planter. Both the site foreman, concrete contractor, and concrete company were educated on the only types of acceptable washouts. Washout looks to have been entirely absorved into soils or remained on surface - contractor ordered to cleanup what was possible. See ERTS 721013
5	City of Port Angeles, WAR045028	3/8/2023	3/8/2023	3/17/2023	Direct report to your staff	Yes – did not notify	114 E 6th St		Other (Explanation required)	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Education/technical assistance, Add or modify operational source control BMP	Received a report of pressure washing of the sidewalks to remove remaining slurry from a pour that occurred during a rain event. Any impact to the City's MS4 cannot be determined or recovered but is likely minimal due to the topography and adjacent lawn to the sidewalk cleanup area which would have absorbed much of the concrete washwater. Contractor ordered to modify SWPPP and hire CESCL for remained of work. See ERTS 721013
6	City of Port Angeles, WAR045028	3/28/2023	3/28/2023	3/28/2023	ERTS referral	Yes – did not notify	114 E 6th St		Other (Explanation required)	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Education/technical assistance	Responded to report of discharge from oper-air dumpster. Contaminent was gypsum. Runoff went to private catch basin full of sediment. Contractor ordered to clean up surface from dumpster to catch basin and catch basin itself and remove dumpster which had no further use. See ERTS 721712
7	City of Port Angeles, WAR045028	4/11/2023	4/12/2023	4/12/2023	Staff referral	Yes – did not notify	309 E 1st St		Fuel and/or vehicle related fluids	Vehicle collision	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	Small fluid spill from mid-night vehicle collision and subsequent fire. Firefighting water did enter MS4. Attempts to use absorbent material and earthen dam to prevent fluid flow. Operations addressed following day.
8	City of Port Angeles, WAR045028	4/14/2023	4/14/2023	5/5/2023	Pollution hotline (phone, web, app)	No – none found	114 E 6th St		Sediment/soil	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Other (Explanation required)	Pollution hotline report for a small amount of sediment embedded in the rough surface. Most likely to be picked up during regular street sweeping activities. See ERTS 722158
9	City of Port Angeles, WAR045028	5/2/2023	5/2/2023	5/2/2023	Staff referral	Yes – did not notify	902 E 1st St		Other (Explanation required)	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Education/technical assistance, Add or modify operational source control BMP	Glass bead blasting business for paint removal discharge to nearby catch basin and was discovered by Operations Superintendent. Contractor was ordered to shop vac slurry, sweep, and vacuum - cb and surrounding area during remainder of work.
10	City of Port Angeles, WAR045028	5/10/2023	5/10/2023	5/10/2023	Staff referral	No – none found	1215 US-101		Unconfirmed, unspecified, or not identified	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	City received a call from an unnamed RV park resident about fluid bubbling out of the ground at a recently vacated space. Most likely water. RV park owners resolved the issue.
11	City of Port Angeles, WAR045028	6/6/2023	6/7/2023	6/7/2023	Pollution hotline (phone, web, app)	Yes – did not notify	8th and S Pine	48.1189, -123.4525	Paint	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Education/technical assistance	Neighbor called pollution hotline to report spill. Visit discovered that remodeler poured washed equipment used to paint and drywall unit directly into gutterline. Remodeler who was the owner of the apartments was educated.
12	City of Port Angeles, WAR045028	6/13/2023	6/13/2023	6/13/2023	Staff referral	Yes – did not notify	11th and Lincoln		Sediment/soil	Landscape-related business	Observation (color/sheen/turbidity/floatables/odor)	Education/technical assistance, Add or modify operational source control BMP	Couple performing pressure washing for their neighbor and conveying water carrying sediment down the block to nearby catch basin. The two were informed that this is not acceptable practice and educated on how to prevent this type of pollution.
13	City of Port Angeles, WAR045028	6/13/2023	6/13/2023	6/13/2023	Staff referral	Yes – did not notify	1010 S C St		Other wastewater	Other (Explanation required)	Observation (color/sheen/turbidity/floatables/odor)	Enforcement	RV apparently dumping greywater. Referred to Code Enforcement Office to respond and provide education.
14	City of Port Angeles, WAR045028	7/12/2023	7/12/2023	7/12/2023	Staff referral	Yes – did not notify	Marine Drive by 936		Sediment/soil	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	City contractor was in process of potholing to identify depth of 42 inch storm line using hydro-excavating. Turbid water was observed by inspector existing storm pipe outfall in harbor. Inspector informed constractor who immediately ceased hydro-excavating and vactored remaining water from pothole excavation.
15	City of Port Angeles, WAR045028	7/31/2023	7/31/2023	8/8/2023	Staff referral	No – none found	1010 S C St		Fuel and/or vehicle related fluids	Vehicle collision	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	Vehicle collision into rear of trailer. Fluids captured with absorbent - likely from tow company. Remainder was cleaned by property/trailer owner.
16	City of Port Angeles, WAR045028	7/31/2023	7/31/2023	7/31/2023	Staff referral	Other (Explanation required)	S Albert between 1st and Front		Sewage/septage/pet waste/human waste	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Education/technical assistance	Referred to Code Enforcement Office to respond and provide education. The small amount of blackwater has absorved into asphalt and will be cleaned by street sweeper.
17	City of Port Angeles, WAR045028	7/31/2023	8/1/2023	8/1/2023	Staff referral	Yes – did not notify	16th and N St			Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	"The early morning of 7/31/23 a travel trailer on W. 16th just west of N. St caught on fire and the PAFD put the fire out where discharge ran to the nearby storm drain. That morning Operations placed absorbent and booms around the catchbasin, followed by cleaning the basin with the vactor on 8/1/23 as some fluid from the fire suppression entered the basin.
18	City of Port Angeles, WAR045028	9/12/2023	9/12/2023	9/12/2023	Staff referral	No – cleaned up before reached MS4	First Race Car Wash	48.1133, -123.4182	Other (Explanation required)	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Education/technical assistance	Concrete washout was observed during a construction pre-inspection for another project. The contractor cleaned up the spill and sent photos within half an hour.
19	City of Port Angeles, WAR045028	9/30/2023	10/2/2023	10/2/2023	Staff referral	No – cleaned up before reached MS5	2nd and Valley Street	48.1206, -123.4404	Fuel and/or vehicle related fluids	Vehicle collision	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	2 car mva. Antifreeze only. Contained to street with absorbent. Request sweeper on Monday. - KZ Absorbent since swept and confirmed by Operations Superindentent, Cody Romero - MM
20	City of Port Angeles, WAR045028	11/20/2023	11/20/2023	11/20/2023	Direct report to your staff	No – cleaned up before reached MS6	1000 block Tumwater Truck Route	48.1191, -123.4497	Fuel and/or vehicle related fluids	Vehicle collision	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	Rollover semi truck. Fuel spill - absorbant laid down to mitagate spill. Poasible fuel into ditch prior to arrival. -JM Herman Brothers whose truck rolled had their own crew on site almost immediate to perform cleanup. Minimal fuel to ditch to be clean. -MM

0	1	2	3	4	5	6	7a	7b	8	9	10	11	12
Count	**Jurisdiction name and permit number**	**Date incident discovered or reported to you**	**Date of beginning your response**	**Date of end of your response**	**How was the incident discovered or reported to you? (select all that apply)**	**Discharge to MS4? (select one)**	**Incident Location (address or Lat.Long)**		**Pollutants Identified (select all that apply)**	**Source or Cause (select all that apply)**	**Source tracing approach(es) used (select all that apply)**	**Correction/elimination methods used (select all that apply)**	**Field notes, explanations, and/or other comments**
21	City of Port Angeles, WAR045028	11/25/2023	11/27/2023	11/27/2023	Staff referral	No – cleaned up before reached MS4	8th and Gund Pl (H St)	48.1228, -123.4633	Fuel and/or vehicle related fluids	Vehicle collision	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	Radiator fluid. No stormwater drains in vicinity. Request sweeper Monday morning for absorbent - KZ Confirmed sweeper to clean area this morning, 11/27 - Matthew Moore

2023 Water Main Break / Repair - Cityworks Tracking Report (query date: 03/19/2024)

0	1	2	3	4	5	6	7a	7b	8	9	10	11	12
Count	**Jurisdiction name and permit number**	**Date incident discovered or reported to you**	**Date of beginning your response**	**Date of end of your response**	**How was the incident discovered or reported to you? (select all that apply)**	**Discharge to MS4? (select one)**	**Incident Location (address or Lat.Long)**		**Pollutants Identified (select all that apply)**	**Source or Cause (select all that apply)**	**Source tracing approach(es) used (select all that apply)**	**Correction/elimination methods used (select all that apply)**	**Field notes, explanations, and/or other comments**
22	City of Port Angeles, WAR045028	12/20/2023	12/20/2023	12/20/2023	Staff referral	Yes – allowable or conditionally allowable	123 E 9th St 88' west of main valve at Lincoln.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
23	City of Port Angeles, WAR045028	12/6/2023	12/6/2023	12/6/2023	Staff referral	Yes – allowable or conditionally allowable	1158 Olympus Ave 3' west of 2" main valve at the SW corner of Porter St. and Olympus Ave.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
24	City of Port Angeles, WAR045028	11/28/2023	11/28/2023	11/28/2023	Staff referral	Yes – allowable or conditionally allowable	514 E 10th St Next to water service.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
25	City of Port Angeles, WAR045028	11/26/2023	11/26/2023	11/26/2023	Staff referral	Yes – allowable or conditionally allowable	1322 E 8TH St 200' east of main valve at Liberty street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
26	City of Port Angeles, WAR045028	11/22/2023	11/22/2023	11/22/2023	Staff referral	Yes – allowable or conditionally allowable	1240 W 15th St 27' east of main valve.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
27	City of Port Angeles, WAR045028	11/18/2023	11/25/2023	11/25/2023	Staff referral	Yes – allowable or conditionally allowable	831 W 10th St 145' east of the main valve at B street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
28	City of Port Angeles, WAR045028	11/2/2023	11/2/2023	11/2/2023	Staff referral	Yes – allowable or conditionally allowable	1338 E 7th St 294' west of the main valve at Ennis street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
29	City of Port Angeles, WAR045028	11/2/2023	11/2/2023	11/2/2023	Staff referral	Yes – allowable or conditionally allowable	3609 Aviation Pl Blow off at end of main on the east side of driveway.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
30	City of Port Angeles, WAR045028	10/5/2023	10/5/2023	10/5/2023	Staff referral	Yes – allowable or conditionally allowable	1619 E 5th St 245' west of main valve at Penn St.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
31	City of Port Angeles, WAR045028	10/4/2023	10/3/2023	10/3/2023	Staff referral	Yes – allowable or conditionally allowable	234 Fogarty Ave. 20' west of the 2" main valve at the SE corner of Cherry and Fogarty.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
32	City of Port Angeles, WAR045028	9/14/2023	9/14/2023	9/14/2023	Staff referral	Yes – allowable or conditionally allowable	538 Marine Dr 40' south of fire hydrant.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
33	City of Port Angeles, WAR045028	9/12/2023	9/12/2023	9/13/2023	Staff referral	Yes – allowable or conditionally allowable	3310 McDougal St 13'east of 2" main valve.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
34	City of Port Angeles, WAR045028	8/27/2023	8/27/2023	8/28/2023	Staff referral	Yes – allowable or conditionally allowable	3501 W 18th St Discovery trail behind water treatment plant.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
35	City of Port Angeles, WAR045028	8/24/2023	8/24/2023	8/24/2023	Staff referral	Yes – allowable or conditionally allowable	836 E 2nd St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
36	City of Port Angeles, WAR045028	8/20/2023	8/20/2023	8/20/2023	Staff referral	Yes – allowable or conditionally allowable	1212 Campbell Ave 115' east of 2" main valve at Porter St.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
37	City of Port Angeles, WAR045028	8/19/2023	8/19/2023	8/19/2023	Staff referral	Yes – allowable or conditionally allowable	735 S Chase St 5' south of 4" main valve at the NE corner of 8th and Chase street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
38	City of Port Angeles, WAR045028	7/27/2023	7/27/2023	7/27/2023	Staff referral	Yes – allowable or conditionally allowable	1369 E 8th St 200' south of the 2" main valve at the NW corner of 7th and Ennis street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
39	City of Port Angeles, WAR045028	7/20/2023	7/20/2023	7/20/2023	Staff referral	Yes – allowable or conditionally allowable	411 S Valley St SE corner of 4th and Valley.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
40	City of Port Angeles, WAR045028	7/11/2023	7/11/2023	7/11/2023	Staff referral	Yes – allowable or conditionally allowable	1104 S Valley St Blow off an end of 2" PVC main		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
41	City of Port Angeles, WAR045028	7/10/2023	7/10/2023	7/10/2023	Staff referral	Yes – allowable or conditionally allowable	3423 Wabash Ave. 224' east of main valve at Wabash Ave. Main is on Eckard Ave.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.

0	1	2	3	4	5	6	7a	7b	8	9	10	11	12
Count	Jurisdiction name and permit number	Date incident discovered or reported to you	Date of beginning your response	Date of end of your response	How was the incident discovered or reported to you? (select all that apply)	Discharge to MS4? (select one)	Incident Location (address or Lat.Long)		Pollutants Identified (select all that apply)	Source or Cause (select all that apply)	Source tracing approach(es) used (select all that apply)	Correction/elimination methods used (select all that apply)	Field notes, explanations, and/or other comments
42	City of Port Angeles, WAR045028	6/29/2023	6/29/2023	6/29/2023	Staff referral	Yes – allowable or conditionally allowable	904 W 13th St 110' west of main valve at B street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
43	City of Port Angeles, WAR045028	6/21/2023	6/21/2023	6/22/2023	Staff referral	Yes – allowable or conditionally allowable	75 Round Tree Reservoir Rd South side of reservoir.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
44	City of Port Angeles, WAR045028	6/13/2023	6/13/2023	6/13/2023	Staff referral	Yes – allowable or conditionally allowable	420 E 5th St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
45	City of Port Angeles, WAR045028	6/12/2023	6/12/2023	6/12/2023	Staff referral	Yes – allowable or conditionally allowable	225 Viewcrest Ave 28' west of hydrant.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
46	City of Port Angeles, WAR045028	6/8/2023	6/7/2023	6/7/2023	Staff referral	Yes – allowable or conditionally allowable	902 E Lauridsen Blvd 5' north of Tee on Race street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
47	City of Port Angeles, WAR045028	6/2/2023	6/2/2023	6/2/2023	Staff referral	Yes – allowable or conditionally allowable	1351 E 7th St 2' south of the 2" valve on Ennis Street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
48	City of Port Angeles, WAR045028	5/25/2023	5/25/2023	5/25/2023	Staff referral	Yes – allowable or conditionally allowable	909 E 10th St At the water valve.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
49	City of Port Angeles, WAR045028	5/25/2023	5/25/2023	5/25/2023	Staff referral	Yes – allowable or conditionally allowable	419 S I St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
50	City of Port Angeles, WAR045028	5/18/2023	5/18/2023	5/18/2023	Staff referral	Yes – allowable or conditionally allowable	1417 W 15th St 23' east of main valve at D street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
51	City of Port Angeles, WAR045028	5/17/2023	5/17/2023	5/17/2023	Staff referral	Yes – allowable or conditionally allowable	902 E E 8TH ST East side of 2" valve at the SE property corner.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
52	City of Port Angeles, WAR045028	5/16/2023	5/16/2023	5/18/2023	Staff referral	Yes – allowable or conditionally allowable	75 Round Tree Rd Air vent on the south side of the reservoir.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
53	City of Port Angeles, WAR045028	5/4/2023	5/4/2023	5/4/2023	Staff referral	Yes – allowable or conditionally allowable	836 E 8th St Between the 2 valves at the SW corner of intersection.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
54	City of Port Angeles, WAR045028	5/2/2023	5/2/2023	5/2/2023	Staff referral	Yes – allowable or conditionally allowable	902 E 8th St SE corner of intersection.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
55	City of Port Angeles, WAR045028	4/25/2023	4/25/2023	4/25/2023	Staff referral	Yes – allowable or conditionally allowable	427 W 3rd St End of main at blow off.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
56	City of Port Angeles, WAR045028	4/18/2023	4/18/2023	4/18/2023	Staff referral	Yes – allowable or conditionally allowable	715 S Ennis St 119' soth of main valve at 8th street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
57	City of Port Angeles, WAR045028	4/13/2023	4/13/2023	4/13/2023	Staff referral	Yes – allowable or conditionally allowable	302 Hillcrest Dr 580' west of the main valve at Peabody street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
58	City of Port Angeles, WAR045028	4/12/2023	4/11/2023	4/11/2023	Staff referral	Yes – allowable or conditionally allowable	3218 S Regent St End of 2" PVC main 648' south of the valve at Viewcrest Ave.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
59	City of Port Angeles, WAR045028	4/11/2023	4/10/2023	4/10/2023	Staff referral	Yes – allowable or conditionally allowable	612 Rose St Blow off at end of main. 122' east of main valve.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
60	City of Port Angeles, WAR045028	4/7/2023	4/7/2023	4/7/2023	Staff referral	Yes – allowable or conditionally allowable	816 W 6th St 153' from the main valve at A street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
61	City of Port Angeles, WAR045028	4/4/2023	4/4/2023	4/4/2023	Staff referral	Yes – allowable or conditionally allowable	3207 S Maple St 486' south of main valve.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
62	City of Port Angeles, WAR045028	4/4/2023	4/4/2023	4/4/2023	Staff referral	Yes – allowable or conditionally allowable	1450 Campbell Ave 360' east of main valve at Wabash St.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
63	City of Port Angeles, WAR045028	3/19/2023	3/19/2023	3/20/2023	Staff referral	Yes – allowable or conditionally allowable	2032 S O St 240' south of main valve at 19th street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
64	City of Port Angeles, WAR045028	3/17/2023	3/17/2023	3/17/2023	Staff referral	Yes – allowable or conditionally allowable	1450 Campbell Ave Water service.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
65	City of Port Angeles, WAR045028	3/16/2023	3/16/2023	3/16/2023	Staff referral	Yes – allowable or conditionally allowable	224 W 4th St 230 'east of the main valve at Cherry street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.

0	1	2	3	4	5	6	7a	7b	8	9	10	11	12
Count	**Jurisdiction name and permit number**	**Date incident discovered or reported to you**	**Date of beginning your response**	**Date of end of your response**	**How was the incident discovered or reported to you? (select all that apply)**	**Discharge to MS4? (select one)**	**Incident Location (address or Lat.Long)**		**Pollutants Identified (select all that apply)**	**Source or Cause (select all that apply)**	**Source tracing approach(es) used (select all that apply)**	**Correction/elimination methods used (select all that apply)**	**Field notes, explanations, and/or other comments**
66	City of Port Angeles, WAR045028	3/8/2023	3/8/2023	3/8/2023	Staff referral	Yes – allowable or conditionally allowable	1105 E Front St 8' west of main valve.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
67	City of Port Angeles, WAR045028	3/4/2023	3/4/2023	3/4/2023	Staff referral	Yes – allowable or conditionally allowable	513 E 12th St 205' east of the main valve at the NW corner of 12th and Vine Street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
68	City of Port Angeles, WAR045028	3/1/2023	3/1/2023	3/2/2023	Staff referral	Yes – allowable or conditionally allowable	700 Block W 11th St Approximately 420' east of the main valve at A street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
69	City of Port Angeles, WAR045028	2/27/2023	2/27/2023	2/27/2023	Staff referral	Yes – allowable or conditionally allowable	405 S Pine St 49' east of valve at the SE corner of 4th & Pine Street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
70	City of Port Angeles, WAR045028	2/27/2023	2/27/2023	2/27/2023	Staff referral	Yes – allowable or conditionally allowable	913 S M St 20' east of 2" main valve at the NE corner of 10th & M street.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
71	City of Port Angeles, WAR045028	2/7/2023	2/7/2023	2/7/2023	Staff referral	Yes – allowable or conditionally allowable	1725 E 6th St 40' east of hydrant.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
72	City of Port Angeles, WAR045028	1/24/2023	1/24/2023	1/24/2023	Staff referral	Yes – allowable or conditionally allowable	1320 E 5th St 156' west of the main valve at Blue Water View.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
73	City of Port Angeles, WAR045028	1/13/2023	1/13/2023	1/13/2023	Staff referral	Yes – allowable or conditionally allowable	402 E Lauridsen Blvd SE corner, 9' north of 8" main valve.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.
74	City of Port Angeles, WAR045028	1/3/2023	12/30/2022	12/30/2022	Staff referral	Yes – allowable or conditionally allowable	185 Doyle Rd SW corner of intersection.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department	Water Main Break. Operations staff responded, isolated the damaged main or service lateral, made repairs, restored service, cleaned up deposits from gutterline and roadway, and stabilized disturbed areas.

IDDE Survey 123 APP | PAFD
Sept. 7th, 2023
Provided By: V. McIntyre, M. Moore

SIGN-IN SHEET

Count	Name	Signature
1	Joel McKeen	
2	Catherine Dewey	
3	Mike Sanders	
4	Michael Ingraham	
5	Kelly Ziegler	
6	Andrew Codd	
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		

2023 Stormwater Development Review Tracking Sheet

Public or Private?	Permit Type	Permit # or Project #	Address, Area, or Parcel Number	Project Name	MR Triggered	Plan Review Date(s)	Initials	Appendix 7 (Risk / Site Visit Date)	Initials	Pre-Con ESC Insp. Date(s)	Initials	Const. Started?	During Construction ESC Insp. Date(s)	Initials	Final Completion Inspection Date	Initials	Internal notes
Private	BP	20-001	123 W. Fake St. or Edgewood Rd. btwn Dry Creek & Airport Rds. or PN:07000063520	Lake Angeles Parking Lot Improvements 2020	MR 1-9	1/1/2018 1/29/2018	JD JD	Low / NA	JD	2/4/2018 2/5/2018	JD JD	Yes	2019: 11/6, 12/19, 2020: 1/5, 3/4	JD	4/1/2018	JD	Concrete washout in ditchline (12/19). Appendix 8.1 filed. Education provided to sub-contractor and contractor - JD
Private	BP	20-1450	1815 Melody Ln	Dungeness Valley Homes 3 Story Apts	MR 1-9	4/12/2021 2/3/2023	VM					No					Construction expected to begin 2024.
Private	BP	21-1675	1821 Melody Ln	Dungeness Valley Homes 3 Story Apts	MR 1-9	2/3/2023	VM					No					Construction expected to begin 2024.
Private	BP	21-1677	1827 Melody Ln	Dungeness Valley Homes 3 Story Apts	MR 1-9	2/3/2023	VM					No					Construction expected to begin 2024.
Private	C&G	21-0766	10th between M & Evans Ave.	Lang Subdivision	MR 1-9	7.8.2021 1/31/2023 6/29/2023 8.8.2023 8.23.2023	VM MM VM	Multiple renditions. Performed App. 7 Site visit in 2021	VPM			Yes					Did not call for inspections.
Private	BP	22-0318	1138 Lauridsen Blvd	RND SFR	MR 1-5	3/24/2022 8/2/22 5/8/2023	VP SA SA					No					
Private	BP	22-1122	1527 E. 1st St.	Popeyes Chicken	MR 1-9	10/10/2022 12/28/2022 1/25/2023 2/3/2023	V. Mac	High / 3.15.2023	V. Mac			No					Application approved 3/20/2023 Includes DP 23-0655
Private	BP	22-1472	111 E. Front St.	LEKT Hotel	MR 1-9	11/29/2022 12/28/2022 3/30/2023 4/18/2023 6/9/2023 8/22/2023	V. Mac	Low / NA	VM			No					Not issued as of 12.31.23
Private	BP	19-1046	PN: 063000079250, 200 Blk. W. Front St.	Port Angeles Waterfront Center (PAWC), Phase 1	MR 1-9	8/23/2019 10/15/2019	VM VM	High / 10.15.2019	VM	1/6/2020	VPM	Yes	2019: 11/18 2020: 1/6, 2/11, 3/27	RV VM JTB	2023: 6/14, 7/13, 8/1	MM	
Private	BP	21-1006	1406 Rook Dr	Green Crow	MR 1-5	8.30.21	MA	Low / NA	MA	6/14/2022	SA	Yes			3/7/2023	SA	
Private	BP	21-1218	903 Milwaukee Dr	McKnight	MR 1-5	10.4.21	MA	Low / NA	MA	12/13/2022	SMA	Yes	2022: 12/29	SA MM	5/12/2023	SMA	
Private	BP	21-1251	2419 W 10th Str	McKnight	MR 1-5	10/12/2021 10/14/2021	MA	Low / NA	MA	11/24/2021	MA	Yes	2022: 2/18	RV	5/11/2023	EA	
Private	BP	21-1370	1404 Rook Dr	NorthPoint	MR 1-5	11.2.21	MA	High / 11.3.21	MA	7/1/2022	SA	Yes	2022: 11/3	RV	3/30/2023	RV	
Private	BP	21-1392	3722 Page St	Sage	MR 1-5	12.20.21 3/11/2022	MA VP	Low / NA	MA	10/3/2022	SA	Yes	2022: 10/28	SA	2/28/2023	SA	
Private	BP	21-1417	2403 W 10th St	Ace Michaels	MR 1-5	11.16.21	MA	Low / NA	MA	7/26/2022	SA	Yes	2022: 8/18	SA	3/3/2023	SA	
Private	BP	22-0034	804 F St	SFR	MR 1-5	2.09.22	MA	High / 1.25.2022	MA	3/29/2022	RV	Yes	2022: 4/29, 8/24	SA	2/10/2023	SA	
Private	BP	22-0247	3703 Page St	SFR Sage Homes	MR 1-5	3/11/2022	VP	Low / NA	VP	10/11/2022	SA	Yes	2022: 11/21	SA	4/25/2023	SA	
Private	BP	22-0281	141 Valley Creek Dr	Duplex Sage Homes	MR 1-5	4/27/2022	VP	Low / NA	VP	10/27/2022	SA	Yes	2022: 12/2	SA	6/6/2023	SA	
Private	BP	22-0282	143 Valley Creek Dr	Duplex Sage Homes	MR 1-5	4/27/2022	VP	Low / NA	VP	10/27/2022	SA	Yes	2022: 12/2	SA	6/6/2023	SA	
Private	BP	22-0360	3709 Page St	SFR Sage Homes	MR 1-5	4/19/2022	VP	Low / NA	VP	9/21/2022	SA	Yes	2022: 10/28 SA	SA	1/18/2023	RV	
Public	BP	22-1164 22-1165	670 Ediz Hook Rd 700 Ediz Hook Rd	Western Marine - DEMO and Beach Restoration	MR 1-5	9/20/2022	SA	Low / NA	SA	11/15/2022	SA MM	Yes	2022: 11/21	SA	1/6/2023	SA	
Public	BP	22-1058	1502 Lauridsen Blvd	Peninsula College - Sidewalk replacement	MR 1-5	9/8/2022	SA	High / 10.21.2022	SA	10/21/2022	SA MM	Yes			3/24/2023	SA	Will not be using concrete washout in drawing but instead an Eco-Pan located away from construction area.
Private	BP	22-0770	1304 Rook Dr	Mill Creek SFR	MR 1-9	7/20/2022	SA	Low / NA	SA	9/21/2022	SA	Yes	2023: 3/24		5/15/2023	SA	
Private	BP	22-0589	3727 Page St	SFR Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP	11/14/2022	RV	Yes	2023: 1/5	SA	5/24/2023	SA	
Private	BP	22-0590	3805 Page St	SFR Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP	12/16/2022	SA	Yes	2023: 1/5	SA	4/17/2023	SA	
Private	BP	21-1583	2027 E. 1st St.	Two-Tenant Commercial Bldg.	MR 1-9	4/21/2022 7/13/2022	VM	High / 4.14.2022	VM	9.28.2022 11.4.22 11.14.22	SA, MM SA, MM MM	Yes	9.28.22: Pre con failed - no CESCL, 11.4.22: Still no CESCL, erosion and erosion hazard present 11.14.22: CECSL info updated - concerns addressed 1.3.2023: discussed trackout issues	SA MM SA	8/22/2023	EA	11.4.22: See "Site Visit 11.4.22" Site Contact (CESCL): Levi Hnderson 306 434 5291 5.15.2023: Waiting on soil amendments before final
Private	BP	21-1230	2710 W 14th St - LOT 1	Northpoint	MR 1-5	10.4.21	MA	Low / NA	MA	4/28/2023	SA	Yes			11/6/2023	JLL	Permit closed by on 11/6/2023 by JLL w/o PW and SW final. JLL is a CESCL.
Private	BP	22-0072	146 Valley Creek Dr	Duplex Sage Homes	MR 1-5	3/14/2022	VP	Low / NA	VP	2/28/2023	SA	Yes	2023: 3/17	SA	8/22/2023	EA	
Private	BP	22-0073	148 Valley Creek Dr	Duplex Sage Homes	MR 1-5	3/14/2022	VP	Low / NA	VP	2/28/2023	SA	Yes	2023: 3/17	SA	8/22/2023	EA	
Private	BP	22-0283	150 Creekside	4-plex Sage Homes	MR 1-5	4/25/2022	VP	Low / NA	VP	5/15/2023	SA	Yes	2023: 9/7	SA	12/28/2023	SA	
Private	BP	22-0284	152 Creekside	4-plex Sage Homes	MR 1-5	4/25/2022	VP	Low / NA	VP	5/15/2023	SA	Yes	2023: 9/7	SA	12/28/2023	SA	
Private	BP	22-0285	154 Creekside	4-plex Sage Homes	MR 1-5	4/25/2022	VP	Low / NA	VP	5/15/2023	SA	Yes	2023: 9/7	SA	12/28/2023	SA	
Private	BP	22-0286	202 Creekside	4-plex Sage Homes	MR 1-5	4/25/2022	VP	Low / NA	VP	5/15/2023	SA	Yes	2023: 9/7	SA	12/28/2023	SA	

Public or Private?	Permit Type	Permit # or Project #	Address, Area, or Parcel Number	Project Name	MR Triggered	Plan Review Date(s)	Initials	Appendix 7 (Risk / Site Visit Date)	Initials	Pre-Con ESC Insp. Date(s)	Initials	Const. Started?	During Construction ESC Insp. Date(s)	Initials	Final Completion Inspection Date	Initials	Internal notes
Private	BP	21-1608	2411 W 10th St	Pete Mcknight	MR 1-5	12.22.21	MA	Low / NA	MA	8/3/2023	SA	Yes			12/20/2023	SA	
Private	BP	21-1672	2710 W 14th St Lot 3	Yakovich/North Point Construction	MR 1-5	2.01.22	MA	Low / NA	MA	6/27/2023	SA	Yes					Only ERPR complete, construction underway - 12/29/2023 - SA
Private	BP	22-1185	311 S. Valley Street	Peninsula Bottling, Warehouse & loading dock	MR 1-5	10/12/2022	VM MM	High / 10.12.2022	VM MM	2/3/2023	SA MM	Yes	3/9/2023	JLL	8/24/2023	JLL	Permit closed by by JLL w/o PW and SW final. JLL is a CESCL.
Private	BP	22-0469	3604 Creekside Dr	SFR - Lot 55	MR 1-5	5/9/2022	VP	Low / NA	VP	4/10/2023	SA	Yes	2023: 07/14	EA	9/26/2023	SA	
Private	BP	22-0477	3715 Page St	SFR - Lot 8	MR 1-5	5/9/2022	VP	Low / NA	VP	1/30/2023	SA	Yes	2023: 2/21	SA	6/22/2023	EA	
Private	BP	22-0588	3721 Page St	SFR Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP	3/8/2023	SA	Yes			6/29/2023	SA	
Private	BP	22-0593	204 Creekside	4-plex Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP	7/14/2023	EA	Yes					construction underway 12/29/2023 - SA
Private	BP	22-0594	206 Creekside	4-plex Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP	7/14/2023	EA	Yes					construction underway 12/29/2023 - SA
Private	BP	22-0595	208 Creekside	4-plex Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP	7/14/2023	EA	Yes					construction underway 12/29/2023 - SA
Private	BP	22-0596	210 Creekside	4-plex Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP	7/14/2023	EA	Yes					construction underway 12/29/2023 - SA
Private	BP	22-0747	1012 Walker Dr	SFR	MR 1-5	6/21/2022	SA	Low / NA	SA	7/28/2023	SA	Yes					construction underway 12/29/2023 - SA
Private	BP	22-1342	1402 Rook Dr	SFR - Campbell Ave PRD Phase 2B	MR 1-5	11/7/2022	MM	Low / NA	MM	3/29/2023	RV	Yes			8/1/2023	SA	
Private	BP	22-1564	1002 E Park Ave	30'x40' 3 car garage w/ADU above the garage	MR 1-5	1/9/2023 1/24/2023 2/6/2023	MM MM MM	High / 1.31.2023	MM	4/20/2023	SA	Yes					
Private	BP	23-0042	1106 Walker St	Kevin Russell Const. SFR	MR 1-9	1/19/2023	SA	Low / NA	SA	4/27/2023	SA	Yes					
Private	BP	23-0072	1114 Walker St	Ace Michaels - SFR	MR 1-9	2/24/2023	SA	High / 4.27.2023	High	4/12/2023	SA	Yes					
Private	BP	23-0207	1325 E 3rd St	ROOSTd Design Build - SFR	MR 1-5	3/14/2023 3/21/2023	SA	Low / NA	SA	4/24/2023	SA	Yes	6/5/2023	SA	12/13/2023	SA	
Private	BP	23-0342	1329 E 3rd St	ROOSTd Design Build - SFR	MR 1-5	4/21/2023	SA	Low / NA	SA	5/26/2023	SA	Yes	6/5/2023	SA	12/13/2023	SA	
Private	BP	23-0555	2803 W 14th St	Joel Elloitt	MR 1-5	6/6/2023	SA	Low/NA	SA	5/26/2023	SA	Yes	2023: 7/12, 10/27	SA	11/13/2023	SA	
Public	C&G	23-0569	Volunteer Field	Infield Turf Replacement Project	MR 1-5	6/13/2023 7/21/2023	VM	Low / NA	VM	8/8/2023	VM	Yes	10/10/2023	SA	11/13/2023	SA	
Private	BP	23-0858	1407 Discovery Loop	Northpointe SFR	MR 1-5	9/8/2023	SA	Low / NA	SA	11/6/2023	EA	Yes					
Private	BP	23-0888	1118 S Cherry St	homeowner - SFR	MR 1-5	9/8/2023 10/4/2023	SA	Low / NA	SA	12/13/2023	SA	Yes					
Private	C&G	23-1084	333 Eclipse Industrial Parkway	PAH Truck Staging Area	MR 1-9	11.28.2023	MM	Low / NA	MM			Yes					This project was discovered after substantial completion and was required to address stormwater concerns retroactively.
Private	BP	23-0344	1333 E 3rd St	ROOSTd Design Build - SFR	MR 1-5	4/21/2023	SA	Low / NA	SA			No					
Private	BP	23-0599	4017 Fairmont Ave	H4H 4plex	MR 1-5	6/12/2023 7/28/2023 8/25/2023	SA MM MM	Low / NA	MM			No					Application incomplete, missing small sw proj documents. No folder yet created. Plans withdrawn 12/4/2023
Private	BP	23-0605	535 Marine Drive	Platypus Marine, Vessel Maint. Facility	MR 1-9	7/12/2023	VM	7/12/2023	VM			No					Project is held up by Fire requirements and has moved onto a piecewise approach.
Private	C&G	23-0877	535 Marine Drive	Platypus Marine, Vessel Maint. Facility	MR 1-9	8/28/2023	VM MM	7/12/2023	VM			No					Pre-con inspection anticipated 2024
Private	BP	23-1085	1121 Walker Rd	Homeowner - SFR	MR 1-5	10/19/2023	SA	Low / NA	SA			No					Permit abandoned.
Private	C&G	23-0792	W. 14th St.	Trailside PRD	MR 1-9	8.9.2023 10.10.2023 12.19.2023	MM VM	High / 12.20.2023	VM			No					Revisions received 11/9/2023 - in review.
Private	BP	23-0725	1248 Lauridsen Blvd.	PUD Substation	MR 1-9	8.2.2023 12.20.2023	MM VM	High / 8.14.2023	MM VM			No					In review.
Private	BP	23-1312	1409 Discovery Loop	Lot 5 Milwaukee Trails	MR 1-5	12.21.2023	VM RJ	Low / NA	MM			No					
Public	BP	23-1338	Corp Yard	Salt Storage	MR 1-5	12/26/2023	VM	Low / NA	VM			No					
Private	BP	22-0005	718 Estes Ct	Addition	MR 2 ONLY	5/1/2023	SA	Low / NA	SA								
Private	BP	22-1118	535 E 1st St	Building Remodel	MR 2 ONLY	5/22/2023	SA SA	Low / NA	SA								
Private	BP	22-1154	1604 E 4th St	Elite Restoration	MR 2 ONLY	7/17/2023	SA	Low / NA	SA								
Private	BP	22-1470	917 S Francis	Gutknecht SFR	MR 2 ONLY	5/1/2023	SA	Low / NA	SA								
Private	ROW CONST.	22-1512	3606 McDougal St	Sewer connection	MR 2 ONLY	1/19/2023	SA	Low / NA	SA								
Private	ROW CONST.	22-1565	Tumwater truck route	MLS Enterprise, Inc	MR 2 ONLY	2/1/2023	SA	Low / NA	SA								
Private	BP	23-0020	201 W Front St	Remodel for coffee bar in Field Hall	MR 2 ONLY	1/19/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0041	919 S Lincoln St	Emergency Sewer Repair	MR 2 ONLY	1/12/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0062	2021 E 1st St Star Bucks	Trech, bore, over lash	MR 2 ONLY	1/23/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0063	1143 Campbell Ave	Sewer repair	MR 2 ONLY	1/18/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0066	1734 W 12th St	Sewer connection	MR 2 ONLY	3/6/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0071	107 E 6th St	Sewer repair	MR 2 ONLY	1/25/2023	SA	Low / NA	SA								

Public or Private?	Permit Type	Permit # or Project #	Address, Area, or Parcel Number	Project Name	MR Triggered	Plan Review Date(s)	Initials	Appendix 7 (Risk / Site Visit Date)	Initials	Pre-Con ESC Insp. Date(s)	Initials	Const. Started?	During Construction ESC Insp. Date(s)	Initials	Final Completion Inspection Date	Initials	Internal notes
Private	BP	23-0061	112 W 8th St	Phoenix Remodelling, fuel tank relocate	MR 2 ONLY	1/24/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0076	114 E 6th St	Sidewalk Replacement	MR 2 ONLY	1/27/2023	RV	Low / NA	SA				2023: 3/6, 3/8, 3/31, 4/14, 5/2, 5/11				Work practices resulted in two legitimate IDDE concerns. Further work by Belfor will require a CESCL regardless of scope.
Private	BP	23-0103 23-0104	1315 W 10th St	SFR and ADU	MR 2 ONLY	2/9/2023	SA	Low / NA	SA				12/22/2023 Infil trench	SA			
Private	BP	23-0105	422 S L St	Deck	MR 2 ONLY	2/9/2023	SA	Low / NA	SA								
Public	DP	23-0120	507 S Cherry St	Greenhouse removal	MR 2 ONLY	2/15/2023	MM	Low / NA	MM								
Private	ROW CONST.	23-0157	120 E 8th St	Emergency Sewer Repair	MR 2 ONLY	2/15/2023	SA SA	Low / NA	SA								
Private	ROW CONST.	23-0159	419 1/2 E 3rd St	Emergency Sewer Repair	MR 2 ONLY	2/15/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0160	800 S Race St	Utility pole relocate	MR 2 ONLY	4/5/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0162	424 E 3rd St	Sewer Connection	MR 2 ONLY	2/16/2023	RV	Low / NA	SA								
Private	ROW CONST.	23-0178	1106 Walker St	Driveway and Culvert	MR 2 ONLY	4/5/2023	SA	Low / NA	SA								
Private	BP	23-0185	322 W 10th St	Adv Foundation Supports	MR 2 ONLY	3/23/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0196	2419 W 10th St	Driveway and ADA Ramps	MR 2 ONLY	3/24/2023	SA	Low / NA	SA								
Private	BP	23-0212	1714 E 3rd St	Garage	MR 2 ONLY	3/15/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0224	2621 S Cherry St	Replace driveway	MR 2 ONLY	4/4/2023	SA	Low / NA	SA								
Private	BP	23-0231	1506 S Cedar St	Helical Piers	MR 2 ONLY	4/28/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0263	903 Milwaukee Dr	Driveway	MR 2 ONLY	3/20/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0284	1311 Rook Dr	Driveway	MR 2 ONLY	3/23/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0295	1720 Ediz Hook Rd	Sewer Repair	MR 2 ONLY	4/14/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0296	1112 Caroline St	Sewer Repair	MR 2 ONLY	4/5/2023	SA	Low / NA	SA								
Private	BP	23-0300	821 W 12th St	Demo	MR 2 ONLY	4/26/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0310	526 Georgiana St	Sewer Repair	MR 2 ONLY	4/5/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0312	1114 Walker St	Driveway	MR 2 ONLY	3/30/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0326	Lauridsen Pole Replacement	Pole replacement	MR 2 ONLY	4/14/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0330	1308 W 11th St	RJ Services Inc	MR 2 ONLY	4/5/2023	SA	Low / NA	SA								
Private	BP	23-0336	719 E 6th St	Demo	MR 2 ONLY	4/18/2023	SA SA	Low / NA	SA								
Private	BP	23-0347	1418 W 7th St	Garage remodel	MR 2 ONLY	4/24/2023	SA	Low / NA	SA								
Private	BP	23-0360	821 W 12th St	Garage to ADU conversion	MR 2 ONLY	4/24/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0372	1714 E 3rd St	Sewer Connection	MR 2 ONLY	4/17/2023	SA	Low / NA	SA								
Private	BP	23-0390	216 W 4th St	New Garage	MR 2 ONLY	4/26/2023	SA	Low / NA	SA								
Private	BP	23-0392	216 W 4th St	Demo	MR 2 ONLY	4/26/2023	SA	Low / NA	SA								
Private	BP	23-0403	532 W 4th St	Helical pier foundation repair	MR 2 ONLY	5/1/2023	SA	Low / NA	SA								
Private	BP	23-0404	621 S Washington	2nd floor addition	MR 2 ONLY	5/3/2023	SA	Low / NA	SA								
Private	BP	23-0410	139 W 7th St	Garage rebuild and addition	MR 2 ONLY	5/3/2023	SA	Low / NA	SA								
Private	BP	23-0412	2030 W 7th St	SFR Addition	MR 2 ONLY	5/5/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0415	704 E 5th St	Sewer Repair	MR 2 ONLY	4/26/2023	SA	Low / NA	SA								
Private	BP	23-0417	520 S Lincoln	Fence and remodel	MR 2 ONLY	5/18/2023 5/24/2023	SA SA	Low / NA	SA								
Private	ROW CONST.	23-0419	3729 McDougal St	Sidewalk and driveway const	MR 2 ONLY	5/26/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0420	311 E 10th St	Emergency sewer repair	MR 2 ONLY	4/26/2023	SA	Low / NA	SA								
Private	BP	23-0431	321 E 12th St	Deck and interior remodel	MR 2 ONLY	5/9/2023	SA	Low / NA	SA								
Private	BP	23-0435	1732 W 5th St	Garage to ADU conversion	MR 2 ONLY	5/8/2023	SA	Low / NA	SA								
Private	BP	23-0439	1128 W 16th St	Storage Shed	MR 2 ONLY	5/11/2023	SA	Low / NA	SA								
Private	BP	23-0447	204 W 2nd St	ADU	MR 2 ONLY	5/18/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0452	115 E Railroad	Parking lot patching	MR 2 ONLY	5/10/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0467	917 S Francis St	Driveway and Sewer connection	MR 2 ONLY	5/5/2023	SA	Low / NA	SA								

Public or Private?	Permit Type	Permit # or Project #	Address, Area, or Parcel Number	Project Name	MR Triggered	Plan Review Date(s)	Initials	Appendix 7 (Risk / Site Visit Date)	Initials	Pre-Con ESC Insp. Date(s)	Initials	Const. Started?	During Construction ESC Insp. Date(s)	Initials	Final Completion Inspection Date	Initials	Internal notes
Private	ROW CONST.	23-0468	240 W 5th St	Emergency electrical repair	MR 2 ONLY	5/5/2023	SA	Low / NA	SA								
Private	BP	23-0517	902 E 8th St	Turella Oral Surgery	MR 2 ONLY	6/2/2023	MM	Low / NA	MM								
Private	ROW CONST.	23-0518	240 W 5th St	Emergency electrical repair	MR 2 ONLY	6/15/2023	SA	Low / NA	SA								
Private	BP	23-0525	4101 Tumwater Truck Rt	Pole Building	MR 2 ONLY	5/30/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0528	625 Milwaukee Dr	Driveway	MR 2 ONLY	6/2/2023	SA	Low / NA	SA								
Private	BP	23-0538	204 E Front St	Demo	MR 2 ONLY	5/31/2023	SA	Low / NA	SA								
Private	BP	23-0551	1605 E 3rd St	Retaining Wall	MR 2 ONLY	6/7/2023	SA	Low / NA	SA								
Private	BP	23-0554	315 N Lincoln St	Tent	MR 2 ONLY	6/6/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0561	602 E 1st St	Storm Drain/Sidewalk Repair	MR 2 ONLY	6/20/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0570	601 Del Guzzi Dr	Sewer Connection	MR 2 ONLY	6/14/2023	SA	Low / NA	SA								
Private	BP	23-0580	1139 W 19th St	Duplex	MR 2 ONLY	6/12/2023	SA	Low / NA	SA								
Private	BP	23-0600	428 E 11th St	Expanded deck space	MR 2 ONLY	6/16/2023	SA	Low / NA	SA								
Private	BP	23-0606	207 W 14th St	Foundation repair	MR 2 ONLY	6/22/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0607	1334 W 4th ST	Emergency Sewer Repair and replacement	MR 2 ONLY	6/16/2023	SA	Low / NA	SA								
Private	BP	23-0624	315 N Lincoln St	Demo Pier Railing	MR 2 ONLY	6/26/2023	SA	Low / NA	SA								
Private	BP	23-0625	1621 A St	Manufactured Home	MR 2 ONLY	6/28/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0647	601 Del Guzzi Dr	Driveway	MR 2 ONLY	6/21/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0661	1300 W 4th St	Pole replancement	MR 2 ONLY	7/20/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-0667	1814 W 10th St	Sidewalks and driveways	MR 2 ONLY	11/16/2023	SA	Low / NA	SA								
Private	BP	23-0685	1421 E 1st St	Detached Steel Structure	MR 2 ONLY	7/3/2023	MM	Low / NA	MM								
Private	BP	23-0710	915 E 10th St	Deck	MR 2 ONLY	7/7/2023	SA	Low / NA	SA								
Private	BP	23-0695	1608 W 16th St	Fairgrounds shed	MR 2 ONLY	7/12/2023	SA	Low / NA	SA								
Private	BP	23-0726	1407 D St	Model Home ADU	MR 2 ONLY	7/28/2023	SA	Low / NA	SA								
Private	BP	23-0755	1601 W 6th	Home Addition	MR 2 ONLY	7/31/2023	MM	Low / NA	MM								
Private	BP	23-0767	404 E Park Ave	SFR Remodel	MR 2 ONLY	8/4/2023	SA	Low / NA	SA								
Private	BP	23-0787	124 W Railroad Ave	Deck Replacement	MR 2 ONLY	8/1/2023	SA	Low / NA	SA								
Private	BP	23-0769	1009 W 9th St	Remodel	MR 2 ONLY	8/4/2023	SA	Low / NA	SA								
Private	ROW CONST.	23-752	1220 E 5th St	Asphalt Overlay	MR 2 ONLY	8/4/2023	SA	Low / NA	SA								Asphalt overlay expemt per USSG 5.03.4
Private	BP	23-0783	1121 B St	Remodel	MR 2 ONLY	8/11/2023	SA	Low / NA	SA								
Private	BP	23-0816	2032 W 4th St	Garage to ADU conversion	MR 2 ONLY	9/5/2023	SA	Low / NA	SA								
Private	BP	23-0827	1614 W 11th St	Retaining Wall	MR 2 ONLY	8/14/2023	SA	Low / NA	SA								
Private	C&G	23-0884	812 S Golf Course Rd	Landscaping with drywell	MR 2 ONLY	8/22/2023	MM	Low / NA	MM								
Private	COND. USE	23-0894	105 E 5th St	Self dog wash business CofO	MR 2 ONLY	8/29/2023	MM	Low / NA	MM								
Private	BP	23-0861	324 Valley St	Residential remodel	MR 2 ONLY	8/29/2023	SA	Low / NA	SA								
Private	BP	23-0889	917 E 2nd St	ADU/Garage - existing foundation	MR 2 ONLY	9/6/2023	SA	Low / NA	SA								
Private	CO	23-1008	222 N Lincoln St Ste 101	Mody Duck Chowder	MR 2 ONLY	9/20/2023	MM	Low / NA	MM								Subject to Source Control Inspection Program PAMC 13.63.275
Private	BP	23-0999	807 Georgiana	Garage	MR 2 ONLY	9/29/2023	SA	Low / NA	SA								
Public	BP	23-1028	3501 W 18th St	PAPD Range Shed	MR 2 ONLY	10/9/2023	SA	Low / NA	SA								
Private	BP	23-0886	1714 E 3rd St	2nd story addition	MR 2 ONLY	9/8/2023	SA	Low / NA	SA								
Private	C&G	23-0893	Discovery Loop	Milwaukee Trails Phase 4	MR 2 ONLY	10/20/2023	VM	Low / NA	SA								This project extends C&G 21-1702 to a neaby lot.
Private	BP	23-0939	1232 E 5th St	Detached Garage	MR 2 ONLY	9/8/2023	SA	Low / NA	SA								
Private	BP	23-0982	603 E 2nd St	Canopy addition	MR 2 ONLY	10/4/2023	SA	Low / NA	SA								
Private	BP	23-1011	212 W 14th St	Garage Demo	MR 2 ONLY	10/26/2023	SA	Low / NA	SA								
Private	C&G	23-1020	909 E First St	First Race Cont Soils Removal	MR 2 ONLY	10/20/2023	VM	Low / NA	MM								
Private	BP	23-1026	1032 W 12th St	Exterior concrete	MR 2 ONLY	10/25/2023	SA	Low / NA	SA								
Private	BP	23-1043	105 W 11th St	Garage to ADU	MR 2 ONLY	10/18/2023	SA	Low / NA	SA								
Private	BP	23-1044	1223 E Front	Garage Demo	MR 2 ONLY	10/6/2023	SA	Low / NA	SA								
Private	BP	23-1050	1315 S D St	Garage-dwelling conversion	MR 2 ONLY	10/10/2023	SA	Low / NA	SA								
Private	BP	23-1055	1409 Shirley Ct	Covered Deck	MR 2 ONLY	10/11/2023	SA	Low / NA	SA								
Private	BP	23-1070	2112 W 14th St	Rebuild fire damage	MR 2 ONLY	10/17/2023	SA	Low / NA	SA								
Private	BP	23-1153	914 W 5th St	Garage ADU	MR 2 ONLY	11/7/2023	SA	Low / NA	SA								
Private	BP	23-1162	121 W Front St	Winter Ice Village	MR 2 ONLY	10/31/2023	SA	Low / NA	SA								
Private	BP	23-1230	1127 Columbia St	Deck	MR 2 ONLY	11/21/2023	SA	Low / NA	SA								
Private	BP	23-1241	2025 W 7th St	Detached Garage	MR 2 ONLY	12/6/2023	SA	Low / NA	SA								
Private	BP	23-1252	840 W 6th St	Garage and ADU	MR 2 ONLY	12/11/2023	SA	Low / NA	SA								
Private	BP	23-1269	206 S Peabody	Concrete Ramp	MR 2 ONLY	12/22/2023	SA	Low / NA	SA								
Private	BP	23-1312	1409 Discovery Loop	Lot 5 Milwaukee Trails	MR 2 ONLY	12/21/2023	VM RJ	Low / NA	MM								
Public	BP	23-1327	City Pier	City Pier Tower	MR 2 ONLY	12/20/2023	EA	Low / NA	MM								

Public or Private?	Permit Type	Permit # or Project #	Address, Area, or Parcel Number	Project Name	MR Triggered	Plan Review Date(s)	Initials	Appendix 7 (Risk / Site Visit Date)	Initials	Pre-Con ESC Insp. Date(s)	Initials	Const. Started?	During Construction ESC Insp. Date(s)	Initials	Final Completion Inspection Date	Initials	Internal notes
Private	BP	23-1329	Deck Repair 1230 W 17th st	Rick Dearinger	MR 2 ONLY	12/20/2023	EA	Low / NA	MM								
Private	BP	23-1346	124 W Railroad Ave	Elevated deck on business	MR 2 ONLY	12/28/2023	MM	Low / NA	MM								

Public or Private?	Permit Type	Permit # or Project #	Address, Area, or Parcel Number	Project Name	MR Triggered	Plan Review Date(s)	Initials	Appendix 7 (Risk / Site Visit Date)	Initials	Pre-Con ESC Insp. Date(s)	Initials	Const. Started?	During Construction ESC Insp. Date(s)	Initials	Final Completion Inspection Date	Initials	Internal notes

2023 End of Year Statistics | Phase II Municiple SW Permit, WAR045028

Category	Count	Percent	S5.C.6
Total plans reviewed for SW Review	142	100%	c.i.
Appendix 7 sites	5	-	c.ii.
Appendix 7 inspections	5	100%	c.ii.
Pre-Const. Insp. (# of sites)	29	-	-
Pre-Const. Insp. (# of insp.)	28	97%	-
During Const. Insp. (# of total sites)	19	-	c.iii.
During Const. Insp. (# of sites inspd.)	19	100%	c.iii.
During Const. Insp. (total # of insp.)	25	-	-
(under IDDE program) Enforcement (# of insp.)	2	-	-
Final Inspections Total	35	-	c.v.
Final Inspections Performed	35	100%	c.v.
(excluding MR #2-only) Projects on-going	13	-	-
(excluding MR #2-only) Projects not started	15	-	-
Total Inspections Required	90	-	-
Total SW Inspections Performed	95	-	-
Of Req'd, Total Inspections Achieved	**89**	**99%**	**c.vi.**

*In compliance with Permit by achieving at least 80% of required inspections

** During Const. Insp. includes Pre-const. erosion & sed. Control insp.

Stormwater Pollution Prevention Plan (SWPPP)

for:

Maintenance Facility ("Corp Yard")
1703 South B Street Port Angeles, WA 98362
Public Works and Utilities
City of Port Angeles

In compliance with S5.C.7.f of Washington State Department of Ecology's
2019-2024 Western Washington Phase II Municipal Stormwater Permit

SWPPP Origination Date: August, 2007

Substantial SWPPP Update:

September 23, 2022

Eric Wheatley
Eric Wheatley (Apr 20, 2023 12:08 PDT)

Eric Wheatley,
Deputy Director of Operations

Jonathan Boehme, P.E.
City Engineer

Mike Healy
Mike Healy (Mar 29, 2023 16:16 PDT)

Mike Healy
Interim Director of Public Works

Contents

1 Introduction and Contact Information 2
1.1 Facility Information 2
1.2 Contact Information/Responsible Parties 2
1.3 Background 3
1.3.1 Goals and Objectives 3
1.3.2 Plan Organization 4
1.4 Updates to this SWPPP 4
1.5 Revisions 4
1.6 Stormwater Pollution Prevention Team 5
2 Facility Assessment 5
2.1 Facility Description 5
2.1.1 Activity 7
2.1.2 Regular Business Hours 8
2.1.3 General Layout 8
2.1.4 Drainage 8
2.2 Activity, Materials Inventory, and Associated Pollutants 9
2.2 Spills and Leaks 15
3 Best Management Practices (BMPs) 16
3.1 Operational Source Control BMPs 18
3.1.1 Good Housekeeping 18
3.1.2 Preventative Maintenance 19
3.1.3 Spill Prevention and Emergency Cleanup: 20
3.1.4 Employee Training 21
3.1.5 Inspections, Reporting, and Recordkeeping 21
3.1.6 Illicit Discharges and Dry Weather Inspections 22
3.2 Structural Source Control BMPs 23
3.3 Treatment BMPs 23
3.4 Erosion and Sediment Control BMPs 24
4 Monitoring Plan 24
5 References 26
SWPPP Appendices 27
Appendix A – Summary of Prior Plan Revisions A1
Appendix B – List of Definitions B1
Appendix C – Weather Inspection Forms C1
Appendix D – Spill and Leak Log D1
Appendix E – Employee Training Log E1
Appendix F – SWPPP Certification Form F1

List of Figures

Figure 1. General Location Map 6
Figure 2. Vicinity Map 7
Figure 3. Site Map 11

List of Tables

Table 1. Pollution Prevention Team 5
Table 2. Significant Materials Exposed to Rainfall 13
Table 3. Areas Associated with Pollution Generating Activity 14
Table 4. Areas of Site Where Potential Spills/Leaks Could Occur 16
Table 5. Summary of Site BMPs 17
Table 6. Good Housekeeping 18
Table 7. Preventative Maintenance 19
Table 8. Inspections 21
Table 9 Treatment BMPs 24
Table 10. Site Discharge Locations 25

QUICK REFERENCE GUIDE

This Stormwater Pollution Prevention Plan (SWPPP) contains detailed information needed to perform and maintain Best Management Practices (BMPs) to prevent stormwater pollution. The following table summarizes the primary action items that the users of the plan will perform on a recurring basis.

Frequency	Action
Per Event (daily)	P2 team and other facility personnel note spills, leaks, and other possible pollutants to stormwater system. Note: part of the facility's surface water drainage connects to the sanitary sewer as shown on the site map (Figure 1). • Notify P2 team leader of problems. • Note changes to facility that could affect stormwater quality and notify P2 team leader.
Dry Season July – Sept	• Conduct one dry-weather inspection during the period July-September after 7 days dry weather (complete Appendix C Form 1) • Prior to start of the wet season, remove accumulated sediments in catch basins and other BMPs; clean up debris, old equipment, and other materials exposed to rainfall
Wet Season Oct – June	• Conduct quarterly wet weather monitoring once per quarter in each of three quarters during the period October-June (complete Appendix C Form 2)
Quarterly	• Inspect all material storage areas, areas of industrial activity and BMPs, perform maintenance as needed once per quarter (complete Appendix C Form 3)
Annual	• Conduct employee training (complete Appendix E Form)
As needed	• Update SWPPP to maintain relevancy with the facility

1 Introduction and Contact Information

1.1 Facility Information

Facility Information

Name of Facility: City of Port Angeles Public Works and Utilities Maintenance Facility ("Corp Yard")

Street: 1703 South B Street

City: Port Angeles State: WA ZIP Code: 98362

County: Clallam

Latitude: 48°6'40" N Longitude: 123°27'38" W

Total area of the site: 9.04 (acres)

Estimated area of activity at site exposed to stormwater: 3.73 (acres)

Discharge Information

Does this facility discharge stormwater into surface waters? ☐ Yes ☒ No

Does this facility discharge stormwater into a municipal storm water conveyance system (MS4)? ☒ Yes ☐ No

Estimated area of the site tributary to the MS4: 4.04 (acres)

1.2 Contact Information/Responsible Parties

Facility Operator (s):

Name: Deputy Director of Operations
Address: 1703 South B Street
City, State, Zip Code: Port Angeles, WA 98362
Telephone Number: (360) 417-4802
Email address: Publicworks@cityofpa.us
Fax number: (360) 417-4709

Facility Owner (s):

Name: Director of Public Works
Address: 321 E. 5th Street
City, State, Zip Code: Port Angeles, WA 98362
Telephone Number: (360) 417-4801
Email address: Publicworks@cityofpa.us
Fax number: (360) 417-4709

SWPPP Contact:

Name: Street / Stormwater Superintendent
Telephone number: (360) 417-4825
Email address: IllicitDischarge@cityofpa.us
Fax number: (360) 417-4709

1.3 Background

This SWPPP applies to the City of Port Angeles (City) Public Works and Utilities Maintenance and Operations Facility (also known as the "Corp yard"), located at 1703 South B Street, Port Angeles, WA 98362 (Figure 1). This SWPPP provides a facility assessment, which includes a site map, inventory of activities and materials, and discussion of where potential spills and leaks could occur; and identifies the related maintenance, monitoring and inspection of stormwater best management practices (BMPs) on-site.

This facility is subject to the Western Washington Phase II Municipal Stormwater Permit (MS4 Permit); a National Pollution Discharge Elimination System (NPDES) permit administered by the Washington State Department of Ecology (WDOE 2019B). The site's original SWPPP was developed in August 2007 with periodic updates being performed over the years as necessary to maintain relevancy with the facility and the permit. This SWPPP update has been performed in accordance with S5.C.8.f of the 2019-2024 MS4 permit (WDOE 2019B).

While the Industrial Stormwater General Permit (ISGP) SWPPP Template was used as a basis for document organization, this facility is not subject to an NPDES Industrial Stormwater General Permit (ISGP) as activities categorically requiring ISPG coverage are not performed at this location (WDOE 2019A).

Regarding stormwater runoff and site utilization; the site has been divided into three tributary basins: areas tributary to the MS4, areas tributary to the sanitary sewer system, and areas tributary to a vegetated closed depressional area with no stormwater outlet. In general, pollution generating activities that cannot be performed or housed under cover, are performed in areas with inlets connected to the sanitary sewer system. The onsite stormwater system consists of various stormwater catch basins connected into conveyance tied into the City's MS4 that eventually discharges to Tumwater Creek. Aside from some minor vegetative filtration and a few grass-lined conveyance ditches, there are no onsite stormwater treatment or detention/retention facilities maintained on the site.

1.3.1 Goals and Objectives

This SWPPP is intended to satisfy the following goals:

1. To implement and maintain Best Management Practices (BMPs) that identify, reduce, eliminate, and/or prevent the discharge of stormwater pollutants;
2. To prevent violations of surface water quality, ground water quality, or sediment management standards; and
3. To eliminate the discharges of unpermitted process wastewater, domestic wastewater, non-contact cooling water, and other illicit discharges to stormwater drainage systems.

Given these goals, the plan provides for satisfying the following objectives:

1. Identify potential sources of stormwater pollution that may affect the quality of stormwater discharges associated with the City's Public Works and Utilities Department maintenance facility operations;
2. Evaluate the potential for stormwater contamination from these sources;
3. Identify the stormwater BMPs that will be used at the facility for the prevention and control of pollutants in stormwater discharges; and
4. Identify operation, maintenance, inspections, monitoring and record keeping needed for these BMPs.

The SWPPP will be reviewed by the City's Pollution Prevention (P2) Team annually to ensure that the elements of the plan are effective. Modifications to the SWPPP will be made as needed to reflect changing conditions at the facility, such as new or differing operations, facility modifications, and BMPs.

1.3.2 Plan Organization

The SWPPP has been prepared to follow the general requirements as appropriate in the Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities issued by the WA Department of Ecology (WDOE 2004) and the Stormwater Management Manual for Western Washington (WDOE 2019C). While this guidance manual applies to certain facilities covered under the ISGP, the Corp Yard facility is not covered by the ISGP. Blank copies of inspection and record keeping forms are contained in the Appendix.

A new light utility building is proposed to be built north of Building M, outside the site boundaries (Figure 2). This building will have its own operational SWPPP and will most-likely not be included in future revisions of this SWPPP.

1.4 Updates to this SWPPP

Major updates to this SWPPP include the following:

- Applied the Washington State Department of Ecology's (2022) SWPPP template as the basis
- Updated and improved accuracy of site map (Figure 2) and associated description of activities
- Updated and verified contacts and responsibilities
- Added information regarding the drainage of Area #2 and improvements that will be made
- Improved navigability with bookmarks and links

See Appendix A for detailed documentation on this and previous updates of this SWPPP.

1.5 Revisions

This SWPPP should be revised for significant updates that affect BMPs, the facility (activities, materials, and drainage) or other reasons that could significantly affect stormwater quality. Revisions for typographical errors in the SWPPP or improving the quality of the map or other changes that are more administrative in

function would not require a revision to the SWPPP. Facility information that could be subject to change is contained in summary tables and a site map (Figure 2) that can be readily updated as needed in the future and attached to the SWPPP as amendments.

1.6 Stormwater Pollution Prevention Team

An important part of this SWPPP and a principal BMP is the City's Stormwater Pollution Prevention (P2) Team, with specific roles and responsibilities as identified in Table 1. This table should be updated as roles and responsibilities change.

Table 1. Pollution Prevention Team

Staff Names and/or Title	Individual Responsibilities
Street and Stormwater Superintendent	P2 Team Leader is responsible for implementing the SWPPP, coordinating with other users of the facility, and providing administrative support and coordination for all aspects of reporting
Fleet Manager, Equipment Services Division	Performs/Reviews BMPs and provides updates for SWPPP as necessary for Automotive maintenance shop, fueling, and used fluid management
Stormwater Leadworker	Performs SWPPP inspections, visual monitoring, and maintains the SWPPP inspection forms and records
Street and Stormwater Superintendent	Performs/Reviews BMPs and provides updates for SWPPP as necessary for maintenance, sweeping, cleaning sewer/storm lines and catch-basins, and aggregate stockpile control
Superintendent, Water/Wastewater Division	Performs/Reviews BMPs and provides updates for SWPPP as necessary for oil-water separator (OWS), vehicle wsh area, mowing of berms and swales, and aggregate stockpile control
Engineering Division	Supports Operations with permit compliance and reporting, SWPPP updates, and annual staff training
Deputy Director of Light Operations	Performs/Reviews BMPs and provides updates for SWPPP as necessary for Transformer yard management, Spill Prevention, Control, and Countermeasure (SPCC) plan (Parametrix 2003) implementation & training
Deputy Director of Public Works and Utilities	Oversees the Facility and implementation of the SWPPP.

2 Facility Assessment

2.1 *Facility Description*

This approximately nine-acre site is located in the southwest portion of the City of Port Angeles, Washington (Figure 1). The facility is bounded by A and B streets and Tumwater Truck Route on the West and East sides, and 16th Street and Lauridsen Blvd on the North and South sides, respectively (Figure 2).

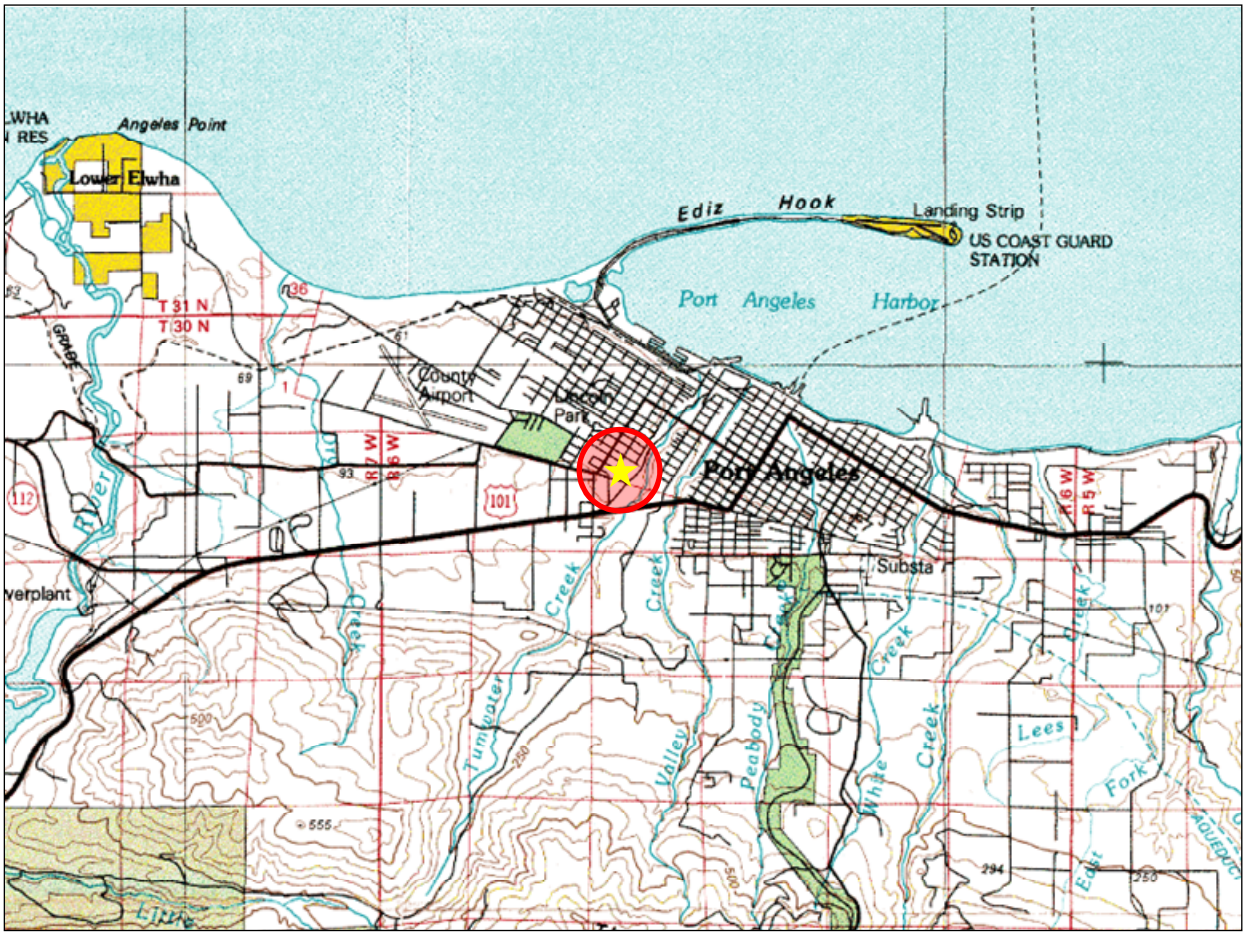


Figure 1. General Location Map

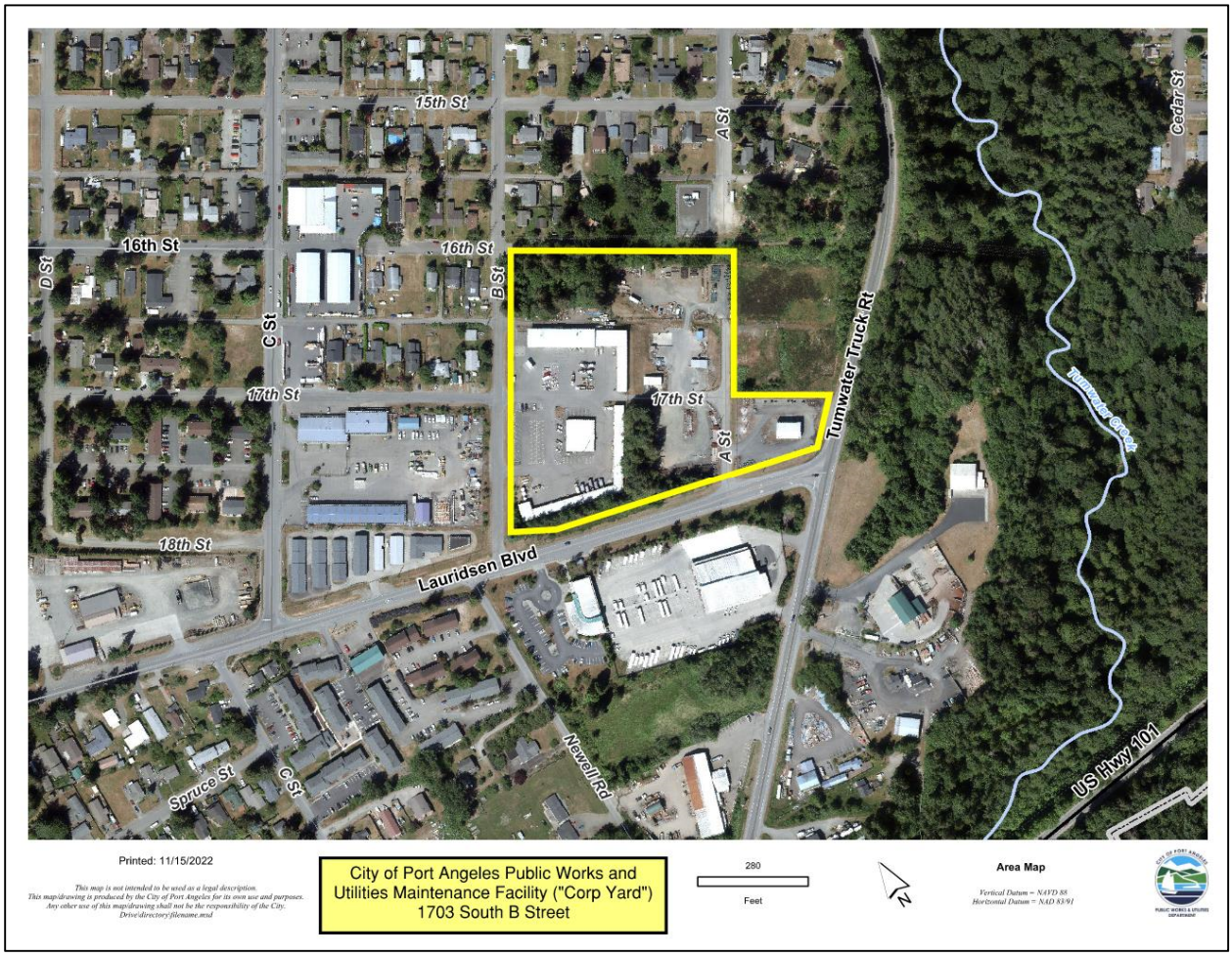


Figure 2. Vicinity Map

2.1.1 Activity

This facility primarily serves as a launching and landing site for Public Works Operations (Sanitary, Storm, Streets, Solid Waste, & Water) in support of maintenance, repair, and improvement activities and projects throughout the community. Other departments periodically frequent the site to use the fueling station and to receive vehicle maintenance. Secondary activities routinely occurring at the site include:

- Fleet vehicle maintenance and fueling
- Warehousing and storage of materials incidental to the performance of services, such as
    - Pipe, valves, meters, fixtures, structures, rings, covers, cans, signs, and other appurtenances necessary to support public works utilities
    - Aggregates and surfacing materials necessary for backfill, utility bedding, and re-surfacing
    - Transformers and utility poles
    - Winter road safety materials (traction sand, de-icer, equipment)

- Vehicle and equipment washing in the wash facility
- Staging of public works vehicles in buildings and paved areas (cars, shop trucks, heavy equipment, sweepers, eductor "vactor" trucks, solid waste trucks, etc.)
- Employee Parking

Section 2.2 provides more detailed, area-by-area breakdown of routine activities performed onsite.

2.1.2 Regular Business Hours

The Corp Yard is not open to the public. Operational hours for employees are typically between 7:00 am and 3:30 pm, Monday through Friday, with scheduled closures during all major national holidays. Scheduled and unscheduled variances from the standard work schedule are common and necessary to perform night work, seasonal work, or to respond to an emergency.

2.1.3 General Layout

The general layout of the site is shown on the Site Map provided in Figure 3. There are five material storage yards marked on the map. These areas do not have constructed drainage systems, and only one (Area 5) is paved. The others are gravel-surfaced. The buildings and the vehicle wash facility provide various uses as described in detail below in this section. The vehicle wash facility was installed in 2015. The wash facility design does not permit wash water to flow outside of the confines of the facility and the facility drains into sanitary sewer after going through sediment and oil/water separators.

The site map is based on site visits performed by City staff, a compilation of existing maps provided by the City, and flow/dye testing performed by the City in 2006. This map should be updated as needed for significant facility or operational changes.

2.1.4 Drainage

Approximately one half of the paved areas and some rooftop areas drain to the local sanitary (combined) sewer, while the remainder of the paved areas and rooftops drain to a separate storm drainage system (Figure 3). The storm drainage leaves the site via the drainage lines along A Street and eventually discharges to Tumwater Creek. Drainage from other private and public lands combine in this conveyance system before discharging at the 11th Street outfall to Tumwater Creek.

Tumwater creek is approximately 5 miles in length and is one of several relatively small creeks that drain north from the foothills through the City to the Port Angeles Harbor in this portion of WRIA 18. The last 1.5 mile (approximate) of the creek passes through the City limits and flows in a wooded ravine adjacent to the Tumwater Truck Route (State Route 117). The facility covered by this SWPPP is approximately adjacent to river mile 1.3 of Tumwater Creek, just north of the Highway 101 crossing. This creek was placed in a Category 5 status for fecal coliform bacteria on the 2004 §303(d) list[1]. The Department of Ecology reports

[1] A category 5 listing in the WA State Water Quality Assessment places a water body on the §303(d) list of the Clean Water Act. A category 5 listing indicates that Ecology has data showing that the water quality standards have been exceeded for one or more pollutants, and there is no TMDL (total maximum daily load, also known as a "water clean up plan") or pollution control plan already in place. TMDLs will eventually be required for the water bodies in this category. In the case of Tumwater Creek, the 2004 Category 5 listing is based on third party data that indicate periodic exceedances of fecal coliform criteria, though much of the data appear to

Tumwater Creek is currently 303(d) listed for fecal coliform bacteria with the most recent assessment being performed in 2018.

As shown on Figure 2, the principal storm drain line that crosses the facility contains drainage from up gradient entities not related to this facility (such as the WSDOT maintenance facility immediately to the west). Thus, the apparent outfall to Tumwater creek would be expected to convey runoff from multiple sources, properties and jurisdictions.

Ordinarily, rainfall on Area 2 primarily infiltrates and does not channelize. However, as of recent, during heavy rain events, it has been observed to channelize and flow towards/along A Street shoulder and enter MH1 and possibly CB4. This runoff can be turbid due to uncovered material stockpiles. An O&M project has been scheduled for 2023 to re-define the grassy swale that eventually leads to CB4 and upgrade it with stormwater check dams to provide filtration, settling, and storage.

2.2 Activity, Materials Inventory, and Associated Pollutants

Activities that have the potential to generate pollutants take place under cover or in areas connected to the sanitary sewer system. On the south side of the site, pre-existing catch basins (SS1 and SS9) were strategically disconnected from storm and connected into the nearby sanitary system. Some minor uncovered equipment servicing takes place in this area along with staging of garbage tucks, which inherently have a potential to pollute. On the north side of the site, area drains SS2-SS6 are also connected to the sanitary system as vehicles requiring servicing in the covered maintenance facility are staged in this area. As shown on Figure 3, most of the employee parking lot and some of the vehicle staging areas are tributary to stormwater.

Transformer storage and dispositioning operations take place in the Area #1 storage yard and Building M. New transformers are temporarily stored in this location until installation, and used transformers are temporarily stored after oil is removed in Building M (oil is disposed offsite by a contractor). These activities have an existing spill prevention, control and countermeasure (SPCC) plan that is cross-referenced in this SWPPP (Parametrix, 2003). This SPCC plan was most-recently updated in Fall 2022.

Leaky transformers or transformers otherwise retired from service are stored inside Building M per the SPCC. Transformer oil is removed from old units and transferred into drums inside this building. The building floor slopes to the center, has no drain and was designed specifically to provide secondary containment for potential spills. An SPCC plan covers this facility and provides for training and BMPs during bulk oil transfer to tanker trucks outside on the paved apron (Parametrix, 2003). There are no direct drainage connections to the storm water system from Building M or from the paved area around it. The storm drainage line shown on the site map (Figure 3) that collects offsite runoff and passes under the transformer storage building does not receive any drainage from this area.

Previous versions of this document report that the building (Building M) has two roof gutter downspouts that do not connect to the drainage system, but are connected to a French drain. A review of the construction plans was not able to confirm the existence of French drains, however, Staff also was not able to disprove

indicate relatively low levels that meet the criteria. Other similar creeks in the vicinity also have various categories of listing for fecal coliforms, a common situation for urban and rural streams but not necessarily indicative of a direct public health risk.

their existence either. The paved surfaces in this area have a constructed drainage system consisting of an oil/water separator that is tied into sanitary sewer. Asphalt curbing has been installed around the perimeter of the facility and contains runoff so that it is no longer able to infiltrate the soil by passing under the fence to the area of grass cover along Tumwater Truck Route, State Route (SR) 117. All runoff is directed into the oil/water separator on site and into the City's sanitary sewer system.

Traffic marking paint, the paint sprayer, misc. tools, and landscape control materials are stored inside Building K. The building is outfitted with an emergency water sprinkler system and secondary containment is provided for all liquid storage containers.

Table 2 details significant materials exposed to rainfall and the associated method of storage. The majority of these materials are resources incidental to the performance of offsite utility repairs and road maintenance, including aggregate and traction sand. Waste materials, such as catch basin sediments and street sweepings, are not stored onsite; they are dewatered and managed at the City's transfer station. Areas of site activity are further summarized in Table 3.

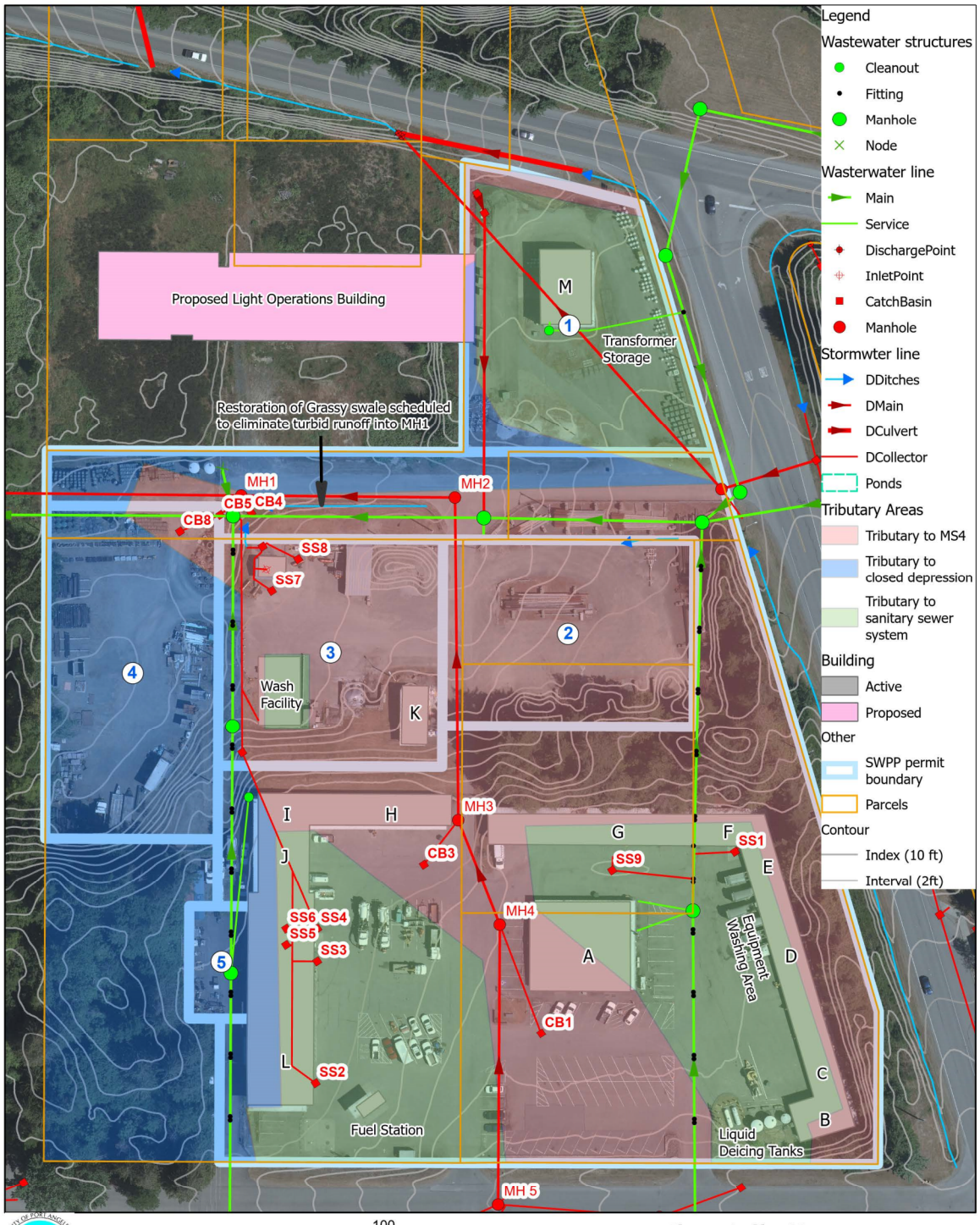


Figure 3. Site Map

This page left intentionally blank.

Table 2. Significant Materials Exposed to Rainfall

List of Significant Materials	Period of Possible Exposure	Quantity of Possible Exposure	Areas	Method of storage, handling, treatment, or disposal
New transformers	Continuous	varies up to approx. 200	Area #1	Stored outside Building M, connected to sanitary sewer.
Used transformers (good condition)	Loading, unloading	varies up to approx. 100	Area #1	Stored outside Building M, connected to sanitary sewer.
Transformer oil	Loading, unloading	varies up to approx. 300 gal.	Area #1	New oil stored inside Building M, used oil transferred offsite per SPCC plan. Area connected to sanitary sewer.
Utility poles: wood, concrete, metal, fiberglass	Continuous	varies	Area #2	New and used poles stored outside in unpaved areas with no direct connection to storm drainage system. Area #2 is tributary to CB4 during heavy rain events. Vegetated swale with check dams provide runoff treatment.
Sand, gravel	Continuous	approx. 300 yd3	Areas #2 & #3	Traction sand is stored in covered bulk pile in an unpaved area. Other piles are contained in ecology block bins. Area #3 drains to CB6, CB7 and into grass swale, which ordinarily drains to stormwater CB4 and CB5.
Miscellaneous drainage and utility equipment	continuous	Varies	Areas #4 & #5	Uncovered storage for equipment (culverts, pipe, structures, rings, covers, valves, cans, etc) going into or recently taken out of service. Stored outside in unpaved areas with no direct connection to storm drainage system. Areas #4 & #5 are predominantly tributary to closed depressional area with no known outlet.
Liquid roadway deicer (mag. chloride)	Loading, unloading, dispensing	Two 6,500 Gal Tanks	SW corner of site near Building B	Bulk roadway deicing fluid (magnesium chloride) is stored outside in two above ground 6,500 gallon tanks and dispensed on site. Area drains to SS9, which is connected to sanitary sewer.
Salt Brine	Loading, unloading, dispensing	One 3,000 Gal Tank	SW corner of site near Building B	Salt brine is in stored one above ground 3,000 gallon tank. Area drains to SS9.
Roadway Salt	Loading, unloading, dispensing	Approx. 30 tons	Area #3	Stored in eco block bins with roof and each pile also covered with tarps.

List of Significant Materials	Period of Possible Exposure	Quantity of Possible Exposure	Areas	Method of storage, handling, treatment, or disposal
Vehicle fuel (gasoline and diesel)	Loading, unloading, dispensing	None (in Underground Storage Tank [UST])	Fuel Station near NW corner of site	Stored in USTs. Area around the fuel island is tributary to inlets connected to the sanitary sewer system.
Crack Seal Material	Loading, unloading, dispensing	None, under cover	Inside Buildings E and F	One to two drums of cold-flow asphalt product are stored inside Building F.
Maintenance Materials (cold mix asphalt, topsoil)	Continuous	Varies up to ~20 yd^3 of each	Areas #2 & 3	Stockpiles contained in wooden bins in Area #3, which drains to CB6, CB7 and into grass lined swale and into CB4 and CB5. Area #2 has no direct storm drainage system. Both areas tributary to stormwater under heavy rainfall.
Incidental vehicle sources	Periodic	Varies	Paved parking areas	Incidental leaks and drips of lubricants, coolant, and other emissions from personal and fleet vehicles parked onsite. Much of the paved parking areas drain to the sanitary sewer via inlets SS1-SS4 and SS9, some parking drains to CB1, and CB3.
Miscellaneous equipment removed from service and utility poles (new and used)			Portions of Areas #1, 2, and 4	Stored in unpaved (gravel) portions of the listed locations. Area #1 is connected to the sanitary sewer system. Runoff primarily infiltrates in areas 3 & 4. Area 4 is tributary to CB4 during heavy rainfall events.

Table 3. Areas Associated with Pollution Generating Activity

Activity	Location	Likelihood and Reason for Pollutants Being Present in a Stormwater Discharge
Road maintenance material piles (sand/covered, salt/covered aggregate/uncovered)	Storage area 2,3	Possible during heavy rainfall events: Area #3 drains to CB6, CB7, which drain to grass swale to storm drain CB4. Area #2 has no direct storm drainage system, however, is tributary to CB4. Improvements to vegetated swale with check dams scheduled for 2023 to further reduce risk of discharge.
Outside vehicle/equipment washing	Storage Area #3	Not likely: Vehicle wash facility design does not permit wash water to flow outside of the confines of the facility and the facility drains into sanitary sewer after going through sediment and oil/water separators.
Outside vehicle/equipment washing	Building E & F	Not likely: Drains to sanitary sewer at SS1, unlikely to drain or be tracked to adjacent storm drainage area due to steep grading in the area around the wash station.

Activity	Location	Likelihood and Reason for Pollutants Being Present in a Stormwater Discharge
Bulk liquid roadway deicer (mag. Chloride) storage and transfer, two 6,500 gal tanks	Building B	Not likely: Leaks or spills would drain to sanitary sewer (SS9).
Bulk liquid roadway deicer (salt brine) storage and transfer, one 3,000 gal tank	Building B	Not likely: Leaks or spills would drain to sanitary sewer (SS9).
Transformer storage	Building M	Not likely, old units stored inside; covered by SPCC plan; area connected to sanitary sewer.
Fleet vehicle fueling	Fuel Island near Building L	Not likely: Work area drains to sanitary at SS2.
Fleet vehicle maintenance	Inside Building L and high bay	Not likely: Inside work area drains to sanitary floor drains inside building, high bay to SS5, SS6
Outside vehicle service and washing	Restricted to covered areas or areas tributary to SS.	Not likely: Restricted to areas tributary to sanitary sewer at SS1-SS4 and SS9.
Outside material and vehicle fluid container storage	Building L north side (Area #5)	Not likely: Uncovered miscellaneous, empty and sealed containers, small equipment, and metal resources. Offsite sheetflow to grass, no direct drain inlets to stormwater.
Outside material storage	Areas #2 & #4	Not likely: uncovered stored materials are generally inert and/or non-pollution generating. Storage areas are unpaved with well draining soils. No direct connection to stormwater. Tributary to CB4, CB5, & & CB8 during heavy rain events.

2.2 *Spills and Leaks*

The locations of potential spills would most likely be limited to the following areas and activities described in

Table 4. According to facility managers, there have been no notable spills or leaks[2] since the last update of this SWPPP (Appendix A). Significant spills and leaks or discharges into the stormwater system will be

[2] Significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under Code of Washington (CWA) Section 311 (see 40 CFR 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC §9602.

recorded. Minor spills and leaks are cleaned up using spill kits and are not necessary to be logged. A spill log is provided in Appendix D.

See Section 3.1.3 for more information on spill prevention and emergency cleanup.

Table 4. Areas of Site Where Potential Spills/Leaks Could Occur

Area where spill/leak could occur	Drainage to	Notes
Liquid deicer tank loading and dispensation (SW corner of site)	Sanitary sewer (SS9)	In the event of catastrophic rupture of the tanks, it is highly unlikely that the material could leak or spill and drain to the storm system. Releases could occur when these tanks are filled or when the liquid is dispensed to trucks for application in winter conditions or for dust control. Vehicle barriers have been added to protect the tanks. Routine inspections of the tanks are performed.
Vehicle fueling station (NW corner of site)	Sanitary sewer (SS2)	Spill kit onsite
Vehicle maintenance shop (Building L)	Sanitary sewer (SS2)	Storage drums have secondary containment sumps and are stored on covered racks to prevent rainfall exposure. However, small spills during handling could potentially occur on the adjacent paved area, which drains by sheetflow under the fence to a grassed area. Employee training provided and spill response kit onsite.
Transformer yard (Area 1)	N/A	Old transformers are stored inside Building M designed for spill control. Used oil is removed inside the building and stored in drums that are transferred to a disposal truck using secondary containment as covered under an SPCC Plan (Parametrix, 2003 – last update 2022).
Vehicle parking area incidental leaks or spills of fleet or private vehicle fluids	SS1-4, SS9,CB1 & CB3	All parking areas inspected for significant leaks and spills. Employee training provided. A spill cleanup kit is onsite.

3 Best Management Practices (BMPs)

Stormwater BMPs include a number of different types of structures, activities, or practices that will help prevent or reduce stormwater pollution. These BMPs fall into three general categories: source controls (operational and structural), treatment, and erosion and sediment control. The City adopts the Department of Ecology's minimum standards for BMPs as described in Volume IV of their Stormwater Management Manual for Western Washington (SWMMWW). Here is a direct link to the SWMMWW:

https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/2019SWMMWW.htm

Table 5 summarizes current BMPs that are being implemented at this facility. These BMPs are described in detail in Sections 3.1 through 3.4.

Table 5. Summary of Site BMPs

Type	BMP	Frequency of Performance
Operational	S453: Pollution Prevention (P2) Team (Table 1)	Ongoing
Operational	S454: Good Housekeeping	Ongoing
Operational	S454: Preventive Maintenance	Quarterly
Operational	S455: Spill Prevention and Emergency Cleanup	As needed
Operational	S456: Employee Training	Upon hire, Annually
Operational	S457: Inspections	Annually
Operational	S458: Recordkeeping & Reporting	Annually & event
Operational	S410: Illicit Discharges and Dry Weather Inspections	Ongoing
Source Control	Sanitary drainage for most outside activity	Permanent
Source Control	S431: Washing vehicles, equipment, & buildings	Permanent
Source Control	S414: Maint. And repair of vehicles and Equipment (Equip. Services)	Permanent
Source Control	S421: Parking and Storage of Vehicles and Equipment	Ongoing
Operational	S435: Pesticides and an Integrated Pest Manag. Prog.	Ongoing
Source Control	S444: Covered storage for pesticide/herbicide materials	Permanent
Source Control	Covered storage for transformer oil and used transformers	Permanent
Source Control	Factory painted metal roofing	Permanent
Source Control	S429: Covered and/or bermed bulk material storage	Permanent & As needed
Source Control	S427: Storage of Liquid or Dangerous Waste Containers	Ongoing
Source Control	Drip pans for leaking equip. parked outside	As needed
Operational	S430: Vacuum Sweeper throughout yard	As needed
Source Control	S417: Maintenance of Stormwater System (including CB sump cleaning)	Annually
Source Control	S442: Labeling Storm Drain Inlets	Renew stenciling as needed
Treatment	S416: Maintenance of Roadside Ditch (vegetated ditch along A street)	Ongoing
Treatment	Catch basins with sumps	Permanent
Treatment	Catch basin outlets with oil retention elbows	Permanent
Treatment	Oil/water separator (baffle type) for sanitary drainage to and from vehicle wash facility	Permanent
Source Control	S412: Loading and Unloading areas for Liquid or Solid material	Permanent
Source Control	S409: Fueling at dedicated stations	Ongoing
Source Control	S428: Storage of Liquids in Permanent Aboveground Tanks	Permanent

Type	BMP	Frequency of Performance
Operational	S411: Landscaping and Lawn/Veg. Management	As needed
Operational	S419: Mobile Fueling of vehicles and Heavy Equipment	As needed
Erosion and Sediment Control (ESC)	S425: Monitor wet weather runoff and inspect gravel surfaced areas (See Section 4).	Quarterly

3.1 Operational Source Control BMPs

Operational source control BMPs include activities and practices that can be implemented to prevent stormwater pollution, which include the following items:

1. Stormwater Pollution Prevention (P2) Team (Section 1.6)
2. Good housekeeping
3. Preventive maintenance
4. Spill prevention and emergency cleanup
5. Employee training
6. Inspections, reporting, and recordkeeping
7. Illicit discharges and dry weather inspections

3.1.1 Good Housekeeping

Good housekeeping involves "common sense" activities that are used to keep a clean and orderly workplace. Good housekeeping techniques help prevent rainfall from contacting materials and waste and potentially contaminating stormwater. In addition, a clean workplace helps prevent accidental spills and promotes a safer work environment. Good housekeeping practices that are utilized at the facility are listed in Table 7.

Table 6. Good Housekeeping

Activity	Frequency
Routine sweeping of paved surfaces	As needed
Vacuum paved surfaces with a vacuum sweeper (or a sweeper with a vacuum attachment) to remove accumulated pollutants	Quarterly
Periodic cleanup of debris and old equipment	Quarterly
Regular removal of trash and garbage	As needed
Routine inspection for leaks or spills	Daily
Waste and material minimization programs	Annually
Prevent bulk material piles from erosion and raveling, use covers or berms when piles not in use	After use
Use drip pans or containers under parts or vehicles that drip or that are likely to drip liquids, such as during dismantling of liquid containing parts or removal or transfer of liquids.	As needed

Do not hose down the contained stockpile area to a storm drain or a conveyance to a storm drain or to a receiving water.	Ongoing

3.1.2 Preventative Maintenance

Preventive maintenance promotes effective stormwater BMPs and minimizes the potential for facility operations to impact stormwater. Inspections help determine if the BMPs are working as intended. The preventive maintenance program consists of inspection, cleaning, and repair activities.

Table 7. Preventative Maintenance

Activity	Frequency
Clean catch basins	As needed to maintain the depth of debris reaches 60% of the sump depth or when the debris surface is less than 6 inches below the outlet pipe
Inspect all equipment	Monthly
Clean up all spills and leaks	Immediately

Personnel responsible for implementing the inspection program are identified in Section 1.6. These quarterly inspections will cover the following items using Form 3 (in Appendix C):

- All material storage areas (Table 2)
- All areas of industrial activity (Table 3)
- Source control and treatment BMPs (
- Table 5)

Particular attention is given to all equipment, pipes, valves, and tanks where spills or leaks are possible (Section 2.3). Vehicles and material transfer equipment are included in the inspections. Hoses and seals from this type of equipment frequently leak fuel, lubricants, coolants or hydraulic fluids. Leaking equipment will be taken out of service or leaks will be prevented from spilling on the ground until repaired. Spills and leaks will be cleaned up immediately (e.g., using absorbents, vacuuming, etc.) to prevent the discharge of pollutants.

A vehicle wash facility was installed in 2015 (Figure 2). The design does not permit wash water to flow outside of the confines of the facility and the facility drains into sanitary sewer after going through sediment and oil/water separators. The wash facility sump will be cleaned as needed.

Debris and trapped sediment will be removed from all catch basins with sumps once annually or more or less frequently as needed based on inspections. When possible during the wet weather season, brief inspections should also occur during and after heavy rainfall to confirm proper drainage and operation of the various BMPs.

3.1.3 Spill Prevention and Emergency Cleanup:

For the locations of potential spills and leaks see Section 2.2. An SPCC plan covers the transformers facility (Building M) and provides for training and BMPs during bulk oil transfer to tanker trucks outside on the paved apron (Parametrix, 2003 – Updated 2022).

The following BMPs are employed on site to prevent spills and respond to spills or leaks.

- Maintain a spill log that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time clean-up completed, notifications made and staff involved (Appendix D)
- Train employees on the safe techniques for handling materials used on the site and to check for leaks and spills (Section 3.1.4)
- Locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, and mobile fueling units. At a minimum, spill kits shall include:
    - Oil absorbents capable of absorbing 15 gallons of fuel.
    - A storm drain plug or cover kit.
    - A non-water containment boom, a minimum of 10 feet in length with a 12-gallon absorbent capacity.
    - A non-metallic shovel.
    - Two five-gallon buckets with lids.

Current best practice guidance for Spill Prevention and Emergency Cleanup states:

> *Store all chemical liquids, fluids, and petroleum products, on an impervious surface that is surrounded with a containment berm or dike that is capable of containing 10% of the total enclosed tank volume or 110% of the volume contained in the largest tank, whichever is greater. Prevent precipitation from accumulating in containment areas with a roof or equivalent structure or include a written plan on how it will manage and dispose of accumulated water if a containment area cover is not practical. Locate spill kits within 25 feet of all stationary fueling stations, fuel transfer stations, and mobile fueling units. At a minimum, spill kits shall include:*
>
> - *Oil absorbents capable of absorbing 15 gallons of fuel.*
> - *A storm drain plug or cover kit.*
> - *A non-water containment boom, a minimum of 10 feet in length with a 12 gallon absorbent capacity.*
> - *A non-metallic shovel.*
> - *Two five-gallon buckets with lids.*
>
> *Do not lock shut-off fueling nozzles in the open position. Do not "topoff" tanks being refueled. Block, plug or cover storm drains that receive runoff from areas where fueling, during fueling. Use drip pans or equivalent containment measures during all petroleum transfer operations. Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas). Use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible. Drain fluids from equipment and vehicles prior to on-site storage or disposal. Maintain a spill log that includes the following information for chemical and petroleum spills: date, time, amount, location, and reason for spill; date/time clean-up completed, notifications made and staff involved.*

3.1.4 Employee Training

Employee training should familiarize all employees with the intent and components of the SWPPP. Training will be provided for all existing employees on an annual basis and for all new employees when they begin work at the facility. The content of the training will include, at a minimum:

- An overview of what is in the SWPPP
- How employees make a difference in complying with the SWPPP and preventing contamination of stormwater
- Spill response procedures, good housekeeping, maintenance requirements, and material management practices

In addition to this annual training, personnel are to be reminded of the objectives and specifics of the SWPPP requirements during the routine safety training sessions, such as tailboards. Training identified in the SPCC plan for transformer yard operations will also be implemented (Parametrix, 2003).

A worksheet is provided in the Appendix E to help keep records of the employees who have completed the training program. This form will be completed annually and kept in the SWPPP file. A log of the dates on which specific employees received training will also be kept in the SWPPP file.

3.1.5 Inspections, Reporting, and Recordkeeping

Inspections

Personnel responsible for implementing the Preventive Maintenance (PM) Inspections and keeping records are identified in Section 1.6, with inspection types and frequencies identified in this section. Use Form 3 (Appendix C) for recording these quarterly PM inspections.

In addition to the quarterly PM inspections, two other types of inspections will be implemented. Wet season monitoring will be conducted once each quarter during the three wet season quarters (October-June). A dry season inspection will be conducted once each year for the purpose of identifying non- stormwater discharges. See Section 3.1.6 (Illicit Discharges and Dry Weather Inspections) and Section 4 (Monitoring Plan) for instructions on conducting these inspections, associated Forms 1 and 2 respectively (see Appendix C). Inspections to be conducted are summarized in Table 8.

Table 8. Inspections

Inspection	Frequency	Section	Forms
Preventative Maintenance Inspections	Quarterly	Section 3.1.2	Form 3, Appendix C
Wet Season Monitoring	Quarterly during wet season (October to June)	Section 4	Form 2, Appendix C
Dry Season Inspection	Once each during dry season (July to September	Section 3.1.6	Form 1, Appendix C

Recordkeeping

All records of inspections and training and other information will be maintained for a 5-year period, including:

- Annual dry weather non-stormwater inspection (Appendix C Form 1, one per year)
- Quarterly wet weather inspections (Appendix C Form 2, three per year during the wet season)
- Quarterly Preventative Maintenance inspections (Appendix C Form 3, four per year)
- Training (Appendix E, one per year)
- Spills (Appendix D)
- Modifications to the facility that require changes to this SWPPP
- Changes to this SWPPP

All records will be collected in a SWPPP file kept onsite and shall include the following information:

- Date and name of individual recording the information
- Areas and/or activities affected
- Problems found
- Corrective actions taken

3.1.6 Illicit Discharges and Dry Weather Inspections

This SWPPP provides two means of assessing illicit and non-stormwater discharges: an initial drainage confirmation and ongoing annual dry-weather inspections. The initial drainage confirmation using dye/flow testing was performed in June 2006 by City Public Works staff. This testing confirmed that the sanitary and storm drains are separated at this facility and verified the drainage configuration shown in the site map (Figure 2).

Dry-weather inspections will be performed at least once annually during the three-month period from July through September after a period of at least seven consecutive days of dry weather. The inspection results will be recorded in the form supplied in the Appendix C (Form 1). These completed forms will be kept in the SWPPP file. The dry season inspection provides visual inspections for non-stormwater discharges such as domestic wastewater, process wastewater (including leachate), and vehicle wash water (non-contact cooling water is not present onsite).

Because there are no direct outfalls from the facility, the dry-weather inspection locations focus on four storm drain manholes indicated as MH1-MH4 on the site map (Figure 2). If no discharge is present at MH1, then the inspection can be determined complete (because MH2-MH4 are up gradient in this drain line). If a discharge is present in MH1, then each of the up gradient manholes (MH2-MH4) will also be inspected and discharge characteristics noted on the inspection form. See Section 4 for description of presence/absence/magnitude of discharge characteristics. If flow is present, the approximate discharge rate will be indicated on the inspection form (i.e. < 10 gpm or >10 gpm).

If needed, the furthest up gradient location, MH5, located to the west of the facility on B Street, may be inspected to determine if dry-weather flows may be originating from offsite areas. If this is the case, make note on the inspection form and indicate whether these flows appear to be contaminated.

Each of the above locations will be inspected during dry-weather for odors, discolorations, abnormal flows or other suspect conditions that could indicate an illicit, non-stormwater discharge. As a general rule, the pipes entering and leaving these manholes should be dry during dry weather. However, dry-weather flows could be attributable to groundwater infiltrating the system. An absence of significant visual indications as outlined below will presume this is the case.

The dry-weather inspections will rely on visual observations to discern the potential for dry-weather discharges to be associated with facility operations or from groundwater. If there are visible flows, the inspection results will indicate the potential location where the flows originate and associated visual indicators. If dry-weather flow is obviously contaminated as indicated by foam, sediment, sheen, odor, debris, etc., then the P2 team leader will be notified immediately and steps will be taken to identify the source and cease the activity. If the source of the contamination is from offsite (i.e. present in MH5), then the P2 team leader will notify the potential offsite entity(s) responsible, where possible.

Potential dry-weather discharges to the storm drain system that could occur from the Corp Yard include the following:

1. Erroneous outside vehicle washing in paved storm drainage areas near Buildings A, G and H (vehicle washing is restricted to areas draining to sanitary sewer, i.e. SS1-SS9.).
2. Utility vault dewatering for the vault near the northwest corner of Building A and CB1
3. Fire hydrant flushing may occur but would most likely drain to the sanitary sewer or be captured by a tank truck.

If an illicit discharge is discovered, the P2 team shall implement the City's illicit discharge detection and elimination program and will respond according to that program's protocols and timelines.

3.2 Structural Source Control BMPs

Structural source control BMPs prevent the contact of rainfall with potential pollutants by eliminating or reducing the exposure of materials or activities. The following source control BMPs are used at this facility:

- Vehicle and equipment washing is restricted to areas draining to the sanitary sewer as indicated in Figure 2. Vehicles or equipment shall not be washed in the paved areas draining to CB1 and CB3.
- Covered areas (buildings) are provided for parking various vehicles and equipment and conducting the transformer servicing.
- Covered storage with secondary containment is provided for vehicle lubricant drums outside of Building L. Empty containers awaiting disposal and not under cover shall have lids securely fixed and water-tight. Onsite storage of waste materials shall be kept to a minimum.
- Covered storage is provided for landscape management chemicals in Building K.

3.3 Treatment BMPs

This facility has several conventional treatment BMP's as listed in Table 10. Each of these will be inspected twice annually. Catch basin sumps will be cleaned annually unless inspections indicate a higher or lower frequency of maintenance for certain areas (Section 3.1.2).

Table 9 Treatment BMPs

Type	Location
Catch basins with sumps (Type 1)	CB1-CB8
Catch basin outlets with oil retention elbows	All CBs
Oil Water Separators (in sanitary sewer line)	2 in sanitary line that collect runoff from SS2 – SS6 and the vehicle wash facility, 1 in northeast corner of transformer yard
Vegetated ditch	Along A street between MH1-MH2

3.4 Erosion and Sediment Control BMPs

Exposed soils are minimal and grass, tree and shrub cover is sufficient to prevent significant erosion. Therefore, no ESC BMPs are needed. However, there is some erosion potential related to the gravel surfaced Areas #1-#5 (these areas are shown in Figure 2). The once quarterly wet weather monitoring and inspections (covered in Section 3.1.5) will determine if improvements are needed to minimize turbid runoff. Covers or berms will be used as needed to prevent erosion and raveling of bulk material piles.

4 Monitoring Plan

There are no permits or other conditions that prescribe or require stormwater sampling for this facility. Therefore, the monitoring for this facility will rely upon quarterly visual inspections of discharge quality to indicate obvious or potential problems. Coupled with the other BMPs for this facility such as housekeeping, maintenance, and dry weather inspections (see Section 3), this approach should be well suited to minimize the potential for adverse conditions in stormwater quality. Furthermore, there are no direct outfalls from the facility to receiving waters and outfalls in the vicinity appear to receive drainage from multiple sources in addition to this facility. Based on drainage maps and visual inspections, site storm drainage leaves the site by one of 5 catch basins connected to the A-street pipe, or via the oil/water separator from the Transformer yard (Building M) that is tied into sanitary sewer. See Figure 2.

The monitoring plan outlined below identifies the resources, locations, frequency, visual indicators and recording to be used in monitoring the facility.

Monitoring will be performed during the wet season at least once-quarterly by a designated member of the P2 team.

1. Monitoring will be conducted during significant rainfall resulting in visible stormwater runoff and discharges from the site. This rainfall should be approximately 0.1" or more in a 24-hour period, but site conditions and local rainfall patterns should be taken into account so that monitoring can begin soon after significant runoff begins.
2. The monitoring is not required to be conducted outside of regular business hours or during unsafe conditions.
3. All points of *discharge* to surface water or *storm sewers* will be monitored and include those listed in Table 11.
4. Monitoring methods consist of making observations of the visual characteristics of flows entering the storm drain catch basins and sheetflows leaving the locations above. These observations

include recording the absence or presence and degree of the indicators outlined below. For more information, consult chapter 11 of the Illicit Discharge Detection and Elimination Guidance Manual (Center for Watershed Protection, 2004).

a. Floatables-indicate if very obvious trash or other controllable debris, such as landscaping material, leaf litter, etc.
b. Foam due to soap/detergent/cleaning product. Stormwater often can be slightly foamy from pollen and other natural organic material. Indicate if very obvious and persistent foam is present that could indicate a potential soap/detergent/cleaning agent which may also be accompanied by a fragrant odor. Suds that break up quickly may be due to turbulence and/or natural conditions and not necessarily have an illicit origin.
c. Sheen-a rainbow hue on the water surface commonly indicative of petroleum products, often present in parking lot runoff.
d. Turbidity-and indication of light penetration or relative cloudiness, indicates as "very obvious" if the water looks like coffee with cream.
e. Sediment-coarse material such as sand, gravel.
f. Odor: describe odor such as rotten eggs, solvent, fuel/oil, cleaning agent, etc. Make sure the odor is not related to other sources beyond the runoff being inspected. If gasoline or a flammable solvent is suspected, leave the immediate area, notify facility management immediately and take action to prevent fire or explosion.
g. Discoloration other than turbidity: indicate general color. Stormwater is typically yellowish. A red/orange color can indicate rust from iron pipes or iron bacteria. Other colors such as white could indicate paint or cleaning agent emulsions.

5. The observations above and other information will be recorded on the wet weather monitoring Form 2 (see Appendix C). The rainfall during the prior day and during the period of monitoring will be indicated on the data form. Consult local rainfall data and indicate the source used on the form. The National Weather Service has a gage at Fairchild airport nearby, see https://www.weather.gov/wrh/timeseries?site=KCLM
6. The monitoring results on Form 2 will be reviewed quarterly by the P2 team leader. The P2 team leader will note any follow up actions indicated by the visual monitoring.
7. Records of monitoring results will be maintained for up to five years in the SWPPP file.

Table 10. Site Discharge Locations

Structure ID	Common Description	Discharge Type	Comments
CB1	Catch Basin	Storm Drain	In main paved area
CB3	Catch Basin	Storm Drain	In main paved area
CB4	Catch Basin	Storm Drain	Near wash facility
CB5	Catch Basin	Storm Drain	Near wash facility
N/A	Sheetflow		If present, draining from material storage Areas #2, #4, and #5 (Area #3 drains to sanitary, but potential overflow would be indicated when inspecting CB4)

5 References

Center for Watershed Protection, 2004. Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and technical Assessments. R. Pitt and other authors. Center for Watershed Protection, Ellicott City MD. October 2004.

Parametrix, 2003. Spill Prevention, Control and Countermeasure Plan. Parametrix Consultants. November 2003. Updated November 2022.

WDOE 2004. Guidance Manual for Preparing/Updating a Stormwater Pollution Prevention Plan for Industrial Facilities. WA Department of Ecology Publication Number 04-10-030 April 2004

WDOE 2019A. The Industrial Stormwater General Permit (ISGP). A National Pollutant Discharge Elimination System and State Waste Discharge General Permit for Stormwater Discharges Associated with Industrial Activities. WA Department of Ecology. Issued November 20,2019. Effective January 1, 2020.

WDOE 2019B. Western Washington Phase II Municipal Stormwater Permit. National Pollutant Discharge Elimination System and State Waste Discharge General Permit for discharges from Small Municipal Separate Storm Sewers (MS4) in Western Washington. WA Department of Ecology. Issued July 1, 2019. Effective August 1, 2019. Expires July 31, 2024.

WDOE 2019C. Stormwater Management Manual for Western Washington. WA Department of Ecology. July.

WDOE 2022. Washington State Department of Ecology Industrial Stormwater Pollution Prevention Plan Template. Accessed from Ecology's website https://ecology.wa.gov/Asset-Collections/Doc-Assets/Water-quality/Water-Quality-Permits/Industrial-Stormwater/Industrial-Stormwater-Pollution-Prevention-Plan-Te. September 23.

SWPPP Appendices

Attach the following documentation to the SWPPP:

Appendix A – Summary of Prior Plan Revisions
Appendix B – List of Definitions
Appendix C – Weather Inspection Worksheets
Appendix D – Spill and Leak Log
Appendix E – Employee Training Log
Appendix F – SWPPP Certification or Recertification Form (for Level 1, 2, or 3 Corrective Action(s))

Appendix A – Summary of Prior Plan Revisions

*Revisions to the original Corp Yard SWPPP that were made during minor routine reviews and updates were not carried forward after the 2022 substantial update. This table has been reset and will be used moving forward to track minor updates and changes made since the 2022 rewrite. Previous edits are still recorded in Appendix A of the 2016 version, which is kept on file at the Corp Yard and can be made available for review upon request.

Notable Document History:

- Origination in August 2007 by Brown & Caldwell. Signed by M. Puntenney & G. Cutler.
- Updated February 2013 by Brown & Caldwell. Signed by M. Abed & G. Cutler.
- Updated February 2016 by COPA. Signed by J. Boehme, J. Burke, & C. Fulton.

No.	Date	Changed From	Changed To

Appendix B – List of Definitions

LIST OF DEFINITIONS

The following definitions are used in this SWPPP, with indications of whether the citations are from Ecology (WDOE 2019B) or from EPA.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. (WDOE). BMPs generally fall into three categories: source controls (operational and structural), treatment practices, and erosion and sediment control. Typical source controls include operating procedures, good housekeeping, sweeping, spill controls, etc. Typical treatment BMPs include catch basins, sumps, oil water separators and bioswales. Erosion and sediment control BMPs generally apply to construction sites, but may be applicable to industrial sites if significant soils are exposed or erosion potential exists.

Capital Improvements means the following improvements which will require capital expenditures (WDOE):

1. Treatment BMPs, including but not limited to: biofiltration systems including constructed wetlands; settling basins, oil/water separation equipment, and detention and retention basins.
2. Manufacturing modifications, including process changes for source reduction, if capital expenditures for such modifications are incurred.
3. Concrete pads and dikes and appropriate pumping for collection of stormwater and transfer to control systems, from manufacturing areas such as loading, unloading, outside processing, fueling and storage of chemicals, equipment, and wastes.
4. Roofs and appropriate covers for manufacturing areas.

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

Domestic Wastewater means water carrying human wastes, including kitchen, bath, and laundry wastes from residences, buildings, industrial establishments, or other places, together with such ground water infiltration or surface waters as may be present. (WDOE)

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

General Permit means a permit that covers multiple dischargers of a point source category within a designated geographical area, in lieu of individual permits being issued to each discharger. (WDOE)

Illicit Discharge means any discharge that is not composed entirely of stormwater except discharges pursuant to a separate NPDES permit and discharges resulting from fire fighting activities. (WDOE). See also **Non-Stormwater Discharges.**

ISGP means the NPDES Industrial Stormwater General Permit, issued by Ecology for stormwater discharges associated with industrial activities (Issued November 20,2019. Effective January 1, 2020.).

Leachate means water or other liquid that has percolated through raw material, product, or waste and contains substances in solution or suspension as a result of the contact with these materials. (WDOE)

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

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

- Discharges from fire fighting activities;
- Fire protection system flushing, testing, and maintenance;
- Discharges of potable water including water line flushing, provided that water line flushing must be de-chlorinated prior to discharge;
- Uncontaminated air conditioning or compressor condensate;
- Irrigation drainage;
- Uncontaminated ground water or spring water;
- Discharges associated with dewatering of foundations, footing drains, or utility vaults where flows are not contaminated with process materials such as solvents;
- Incidental windblown mist from cooling towers that collects on rooftops or areas adjacent to the cooling tower. This does not include intentional discharges from cooling towers such as piped cooling tower blow down or drains.

Operational (Source Control) BMPs means a schedule of activities, prohibition of practices, maintenance procedures, employee training, good housekeeping, and other managerial practices to prevent or reduce the pollution of waters of the state. Not included are BMPs that require construction of pollution control devices (structural source control or treatment BMPs). (WDOE)

Point Source means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, and container from which pollutants are or may be discharged to surface waters of the state. This term does not include return flows from irrigated agriculture. (WDOE)

Pollutant means the discharge of any of the following to waters of the state: dredged soil; solid waste; incinerator residue; filter backwash; sewage; garbage; sewage sludge; munitions; chemical wastes;

biological materials; radioactive materials; heat-wrecked or discarded equipment; rock; sand; cellar dirt; and industrial, municipal, and agricultural waste. This term does not include sewage from vessels within the meaning of Section 312 of the FWPCA, nor does it include dredged or fill material discharged in accordance with a permit issued under Section 404 of the FWPCA. (WDOE)

Pollution means contamination or other alteration of the physical, chemical, or biological properties of waters of the state, including change in temperature, taste,
color, turbidity, or odor of the waters; or such discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state as will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to the public health, safety, or welfare; or to domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or to livestock, wild animals, birds, fish, or other aquatic life. (WDOE)

Process Wastewater means any water which, during manufacturing or processing, comes into direct contact or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. (WDOE)

Regular Business Hours means those time frames when the facility is engaged in its primary production process, but does not include additional shifts or weekends when partial staffing is at the site primarily for maintenance and incidental production activities. Regular business hours do not include periods of time that the facility is inactive and unstaffed. (EPA)

Significant Amounts means an amount of a pollutant in a discharge that is amenable to available and reasonable methods of prevention or treatment; or an amount of a pollutant that has a reasonable potential to cause a violation of surface or ground water quality or sediment management standards. (WDOE)

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

Source Control BMPs means physical, structural, or mechanical devices or facilities that are intended to prevent pollutants from entering stormwater. A few examples of source control BMPs are erosion control practices, maintenance of stormwater facilities, constructing roofs over storage and working areas, and directing wash water and similar discharges to the sanitary sewer or a dead-end sump. (WDOE)

Stormwater is the runoff from a storm event, snowmelt runoff, and surface runoff and drainage. It does not include infiltration and runoff from agricultural land. (EPA)

Stormwater Associated with Industrial Activity means the discharge from any conveyance that is used for collecting and conveying stormwater and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. It may also, on a case-by-case basis, include stormwater from any portion of an industrial site subject to pollutants of a significant amount (WDOE). The term does not include discharges from facilities or activities excluded from the NPDES program. The term includes,

but is not limited to, stormwater discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material-handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material-handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater. The term also includes stormwater discharges from all areas listed in the previous sentence (except access roads) where material-handling equipment or activities, raw materials, intermediate product, final products, waste materials, by-products, or industrial machinery are exposed to stormwater. Material-handling activities include the following: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots, as long as the drainage from the excluded areas is not mixed with stormwater drained from the above-described areas. Industrial facilities (including industrial facilities that are federally, state, or municipally owned or operated that meet the description of the facilities listed in this paragraph) include those facilities designated under 40 CFR 122.26(a)(1)(v). (EPA)

Surface Waters of the State includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington. (WDOE)

Treatment BMPs means BMPs that are intended to remove pollutants from stormwater. A few examples of treatment BMPs are detention ponds, oil/water separators, biofiltration, media filtration, and constructed wetlands. (WDOE)

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

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

WDOE means the state of Washington Department of Ecology.

Appendix C – Weather Inspection Forms

Form 1 Dry-Weather Inspection

Dry Weather Visual Monitoring (during period July-September)
for City of Port Angeles Public Works Maintenance Facility ("Corp Yard") SWPPP
(7) Conducted on:_____by _____
(8) Rainfall amount in prior 7 day period:_____(inches) Source of rainfall data:_____

(1) location	(2) time	(3) no discharge?	(4) discharge present? < 10 gpm	(4) discharge present? >10 gpm	Sediment	Turbidity	Color	Sheen	Odor	Foam	Floatables	other	(6) Remarks (describe presence and degree)
MH1													
MH2													
MH3													
MH4													
MH5 (if needed)													

Instructions (areas numbered in form above):
1. Remove manhole lids and visually inspect for presence of flow in pipes, use SWPPP facility map Figure 2-3
2. Record time of each observation using 24 hour clock (military) time notation
3. If pipes are dry, indicate by checking the "no discharge" column.
4. If flow is present, indicate by checking approximate discharge range column. A residential hose fully open would be about 1-5 gpm
5. where flow is present, indicate each characterisitc as either absent (0), or present with relative magnitude in each box: 1 = slightly observable, 2=very obvious
6. If one or more characteristics are present, describe visual observation
7. Record date of inspections and name of who conducted the work
8. Record the approximate rainfall occurring in the 7-day period before the inspections
9. P2 Team leader must review and sign this form and indicate any follow up actions needed
10. Save original and a copy of this completed form in the SWPPP file

Other observations/comments:

Results reviewed by: _____(name)_____(signature)
Follow up actions needed:

Form 2 Wet Weather Monitoring

Wet Weather Visual Monitoring
for City of Port Angeles Public Works Maintenance Facility ("Corp Yard") SWPPP
(5) Conducted on:_____by_____
(6) Rainfall amount in prior day:____(inches) Rainfall during monitoring period:____(inches) Source of rainfall data:_____

(1) location	(2) time	Sediment	Turbidity	Color	Sheen	Odor	Foam	Floatables	Other	(4) Remarks (describe presence and degree)
CB1										
CB3										
CB4										
CB5										
CB6										
CB7										
Transformer yard										
Material storage #2										
Material storage #4										
Material storage #5										

Instructions:
1. Visually inspect surface sheetflows to drainage locations indicated, use SWPPP facility map Figure 2-3
2. Record time of each observation using 24 hour clock (military) time notation
3. Record absence (0), or presence and magnitude in each box: 1 = slightly observable, 2 = very obvious
4. If present, describe visual observation
5. Record date of inspections and name of who conducted the work
6. Record the approximate rainfall occurring in the day before and during the inspections
7. P2 Team leader must review and sign this form and indicate any follow up actions needed
8. Save original and a copy of this completed form in the SWPPP file

OTHER observations:

Location	Time									Remarks

Results reviewed by:_____(name)_____(signature)
Follow up actions needed:

Form 3 Quarterly Preventative Maintenance BMP Inspections

Preventative Maintenance BMP Inspections **CITY OF PORT ANGELES MAINTENANCE FACILITY**	Completed By: _____ Title: _____ Date: _____

BMPs	Inspection Item	Satisfactory?	Action Needed
Good Housekeeping	1.Cleanup of debris and old equipment		
	2.Routine sweeping of paved surfaces		
	3.Vacuum paved surfaces with a vacuum sweeper (or a sweeper with a vacuum attachment) to remove accumulated pollutants-		
	4 Removal of trash and garbage		
	5 Other		
Preventive Maintenance	1.Catch basin sump cleaning (once annually)		
	2.Fleet vehicle parking areas-leaks indicate need for PM		
	3.Other-		
Spill Prevention and Cleanup	1.Liquid deicer tanks-check for leaks, drips		
	2.Secondary containment for vehicle lubricant, Building L		
	3.Drip pans for fleet vehicles as needed		
	4.Parking areas		
	5.Fueling station		
Source Control BMPs	1. Covers or berms for bulk material piles		
	2.Vehicle washing only in sanitary drain areas		
	3.Used transformers stored inside Building M		
	4.Catch basin stenciling		
Treatment BMPs	1.Grass ditch along A street between MH1-MH2, mow as needed		
	2.Oil control elbows in catch basins (look for oil)		

Appendix D – Spill and Leak Log

List of Significant Spills and Leaks	Worksheet #1_____ Completed by:_____ Title:_____ Date:_____

List all spills and leaks (as indicated on Worksheet #1A) of toxic or hazardous pollutants that were significant. Significant spills and leaks include but are not limited to, release of oil or hazardous substances in excess of reportable quantities (see Section 2 of text). Although not required, we suggest you list spills and leaks of non-hazardous materials.

		Description				Response Procedure		
Date (month/day/year)	Location (as indicated on site map)	Type of Material	Quantity	Source, If Known	Reason for Spill/Leak	Amount of Material Recovered	Material No longer exposed to Storm-water (Yes/No)	Preventive Measure Taken

Spill Log	Worksheet #1A Completed by: Title: Date:

List all chemical and petroleum spills and leaks

		Description				Response Procedure		
Date and Time	Location	Amount	Type of Material	Source, If Known	Reason for Spill/Leak	Notifications Made	Staff Involved	Comments

Appendix E – Employee Training Log

Training Log

EMPLOYEE TRAINING **CITY OF PORT ANGELES MAINTENANCE FACILITY**	Completed By: _____ Title: _____ Date: _____

Describe the annual training of employees on the SWPPP, addressing spill response, good housekeeping, and material management practices.

Training Topics	Brief Description of Training Program/Materials (e.g., film, newsletter, course)	Schedule for Training (list dates)	Attendees
1). Line Workers			
Spill Prevention and Response			
Good Housekeeping			
Material Management Practices			
2). P2 Team			
SWPPP Implementation			

EMPLOYEE TRAINING **CITY OF PORT ANGELES MAINTENANCE FACILITY**	Completed By: _____ Title: _____ Date: _____

Describe the annual training of employees on the SWPPP, addressing spill response, good housekeeping, and material management practices.

Training Topics	Brief Description of Training Program/Materials (e.g., film, newsletter, course)	Schedule for Training (list dates)	Attendees
Monitoring Procedures			

Appendix F – SWPPP Certification Form

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

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

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

If <u>Yes</u>:

- Type of Corrective Action?: ☐Level 1 ☐Level 2 ☐Level 3
- Date SWPPP update/revision completed:_____.

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

_____	_____
Operator's Printed Name *	Title
_____	_____
Operator's Signature *	Date

***** Federal regulations require this document to be signed as follows:
For a corporation, by a principal executive officer of at least the level of vice president;
For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

This document shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to the Ecology.
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

Changes to authorization. If an authorization under number 2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of number 2 above shall be submitted to Ecology prior to, or together with, any reports, information, or applications to be signed by an authorized representative.

Corp Yard SWPPP_2022 Update_FINAL

Final Audit Report 2023-04-20

Created:	2023-03-29
By:	Vince McIntyre (Vmcintyr@cityofpa.us)
Status:	Signed
Transaction ID:	CBJCHBCAABAA6Ug_6NnjKroU2wKYWORYxSFgum64VAeY

"Corp Yard SWPPP_2022 Update_FINAL" History

Document created by Vince McIntyre (Vmcintyr@cityofpa.us)
2023-03-29 - 11:11:06 PM GMT- IP address: 76.191.127.50

Document emailed to Jonathan Boehme (jboehme@cityofpa.us) for signature
2023-03-29 - 11:12:36 PM GMT

Document emailed to ewheatle@cityofpa.us for signature
2023-03-29 - 11:12:37 PM GMT

Document emailed to mhealy@cityofpa.us for signature
2023-03-29 - 11:12:37 PM GMT

Email viewed by mhealy@cityofpa.us
2023-03-29 - 11:13:20 PM GMT- IP address: 104.47.65.254

Signer mhealy@cityofpa.us entered name at signing as Mike Healy
2023-03-29 - 11:16:22 PM GMT- IP address: 76.191.127.50

Document e-signed by Mike Healy (mhealy@cityofpa.us)
Signature Date: 2023-03-29 - 11:16:24 PM GMT - Time Source: server- IP address: 76.191.127.50

Email viewed by Jonathan Boehme (jboehme@cityofpa.us)
2023-03-29 - 11:45:35 PM GMT- IP address: 104.47.65.254

Document e-signed by Jonathan Boehme (jboehme@cityofpa.us)
Signature Date: 2023-03-29 - 11:45:49 PM GMT - Time Source: server- IP address: 76.191.127.50

Email viewed by ewheatle@cityofpa.us
2023-04-20 - 7:08:25 PM GMT- IP address: 104.47.65.254

Signer ewheatle@cityofpa.us entered name at signing as Eric Wheatley
2023-04-20 - 7:08:43 PM GMT- IP address: 76.191.127.50

Document e-signed by Eric Wheatley (ewheatle@cityofpa.us)

Signature Date: 2023-04-20 - 7:08:45 PM GMT - Time Source: server- IP address: 76.191.127.50

Agreement completed.

2023-04-20 - 7:08:45 PM GMT

Names and email addresses are entered into the Acrobat Sign service by Acrobat Sign users and are unverified unless otherwise noted.

Adobe Acrobat Sign

2023 City of Port Angeles Operations and Maintenance Program

2019-2024 NPDES Stormwater Phase II Permit, per S5.C.7.c

Stormwater Facilities- 2023	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
Bioretention Cells (77)							
5th and H, NW Corner	928, 929, 930	1/23/2023	13287	yes	3/1/23 thru 10/31/23	13301	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power sweeping and blowing the permeable sidewalks and curblines.
5th and H, NE Corner	921, 922	1/23/2023	13287	yes	3/1/23 thru 10/31/23	13301	
5th and H, SE Corner	923, 924	1/23/2023	13287	yes	3/1/23 thru 10/31/23	13301	
5th and H, SW Corner	925, 926, 927	1/23/2023	13287	yes	3/1/23 thru 10/31/23	13301	
5th and K, NW Corner	897, 898	1/23/2023	13288	yes	3/1/23 thru 10/31/23	13302	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power sweeping and blowing the permeable sidewalks and curblines.
5th and K, NE Corner	904	1/23/2023	13288	yes	3/1/23 thru 10/31/23	13302	
5th and K, SE Corner	901, 902, 903	1/23/2023	13288	yes	3/1/23 thru 10/31/23	13302	
5th and K, SW Corner	899, 900	1/23/2023	13288	yes	3/1/23 thru 10/31/23	13302	
5th and L, NW Corner	889	1/23/2023	13289	yes	3/1/23 thru 10/31/23	13303	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power sweeping and blowing the permeable sidewalks and curblines.
5th and L, NE Corner	896, 895	1/23/2023	13289	yes	3/1/23 thru 10/31/23	13303	
5th and L, SE Corner	892, 893, 894	1/23/2023	13289	yes	3/1/23 thru 10/31/23	13303	
5th and L, SW Corner	890, 891	1/23/2023	13289	yes	3/1/23 thru 10/31/23	13303	
6th and H, NW Corner	936, 937, 938	1/23/2023	13290	yes	3/1/23 thru 10/31/23	13304	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power sweeping and blowing the permeable sidewalks and curblines.
6th and H, NE Corner	931, 932	1/23/2023	13290	yes	3/1/23 thru 10/31/23	13304	
6th and H, SE Corner	933	1/23/2023	13290	yes	3/1/23 thru 10/31/23	13304	
6th and H, SW Corner	934, 935	1/23/2023	13290	yes	3/1/23 thru 10/31/23	13304	
6th and K, NW Corner	910, 911	1/23/2023	13291	yes	3/1/23 thru 10/31/23	13305	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power sweeping and blowing the permeable sidewalks and curblines.
6th and K, NE Corner	905, 906	1/23/2023	13291	yes	3/1/23 thru 10/31/23	13305	
6th and K, SE Corner	907, 908	1/23/2023	13291	yes	3/1/23 thru 10/31/23	13305	
6th and K, SW Corner	909	1/23/2023	13291	yes	3/1/23 thru 10/31/23	13305	
6th and M, NE Corner	883, 884	1/23/2023	13292	yes	3/1/23 thru 10/31/23	13306	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power sweeping and blowing the permeable sidewalks and curblines.
6th and M, SW Corner	887	1/23/2023	13292	yes	3/1/23 thru 10/31/23	13306	
6th and M, SE Corner	885, 886	1/23/2023	13292	yes	3/1/23 thru 10/31/23	13306	
6th and M, NW Corner	888	1/23/2023	13292	yes	3/1/23 thru 10/31/23	13306	
7th and H, NW Corner	943, 944	1/23/2023	13293	yes	3/1/23 thru 10/31/23	13307	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power sweeping and blowing the permeable sidewalks and curblines.
7th and H, NE Corner	939, 940	1/23/2023	13293	yes	3/1/23 thru 10/31/23	13307	
7th and H, SE Corner	941	1/23/2023	13293	yes	3/1/23 thru 10/31/23	13307	
7th and H, SW Corner	942	1/23/2023	13293	yes	3/1/23 thru 10/31/23	13307	
7th and K, NW Corner	912	1/23/2023	13294	yes	3/1/23 thru 10/31/23	13308	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power sweeping and blowing the permeable sidewalks and curblines.
7th and K, NE Corner	919, 920	1/23/2023	13294	yes	3/1/23 thru 10/31/23	13308	
7th and K, SE Corner	915, 917, 918	1/23/2023	13294	yes	3/1/23 thru 10/31/23	13308	
7th and K, SW Corner	913, 914	1/23/2023	13294	yes	3/1/23 thru 10/31/23	13308	
Waterfront Park Phase #2 near Oak St. (west cell)	5707	1/23/2023	13295	yes	3/1/23 thru 10/31/23	13309	hours were spent at this bioretention cell weeding, removing garbage, trimming vegetation.
Waterfront Park Phase #2 near Oak St. (east cell)	5708	1/23/2023	13297	yes	3/1/23 thru 10/31/23	13310	
Railroad Ave., furthest west	70	1/23/2023	13298	yes	3/1/23 thru 10/31/23	13311	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation
Railroad Ave., 2nd from the west	71	1/23/2023	13298	yes	3/1/23 thru 10/31/23	13311	
Railroad Ave., 3rd from the west	72	1/23/2023	13298	yes	3/1/23 thru 10/31/23	13311	
Railroad Ave., 4th from the west	73	1/23/2023	13298	yes	3/1/23 thru 10/31/23	13311	
Railroad Ave., 5th from the west	74	1/23/2023	13298	yes	3/1/23 thru 10/31/23	13311	
Railroad Ave., 6th from the west	75	1/23/2023	13298	yes	3/1/23 thru 10/31/23	13311	
Railroad Ave., 7th from the west	76	1/23/2023	13298	yes	3/1/23 thru 10/31/23	13311	
Oak St., furthest north and west	77	1/23/2023	13299	yes	3/1/23 thru 10/31/23	13312	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation
Oak St., furthest north and east	78	1/23/2023	13299	yes	3/1/23 thru 10/31/23	13312	
Oak St., furthest south and west	79	1/23/2023	13299	yes	3/1/23 thru 10/31/23	13312	
Oak St., furthest south and east	80	1/23/2023	13299	yes	3/1/23 thru 10/31/23	13312	
Catch Basins REBUILT (4)	15657	10/16/2023	12224	yes	10/16/2023	13318	
	16150	3/17/2023	8127	yes	3/30/2023	13318	
	15543	6/24/2023	10708	yes	6/24/2023	13318	
	17008	8/6/2023	10677	yes	8/6/2023	13318	
	17743	9/6/2023	13319	yes	9/6/2023	13318	
	17271	9/14/2023	11595	yes	9/26/2023	13318	
	17268	9/14/2023	11355	yes	9/26/2023	13318	

	17197	9/15/2023	11030	yes	10/4/2023	13318	
CAVFS (7)							
C St. Ext.	6759	1/30/2023	13320	yes	3/1/23 thru 10/31/23	13321	
C St. Ext.	6760	1/30/2023	13320	yes	3/1/23 thru 10/31/23	13321	
C St. Ext.	6761	1/30/2023	13320	yes	3/1/23 thru 10/31/23	13321	
C St. Ext.	6762	1/30/2023	13320	yes	3/1/23 thru 10/31/23	13321	
C St. Ext.	6763	1/30/2023	13320	yes	3/1/23 thru 10/31/23	13321	
C St. Ext.	6764	1/30/2023	13320	yes	3/1/23 thru 10/31/23	13321	
C St. Ext.	6751	1/30/2023	13320	yes	3/1/23 thru 10/31/23	13321	
ConTech Filters (5)							
8th and A St.	20	8/9/2023	13346	yes	10/19/2023	13347	
8th and Cedar	17	8/9/2023	13348	no			
8th and Pine	15	8/9/2023	13349	no			
8th and Cherry	13	8/9/2023	13350	no			
16th and Maloney	26	8/9/2023	13351	no			
Culvert (LARGE) Dry Season Inspection- walk thru with engineering dep. rep.							
Whites Creek	721, 2673, 2847, 4344	did not occur					
6th and Valley	337, 338	did not occur					
Marine Dr. and Tumwater St.	4340	did not occur					
Peabody RV Park to Harbor	4346, 3380, 4345, 4025	4/13/2023	Performed by WSDOT Port Angeles Maintenance Crew with Greg Haskins (COPA)				
5th and Peabody	1909	did not occur					
3rd and Peabody	1911	did not occur					
8th and Francis	1930, 1910	did not occur					
Park St. at dip just west of Race St.	910	did not occur					
Detention Pipes (Dgravity or DInline Storage) & Flow Control (33)	**pipe#/flow control#**	**Date of Inspection(s)**	**Cityworks WO#**	**Maint. Required?**			
8th and A	6136/18409	6/5/2023	13340	no			
8th and Cedar	6130/na	6/5/2023	13340	no			
8th and Cherry	6116/na	6/5/2023	13340	no			
8th and Pine	6124/na	6/5/2023	13340	no			
O St. on W. side, just S. of 10th (adjacent to house # 1002)	266/18223	6/5/2023	13340	no			
O St. on W. side, S. of 10th (south of #266)	267/18223	6/5/2023	13340	no			
Heritage Ct. (~100' west of Heritage Ct on priv. prop.)	1987/846	6/5/2023	13340	no			
14th on S. side, just E. of N St.	1363/504	6/5/2023	13340	no			
14th on S. side, just W. of Aurora Ct.	1064/17937	6/5/2023	13340	no			
Aurora Ct on W. side	299/17937	6/5/2023	13340	no			
Aurora Ct on E. side	300/17937	6/5/2023	13340	no			
15th on N. side, between H St. and I St.	4528/18062	6/5/2023	13340	no			
16th on N. side, bordering W. side of house #2239	1058/17905	6/5/2023	13340	no			
16th on N. side, bordering S. side of house #2239	1057/17905	6/5/2023	13340	no			
16th on N. side across from Maloney Ct.	6343/18482	6/5/2023	13340	no			
16th on N. side across from Maloney Ct.	6342/18482	6/5/2023	13340	no			
16th on N. side across from Maloney Ct.	6341/18482	6/5/2023	13340	yes	pending		
Lauridsen Blvd Bridge	15205/25898	6/5/2023	13340	no			
Cathleen St. on westside, just S. of 10th St.	4660/18093	6/5/2023	13340	no			
Cathleen St. on eastside, just S. of 10th St.	2803/18093	6/5/2023	13340	no			
Jeri Lynn St., near Joshua	1067/818	6/5/2023	13340	yes	pending		
Milwaukee Dr. (between 10th and Renee Ln.)	2099/18041	6/5/2023	13340	no			
Milwaukee Dr. (between Renee and Joshua)	46/18041	6/5/2023	13340	no			
Pendley Ct	6804/18704	6/5/2023	13340	no			
Pendley Ct	6805/18704	6/5/2023	13340	no			

Pendley Ct	6806/18704	6/5/2023	13340	no			
Rolling Hills Ct.	303/16728	6/5/2023	13340	no			
Rolling Hills Dr., W. side	304/16728	6/5/2023	13340	no			
Rolling Hills Dr., E. side	247/16728	6/5/2023	13340	no			
Eckard on N. side, just west of Porter	1942/na	6/5/2023	13340	no			
Eckard on S. side, just west of Porter	1943/na	6/5/2023	13340	no			
Porter on E. side, just S. of Campbell	115/18082	6/5/2023	13340	no			
Juniper Ln, N. side from 201 to 217	224/18111	6/5/2023	13340	no			
EcoStorm Filter Plus (Block Media Filter) (2)							
Eco Storm Plus (Front and Valley)	25	8/3/2023	13342	yes	8/3/2023	13343	
Eco Storm Plus (old PS#4)	2433	8/3/2023	13344	yes	8/4/2023	13345	
Energy Dissapators (Ddischargepoint- 'Storm Vortech, … misc.)							
Under the 8th St Bridge over Valley St.	14 (west)	1/18/2023	13352	no			
Under the 8th St Bridge over Valley St.	16 (east)	1/18/2023	13352	no			
Under the 8th St Bridge over Tumwater Truck Rt.	19 (west)	1/18/2023	13352	no			
Under the 8th St Bridge over Tumwater Truck Rt.	18 (east)	1/18/2023	13352	no			
Bottom of ravine at Cemetary	100	1/18/2023	13352	no			
Under Lauridsen Blvd. Bridge	3418	1/18/2023	13352	no			
Crown Park Aquaswirl	21	1/18/2023	13352	no			
10th and N (NW corner)	200	1/18/2023	13352	no			
Filterra Units (2x's per year INSPECT) (17)							
Lauridsen Blvd Bridge - 817 E Blvd	1234	1/3/23 and 11/2/23	9974/13030	yes	3/1/23 thru 10/27/23	13329	
10th and Race St.(north)	1235	1/3/23 and 11/2/23	9978/13028	yes	3/1/23 thru 10/27/23	13329	
10th and Race St.(south)	1236	1/3/23 and 11/2/23	9979/13029	yes	3/1/23 thru 10/27/23	13329	
SW Corner of 6th and Francis	840	1/3/23 and 11/2/23	9980/13027	yes	3/1/23 thru 10/27/23	13329	
SW Corner of 4th and Francis	838	1/3/23 and 11/2/23	9983/13025	yes	3/1/23 thru 10/27/23	13329	
NE Corner of 4th and Francis	837	1/3/23 and 11/2/23	9981/13328	yes	3/1/23 thru 10/27/23	13329	
NW Corner of 4th and Francis	839	1/3/23 and 11/2/23	9982/13026	yes	3/1/23 thru 10/27/23	13329	
SW corner of 2nd and Francis	836	1/3/23 and 11/2/23	9984/13023	yes	3/1/23 thru 10/27/23	13329	
NE Corner of 4th and Albert	835	1/3/23 and 10/10/23	9986/13010	yes	3/1/23 thru 10/27/23	13329	
SW Corner of 3rd and Albert	833	1/3/23 and 10/10/23	9985/13011	yes	3/1/23 thru 10/27/23	13329	
SE Corner of 2nd and Albert	834	1/3/23 and 10/10/23	9987/13012	yes	3/1/23 thru 10/27/23	13329	
10th and M (new install spring 2019)	6434	1/3/23 and 10/10/23	9988/13009	yes	3/1/23 thru 10/27/23	13330	
10th and Westview Dr. (new install spring 2019)	6038	1/3/23 and 10/10/23	9989/13002	yes	3/1/23 thru 10/27/23	13330	
10th and Seamount Dr. (south side)(new install spring 2019)	6037	1/3/23 and 10/10/23	9990/13001	yes	3/1/23 thru 10/27/23	13330	
10th and Seamount Dr. (north side)(new install spring 2019)	6036	1/3/23 and 10/10/23	9991/13000	yes	3/1/23 thru 10/27/23	13330	
10th and N St. (south side)(new install spring 2019)	6034	1/3/23 and 10/10/23	9992/12999	yes	3/1/23 thru 10/27/23	13330	
10th and N St. (north side)(new install spring 2019)	6035	1/3/23 and 11/2/23	9993/12998	yes	3/1/23 thru 10/27/23	13330	
Permeable Surfaces (45)							
5th and H St. (sidewalks)	1309, 1310, 1311, 1312	6/20/2023	13271	yes	3/1/23 thru 10/27/23		
5th and K St. (sidewalks)	1700, 1701, 1702	6/20/2023	13272	yes	3/1/23 thru 10/27/23	13273	moss cleaned by greg haskins
5th and L St. (sidewalks)	1703, 1704, 1705	6/20/2023	13274	yes	3/1/23 thru 10/27/23	13273	moss cleaned by greg haskins
6th and H St. (sidewalks)	1313, 1314, 1315	6/20/2023	13275	yes	3/1/23 thru 10/27/23	13273	moss cleaned by greg haskins

6th and K St. (sidewalks)	1697, 1698, 1699	6/20/2023	13276	yes	3/1/23 thru 10/27/23	13273	moss cleaned by greg haskins
6th and M St. (sidewalks)	1706, 1707, 1708	6/20/2023	13277	yes	3/1/23 thru 10/27/23	13273	moss cleaned by greg haskins
7th and H St. (sidewalks)	1316, 1317	6/20/2023	13278	yes	3/1/23 thru 10/27/23	13273	moss cleaned by greg haskins
7th and K St. (sidewalks)	1318, 1319, 1320	6/20/2023	13279	yes	3/1/23 thru 10/27/23	13273	moss cleaned by greg haskins
Solar Lane	2097	6/20/2023	13280	yes	1/3/23 thru 12/28/23	13281	cleaned once a month by vacuum sweeper
18th St. sidewalk, west of N ST.	5704	6/20/2023	13282	no			
Dunker Dr. sidewalk on west side of road	5697-5702	6/20/2023	13283	no			
1st and Race St.	1299, 1300 ,1301, 1302	6/20/2023	13284	no			
1st and Race St.	1304, 1305, 1306, 1307	6/20/2023	13284	no			
1st and Race St.	1308	6/20/2023	13284	no			
Race St. between 1st and 2nd St.	1297, 1298	6/20/2023	13284	no			
4/5 Alley Chambers-Washington	2897	6/20/2023	13285	no	1/3/23 thru 12/28/23	13281	cleaned once a month by vacuum sweeper
Front-Georgiana, Francis-Eunice	2898	6/20/2023	13286	no	1/3/23 thru 12/28/23	13281	cleaned once a month by vacuum sweeper
Ponds and bioswales (4)							
Airport Corners - East of Access Rd	51	1/30/2023	13322	yes	3/1/23 thru 10/27/23	13323	
Airport Corners - West of Access Rd - South Pond	50	1/30/2023	13324	yes	3/1/23 thru 10/27/23	13323	
Airport Corners - West of Access Rd - North Pond	481	1/30/2023	13325	yes	3/1/23 thru 10/27/23	13323	
Red Lion Motel - East of Parking Area	18	1/30/2023	13326	yes	3/1/23 thru 10/27/23	13323	
Pump Stations	**Asset ID #**	**Date of Inspection(s)**	**Cityworks WO#**	**Maint. Required?**	**Date(s) of Maintenance**	**Cityworks WO#(s)**	**NOTES:**
Stevens School Pumpstation	2, 17328, 7	11/30/2023	13327	no			
Pump Station #4	3298, 3301, 3302	1/23/2023	13300	yes	3/1/23 thru 10/31/23	13313	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation
Swirl Concentrator (3)	**Asset ID #**	**Date of Inspection(s)**	**Cityworks WO#**	**Maint. Required?**	**Date(s) of Maintenance**	**Cityworks WO#(s)**	**NOTES:**
Crown Park Aquaswirl	9	11/14/2022	9587	no			
1100 Walker St. Vortech (by Contech)	22	11/14/2022	9588	no			
Blackball Ferry Vortech (by Contech)	12	11/14/2022	9589	no			

Catch Basins TOTAL for all COPA assets: as of 12/31/2023	**2682**
Catch Basins Inspected	
Catch Basins Cleaned	

Catch Basins: WESTSIDE of TOWN, NIGHT SHIFT, and PRIORITY	**MAINTENANCE GRID**	**AMOUNT per GIS**	**Inspect WO#**	**Amount Inspected:**	**Clean WO#**	**Amount Cleaned**	**NOTES:**
	16	18	several, on file	16	several, on file	(2) could not be located	
	17	11	several, on file	11	several, on file		
	18	35	several, on file	35	several, on file		
	19	177	several, on file	152	several, on file	(2) sewer lids, (5) landscape plaza yard drains, (18) could not locate	
	20	66	several, on file	57	several, on file	(7) could not locate, (1) offline, (1) inside Marine Science building	
	21	115	several, on file	114	several, on file	(1) could not locate	
	22	74	several, on file	72	several, on file	(2) could not locate	
	23	45	several, on file	42	several, on file	(3) detention pipe lids	
	24	51	several, on file	46	several, on file	(5) detention pipe lids not cb's	

25	76	several, on file	66	several, on file	(2) could not locate, (8) Bioretention cell overflows not needing cleaning	
26	123	several, on file	65	several, on file	(1) could not locate, (2) manholes not cb's, (55) bioretention cell overflow beehives not needing cleaning	
27	102	several, on file	97	several, on file	(5)inside Shane Park, yard drains, not accessible, parks departments responsibility	
28	113	several, on file	109	several, on file	(2) could not locate, (2) vaults, not cb's	
29	111	several, on file	107	several, on file	(4) vaults, not cb's	
30	116	several, on file	114	several, on file	(1) could not locate, (1) police department's parking lot	
31	100	several, on file	100	several, on file		
32	63	several, on file	63	several, on file		
34	4	several, on file	2	several, on file	(2) no access in the cemetary's yard	
35	77	several, on file	60	several, on file	(12) could not locate, (5) detention pipe covers not cb's	
36	27	several, on file	24	several, on file	(3) could not locate	
37	58	several, on file	54	several, on file	(1) could not locate, (1) manholes not cb's, (2) not needing cleaning	
38	88	several, on file	88	several, on file		
39	92	several, on file	89	several, on file	(1) could not locate, (2) in COPA Light Ops transformer storage yard	
40	69	several, on file	63	several, on file	(6) could not locate	
41	36	several, on file	36	several, on file		
44	14	several, on file	12	several, on file	(2) could not locate	
46	1	several, on file	1	several, on file		
47	13	several, on file	12	several, on file	(1) could not locate	
51	12	several, on file	10	several, on file	(2) vaults in ponds at Airport corners not needing cleaning at this time	
52	4	several, on file	4	several, on file		
54	5	several, on file	5	several, on file		
55	9	several, on file	9	several, on file		
57	56	several, on file	56	several, on file		
58	82	several, on file	77	several, on file	(5) could not locate	
59	35	several, on file	34	several, on file	(1) could not locate	
60	27	several, on file	26	several, on file	(1) could not locate	
61	16	several, on file	16	several, on file		
62	45	several, on file	45	several, on file		
63	10	several, on file	7	several, on file	(1) overflow inside reservior not a cb, (2) National Park Visitor Center	
64	1	several, on file	1	several, on file		

65	24	several, on file	24	several, on file		
66	1	several, on file	1	several, on file		
67	21	several, on file	19	several, on file	(2) Detention pipe covers	
68	11	several, on file	11	several, on file		
90	14	several, on file	14	several, on file		
91	1	several, on file	1	several, on file		
TOTALS:	**2249**		**2067**			

Pump Station - Stevens Middle School	**Asset ID #**	**Date of Inspection(s)**	**Cityworks WO#**	**Maint. Required?**
Stevens School Pump Station	2	10/25/2023	13353	no
Catchbasin on D St. near 13th that receives water from Stevens PS	17328	10/25/2023	13353	no

Storm Event Inlet and Flood Prevention Inspection			5035 (parent)	
Storm Inlets Annual Storm Prep Liability Inspection (September)	several, see work order	9/27/2023	13354	
Crown Park Aquaswirl (McKinnley Agreement) water testing (twice: (1) winter storm event and (1) summer storm event)		1/17/2023	9/21/2023	na
10 Year Storm Event (if occurs)		did not occur	did not occur	

Corp Yard- SWPPP inspections	wet weather 1st quarter	2/17/2023	na	yes	October - June
	wet weather 2nd quarter	4/12/2023	na	yes	October - June
	dry weather 3rd quarter	9/27/2023	na	yes	July - September
	wet weather 4th quarter	12/13/2023	na	yes	October - June

2023 Stormwater Treatment Facilities - TOTAL AMOUNT: based on	
BMP's	**###**
Total	193
Biofiltration Cells	**77**
CAVFS	**7**
ConTech Filters Chambers	**5**
Detention Pipes (DGravity)	**33**
Eco Storm Plus Block Media Filter Chambers	**2**
Filterra Units	**17**
Permeable Surfaces	**45**
Ponds and bioswales	4
Swirl Concentrator	**3**

City of Port Angeles | Private Stormwater Facility Annual Inspections - 2023

Count	Development Title	Annual Inspection Date	Inspection Date(s)	Initials	Number of Privately Owned BMPs/Facilities	Facility Log Submitted?	Deficiencies found?	Enforcement	Enforcement Resolution	Site Address	Contact Person Responsible for Maintenance	Contact Information	Billing Info	Notes
1	Black Ball - Ferry Terminal West Pier Replacement	Oct-23	10/20/2023	MM	6	Yes	No	N/A	N/A	101 Railroad Ave.	Rian Anderson	randerson@cohoferry.com	101 Railroad Ave Port Angeles, WA 98362	Filters near end of life - to be replaced 2024.
2	Boys and Girls Club	Oct-23	10/18/2023	MM	14	No	No	N/A	N/A	2301 S. Francis St.	Mary Budke	mbudke@bgc-op.org (360) 477-2641, (360) 683-8095	Peninsula Housing Authority 2603 South Francis Street Port Angeles, WA 98362	Filterra requires maintenance.
3	Clallam County - Courthouse Raingarden Retrofit	Oct-23	10/24/2023	MM	10	Yes	No	N/A	N/A	223 E. 4th St.	Stoney Hutto Joel Winborn	stoney.hutto@clallamcountywa.gov jwinborn@co.clallam.wa.us	Parks, Fair & Facilities Department 223 East 4th Street, Suite 7 Port Angeles, WA 98362	
4	Collegiate Housing International - Apartments	Aug-23	8/22/2023	MM	11	Yes	No	N/A	N/A	1134 E. Park Ave	Isaac Smith Joel Crosby Curtis Brackett	isaac@chiportangeles.com (415) 662-0750 crosbycommercial@gmail.com	Collegiate Housing International LLC 4102 S. Regal Ste. 201 Spokane, WA 98223	Filterra unit addressed early 2023. Minor corrections to pond inlets.
5	Cooke-Ainscough - SFR	Nov-23	11/3/2023	MM	6	Yes	No	N/A	N/A	844 Willow Ave.	Kerri Cook	(360) 333-5042 upriversoul@hotmail.com	Kerri Cook 1033 W. 13th Street Port Angeles, WA 98363	
6	Delhur - Critchfield Industrial Site	Sep-23	9/25/2023	MM	12	No	No	N/A	N/A	Critchfiled Dr & Edgewood Dr.	Alan Escuredo	aescuredo@delhur.com (360)775-9422	Delhur Industries, Inc. P.O. Box 1116 Port Angeles, Washington 98362	Site anticipated to be final'd early 2024.
7	Campell Ave. PRD Phase 2A & 2B	Nov-23	11/21/2023	MM	9	No	No	N/A	N/A	Rook Drive	Kurt Hansen	(360) 775-5450 kurt@northpointeconstructionllc.com	Green Crow Investments Co. LLC. PO Box 2439 Port Angles, WA 98362	Phase 2 A and B coupled. HOA being established. Provided education on program. Contact will be Kerry Trimble, kerrytrimble15@gmail.com, 805 450 7800.
8	Maloney Heights - Habitat for Humanity	Nov-23	11/9/2023	MM	5	No	No	N/A	N/A	Off 16th St.	Mark Parker	(714) 955-1021 markb4parker@gmail.com	Lindsay Million, Maloney Heights HOA Secretary 2411 W 16th St Port Angeles, WA 98363	HOA freshly established. Provided education on program.
9	Maloney Heights - Serenity House	Nov-23	11/1/2023	MM	7	No	No	N/A	N/A	2321 W. 18th St.	Habitat For Humanity Darrel Turnbow	(360) 215-0476 darrel.turnbow@serenityhouseclallam.org	Serenity House of Clallam County P.O. Box 4047 Port Angeles, WA 98362	New maintenance tech. Provided education on program.
10	McDonalds	Sep-23	9/29/2023	MM	11	No	Yes	Notice of Violation Issued Oct 2023	Ongoing	1706 E. Front St.	Doug Fenwick Director of Operations Peninsula McDonald's Rest.	360-271-8582 doug@peninsulamcdonalds.com	Laurier Enterprises, Inc. dba Peninsula McDonald's Restaurants 1235 Market St., Suite A Kirkland, WA 98033	Working closely with McDonald's Corporate to amend the issue. Adam Brandenburg, adam.brandenburg@us.mcd.com
11	North Olympic Healthcare Network - Family Medicine	Oct-23	10/16/2023	MM	12	Yes	No	N/A	N/A	240 W Front St	Tammy Reid Kirby Hawn	Treid@nohn-pa.org Khawn@nohn-pa.org	North Olympic Healthcare Network 240 W Front St. Port Angeles, WA 98362	
12	North Olympic Library System - Annex	Oct-23	10/13/2023	MM	5	Yes	No	N/A	N/A	401 Orcus Ave	Brian Phillips	bphillips@nols.org 360.417.8500 x7743	North Olympic Library System, Port Angeles 2210 South Peabody Street Port Angeles, WA 98362	
13	Olympic Medical Center - Medical Office Building, 3 parking lots	Oct-23	10/26/2023	MM	25	Yes	No	N/A	N/A	907 Georgiana St.	Rockie Lee	rlee@olympicmedical.org	Olympic Medical Center 939 Caroline St Port Angeles, WA 98362	Filters near end of life.
14	Olympic Medical Center - Parking Lots Columbia St, Medical Expansion	Oct-23	10/26/2023	MM	12	Yes	No	N/A	N/A	Columbia St and Caroline St	Rockie Lee	Phone: 360-417-7235 rlee@olympicmedical.org	Olympic Medical Center 939 Caroline St Port Angeles, WA 98362	Filters near end of life.
15	Penninsula Housing Authority - Mt Angeles View Phase 1	Oct-23	10/10/2023	MM	28	Yes	No	N/A	N/A	2603 S Francis St.	Marc Schultz Annie O'Rourke	360-797-4768 aorourke@peninsulapha.org 360-452-7631 ext. *841	Peninsula Housing Authority 2603 South Francis Street Port Angeles, WA 98362	
16	Penninsula Housing Authority - Pendley Estates	Nov-23	11/17/2023	MM	15	No	Yes	Education & Outreach	Ongoing	Southside of West 14th Street, across from Samara Drive	Peninsula Housing Authority	aorourke@peninsulapha.org 360-452-7631 ext. *841	Individual homeowners, see file.	Working on establishing effective communication with the neighborhood which has no HOA.
17	Peninsula Behavioral Health - 2016 Parking Lot	Oct-23	10/19/2023	MM	14	No	No	N/A	N/A	118 E. 8th St.	Wes Zimmer	(360) 461-7386 wesz@peninsulabehavioral.org	Peninsula Behavioral Health 118 East 8th Street Port Angeles, WA 98362	Minor maintenance required.
18	Peninsula College - Parking Lot and Soccer Fields	Oct-23	11/13/2023	MM	28	No	No	N/A	N/A	1502 E Lauridsen Blvd	JD Smith / Kevin Field	360-460-3292 jsmith@pencol.edu	Finance and Administration, Peninsula College 1502 E Lauridsen Boulevard Port Angeles, WA 98362	Minor maintenance required.
19	Peninsula College - Allied Health Building	Oct-23	11/13/2023	MM	10	No	No	N/A	N/A	1503 E Lauridsen Blvd	JD Smith / Kevin Field	360-460-3292 jsmith@pencol.edu	Finance and Administration, Peninsula College 1502 E Lauridsen Boulevard Port Angeles, WA 98362	Minor maintenance required.
20	Port of Port Angeles - Airport Industrial Park	Oct-23	10/23/2023	MM	36	Yes	No	N/A	N/A	2200 W 18th ST	Jesse Waknitz	jessew@portofpa.com	Port of Port Angeles P.O. Box 1350 Port Angeles, WA 98362	Minor maintenance required. POPA to work with business in Bldg 2.
21	Port of Port Angeles - Around Again	Oct-23	10/23/2023	MM	3	Yes	No	N/A	N/A	2604 W. 18th St.	POPA - Jesse Waknitz	jessew@portofpa.com	Port of Port Angeles P.O. Box 1350 Port Angeles, WA 98362	
22	Port of Port Angeles - Marine Terminal SW Treatment Facility & Marine Trades Area Wash-down Facility	Oct-23	10/23/2023	MM	18	Yes	No	N/A	N/A	615 Marine Drive	Jesse Waknitz	jessew@portofpa.com	Port of Port Angeles P.O. Box 1350 Port Angeles, WA 98362	Minor maintenance required.
23	Shore Aquatic Center	Oct-23	10/25/2023	MM	13	No	No	N/A	N/A	225 East 5th St.	Steve Burke	steve@sacpa.org 360.460.3526	Shore Metropolitan Park District 225 E 5th St Port Angeles, WA 98362	Filterra may require maintenance.
24	Northwest Kidney Center	May-23	5/24/2023	MM	14	Yes	No	N/A	N/A	707 South Chase St.	Ashish Kumar	206-720-3761 ashish.kumar@nwkidney.org	Northwest Kidney Centers, Inc. 12901 20th Ave South SeaTac, WA 98168	Working with NWKC on a solution for appropriate access to flow control structure with composite lid replacement.

Year end Stats:	Scheduled	Achieved	Passed 1st time	Deficient Sites	Resolved	Progressive enforcement ongoing	Compliant sites
	24	24	22/24	2/24	0/2	2/2	22/24
	100%		92%	8%	0%	100%	85%

IN COMPLIANCE WITH S5.C.7.d OF ECOLOGY'S 2019-2024 PHASE II SW PERMIT

PRACTICES, POLICIES, AND PROCEDURES

APPLICABLE TO ALL LANDS OWNED, MANAGED, AND MAINTAINED BY THE CITY OF PORT ANGELES

Version 3

LAST UPDATED | 3.26.2023

This page left intentionally blank.

CITY OF PORT ANGELES

OPERATIONS AND MAINTENANCE PROGRAM SUPPORT

Date:	May 13, 2022
To:	Vince McIntyre / City of Port Angeles
Cc:	Francesca White and Ann Bryant / Osborn Consulting, Inc.
From:	Robin Kirschbaum, PE, Chester Bennett, PE Robin Kirschbaum, Inc.
Subject:	Practices, Policies, and Procedures to Reduce Stormwater Impacts (Task 4.3)

TABLE OF CONTENTS

1 Introduction 1
1.1 Purpose of this Report 1
1.2 City Owned Properties 1

2 Maintenance Activities 1
2.1 All Sites 4
2.2 Streets, Highways, Roads, Road Right-of-Ways 4
2.3 Parking Lots 5
2.4 Buildings 5
2.5 Parks and Open Space 6
2.6 Maintenance Yards 7
2.7 Stormwater treatment and flow control BMPs/facilities 7
2.8 Temporary Erosion and Sediment Control 8
2.9 Other 8

3 References 9

LIST OF FIGURES

Figure 1. Overview of City Owned Properties 3

LIST OF APPENDICES

Appendix A: Activity Specific Policies and Procedures
Appendix B: Source Control BMP Library (2019 SWMMWW, Volume IV)
Appendix C: BMP Maintenance Tables (2019 SWMMWW, Volume V)
Appendix D: List of Public Works Policies and Procedures Index (revised 1/2016)
Appendix E: List of Construction Source Control & Runoff BMPs (2019 SWMMWW, Vol. II)

1 INTRODUCTION

1.1 Purpose of this Report

The purpose of this binder is to document practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the City of Port Angeles (City), and road maintenance activities under the functional control of the City. Lands owned or maintained by the City include, but are not limited to: streets, parking lots, roads, highways, buildings, parks, open space, road right-of-ways, maintenance yards, and stormwater treatment and flow control BMPs/facilities.

This task is intended to help the City meet the National Pollutant Discharge Elimination System (NPDES) Phase 2 Western Washington Permit requirements in section S5.C.7.d, as administered by the Washington State Department of Ecology (Ecology). This binder compiles the information from the City already in-effect along with guidance from Ecology's 2019 Stormwater Management Manual for Western Washington (SWMMWW).

1.2 City Owned Properties

Figure 1 provides an overview of City-owned parcels. Practices, policies, and procedures have been categorized by property type in the text and tables below in Section 2.

2 MAINTENANCE ACTIVITIES

This section discusses the maintenance activities and BMPs to be implemented at various sites to reduce stormwater impacts associated with site runoff and road maintenance. For each property type owned or maintained by the City, potential maintenance activities are listed in the tables below. The following sections are intended as a guide for identifying potential maintenance activities for a specific site:

- Streets, highways, roads, and road right-of-ways (ROWs)
- Parking lots
- Buildings
- Parks and open space
- Maintenance yards
- Stormwater treatment and flow control BMPs/facilities
- Temporary Erosion and Sediment Control
- Other (Commercial, manufacturing, industrial, fueling, landscaping, storage, etc.)

Ecology has assembled a list of specific activities for all Phase II Permittees to address in their documented policies and procedures to reduce adverse stormwater impacts associated with runoff. These activities and the City's associated policies and procedures are provided in **Appendix A**. Additionally, Ecology's Stormwater Management Manual for Western Washington, which was adopted in municipal Code by the City, contains guidance and best management practices (BMPs) to control pollutants at their source. These Source Control BMPs are provided for reference in **Appendix B**. Volume V of the SWMMWW contains inspection and maintenance guidance and thresholds for specific stormwater infrastructure. These maintenance tables are

provided in **Appendix C**. The City has a wide-range of pre-defined and well-established policies and procedures for all sorts of municipal activities. An index of these policies is included in **Appendix D**. Staff can use this as a reference for awareness of other defined policies. Copies can be found at the Corp Yard and at City Hall. And finally, municipal work often entails land disturbance and construction activities. The SWMMWW contains many construction related BMPs that City Staff are required to use and implement as appropriate on all city projects. A list of these BMPs in provided in **Appendix E**. The specifics associated with each construction BMP can be found in Volume II of the SWMMWW.

City staff that have functional control and management of a municipal facility, infrastructure, or lands are responsible for knowing these the BMPs herein and for implementing them during the exercise of their duties. All municipal leadership, including Department Directors, Superintendents, and Leadworkers shall train their staff to apply stormwater protection BMPs that are appropriate for and applicable to their specific job duties. Each department shall comply with the Source Control BMPs applicable to all Sites, listed below in Section 2.1 and provided in Appendix D. Additionally, those individuals responsible for maintaining site specific stormwater conveyance and management facilities are required to maintain accountability of their infrastructure (mapping, schematics, etc.) and a copy of the stormwater inspection and maintenance guidance from the manufacturer and Ecology's associated General Level Use Designation (GULD) standards. If you have questions, contact the City's Stormwater Engineer for assistance.

Its also important to note that certain facilities within the City require a more formal stormwater management plan than the minimum standards provided herein that apply to all sites. Some of these facilities are: the Corp Yard, the Landfill/Transfer Station, the Waste Water Treatment Plant, the Transformer Storage and Handling Building. The minimum standards described herein are in addition to the requirements described in the governing documents for those facilities.

If there is a conflict between any existing or new policy or procedure, the City shall apply the more stringent standard or threshold that results in a higher level of stormwater protection and lower risk of polluted runoff.

Figure 1. Overview of City Owned Properties

This page left intentionally blank

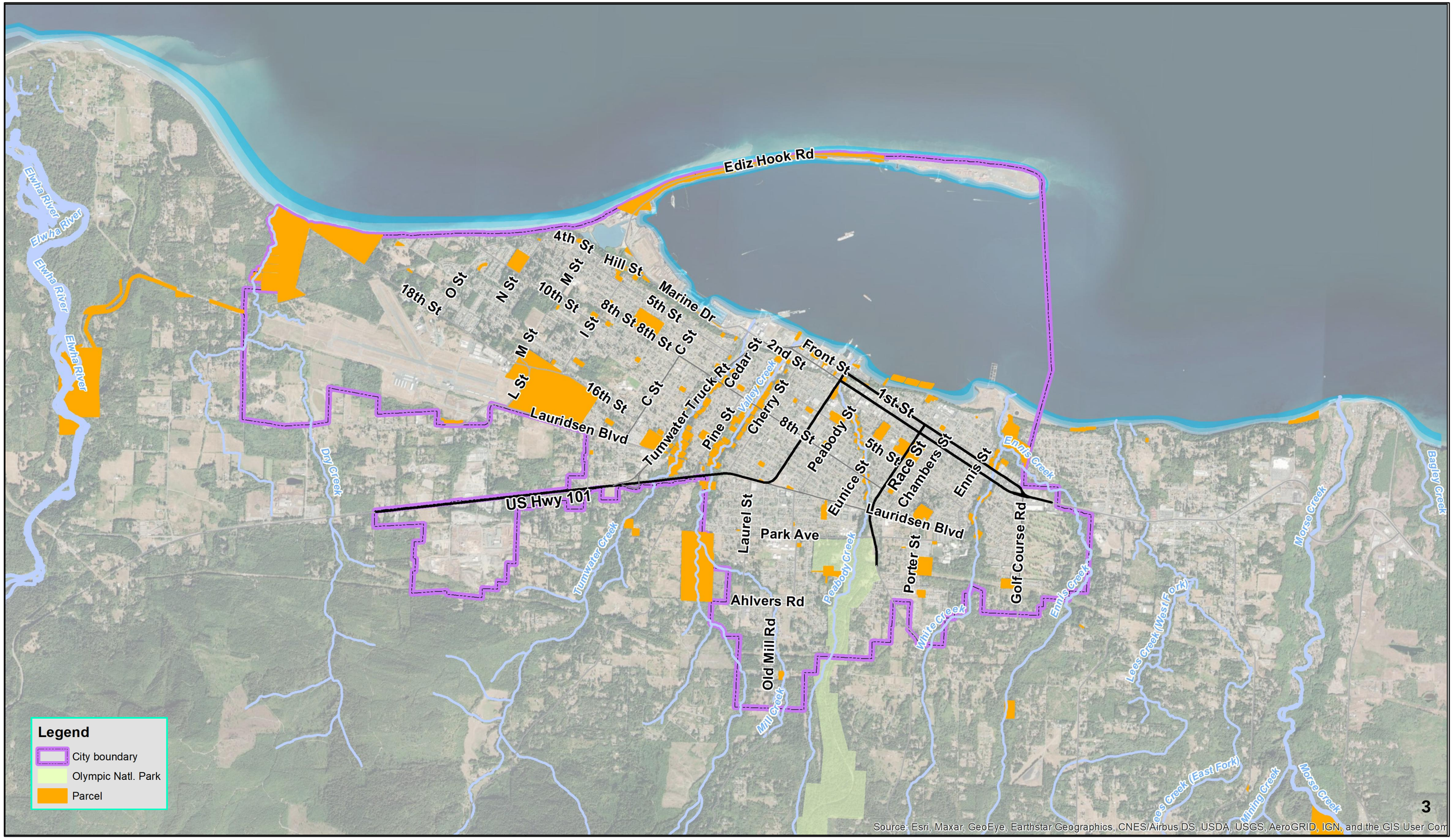


Figure 1. CITY OWNED PROPERTIES

This map is not intended for use as a legal description. Locations of features are approximate only. Topographic/Map features are +-5 feet of actual locations. This map/drawing is produced by the city of Port Angeles for its own use and purposes. Any other use of this map/drawing shall not be the responsibility of the City.

CITY OF PORT ANGELES
PRACTICES, POLICIES AND PROCEDURES (TASK 4.3)

Water main
WWater main
SWater main
Electrical distribution OH
Electrical distribution UG

3,900
Feet

N

Area Map

Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91

CITY OF PORT ANGELES
PUBLIC WORKS DEPARTMENT

2.1 All Sites

The following source control BMPs are applicable to ***all sites*** and can be found in **Appendix B**. The preceding numbering system (S4XX) comes from the SWMMWW where these BMPs originate.

- **S410 Correct illicit discharges to storm drains**
- **S453 Formation of a Pollution Prevention Team**
- **S454 Preventative maintenance / Good housekeeping**
- **S455 Spill Prevention and Cleanup**
- **S456 Employee training**
- **S457 Inspections**
- **S458 Record keeping**

The following tabulated BMPs are arranged by land-use type and have been compiled for ease of use. The goal is for City staff to be able to quickly identify the policies, procedures, or BMPs associated with that activity so that they can be easily referenced and applied.

2.2 Streets, Highways, Roads, Road Right-of-Ways

General Maintenance	• Appendix A ○ Gravel shoulder maintenance ○ Pavement striping/curb & building painting ○ Pressure washing ○ Road repair and resurfacing ○ Roadside vegetation management ○ Stormwater culvert cleaning • Appendix B ○ S406 Streets and Highways ○ S407 Dust control at disturbed land areas and unpaved roadways ○ S416 Maintenance of roadside ditches ○ S430 Urban streets ○ S440 Pet waste ○ S441 Potable water line flushing, water tank maintenance, and hydrant testing ○ S452 Goose waste ○ Appendix IV-B: Management of Street Waste Solids and Liquids
Utilities & Conveyance	• Appendix A ○ Stormwater pipe cleaning ○ Utility installation and repair • Appendix B ○ S415 Maintenance of public and private utility corridors ○ S417 Maintenance of stormwater drainage and treatment systems ○ S442 BMPs for Labeling Storm Drain Inlets on Your Property
Seasonal	• Appendix A

	○ Snow & Ice Response Plan

2.3 Parking Lots

General Maintenance	• Appendix A ○ Gravel shoulder maintenance ○ Pavement striping/curb & building painting ○ Pressure washing ○ Road repair and resurfacing ○ Roadside vegetation management ○ Stormwater culvert cleaning • Appendix B ○ S407 Dust control at disturbed land areas and unpaved roadways ○ S416 Maintenance of roadside ditches ○ S421 Parking and storage of vehicles and equipment ○ S440 Pet waste ○ S441 Potable water line flushing, water tank maintenance, and hydrant testing ○ S452 Goose waste ○ Appendix IV-B: Management of Street Waste Solids and Liquids
Utilities & Conveyance	• Appendix A ○ Stormwater pipe cleaning ○ Utility installation and repair • Appendix B ○ S415 Maintenance of public and private utility corridors ○ S417 Maintenance of stormwater drainage and treatment systems ○ S442 BMPs for Labeling Storm Drain Inlets on Your Property
Seasonal	• Appendix A ○ Snow & Ice Response Plan

2.4 Buildings

General Maintenance	• Appendix A ○ Pavement striping/curb & building painting ○ Pressure washing • Appendix B ○ S420 BMPs for Painting/ Finishing/ Coating of vehicles/ Boats/ Buildings/ Equipment ○ S431 Washing and steam cleaning vehicles, equipment, or building structures ○ S440 Pet waste ○ S441 Potable water line flushing, water tank maintenance, and hydrant testing ○ S447 Roof vents ○ S449 Nurseries and greenhouses ○ S451 Building repair, remodeling, painting, and construction

	○ S452 Goose waste ○ Appendix IV-B: Management of Street Waste Solids and Liquids
Utilities and conveyance	• Appendix A ○ Stormwater pipe cleaning ○ Utility installation and repair • Appendix B ○ S415 Maintenance of public and private utility corridors ○ S417 Maintenance of stormwater drainage and treatment systems ○ S442 BMPs for Labeling Storm Drain Inlets on Your Property
Seasonal	• Appendix A ○ Snow & Ice Response Plan

2.5 Parks and Open Space

General Maintenance	• Appendix B ○ S407 Dust control at disturbed land areas and unpaved roadways ○ S411 Landscaping and lawn/vegetation management ○ S433 Pools, spas, hot tubs, and fountains ○ S435 Pesticides and an Integrated Pest Management Program ○ S440 Pet waste ○ S441 Potable water line flushing, water tank maintenance, and hydrant testing ○ S443 Fertilizer application ○ S444 Storage of dry pesticides and fertilizers ○ S449 Nurseries and greenhouses ○ S450 Irrigation ○ S452 Goose waste ○ Appendix IV-B: Management of Street Waste Solids and Liquids
Utilities and conveyance	• Appendix A ○ Stormwater pipe cleaning ○ Utility installation and repair • Appendix B ○ S415 Maintenance of public and private utility corridors ○ S417 Maintenance of stormwater drainage and treatment systems ○ S442 BMPs for Labeling Storm Drain Inlets on Your Property

2.6 Maintenance Yards

General Maintenance	• Appendix A
	  ○ Pavement striping/curb & building painting
	  ○ Pressure washing
	  ○ Road repair and resurfacing
	  ○ Stormwater culvert cleaning
	• Appendix B
	  ○ S407 Dust control at disturbed land areas and unpaved roadways
	  ○ S412 Loading and unloading areas for liquid or solid material
	  ○ S414 Maintenance and repair of vehicles and equipment
	  ○ S420 Painting/ finishing/ coating of vehicles/ boats/ buildings/ equipment
	  ○ S421 Parking and storage of vehicles and equipment
	  ○ S426 Spills of oil and hazardous substances
	  ○ S431 Washing and steam cleaning vehicles/ equipment/ building structures
	  ○ S440 Pet waste
	  ○ S441 Potable water line flushing, water tank maintenance, and hydrant testing
	  ○ S452 Goose waste
	  ○ Appendix IV-B: Management of Street Waste Solids and Liquids

Utilities and conveyance	• Appendix A
	  ○ Stormwater pipe cleaning
	  ○ Utility installation and repair
	• Appendix B
	  ○ S415 Maintenance of public and private utility corridors
	  ○ S417 Maintenance of stormwater drainage and treatment systems
	  ○ S442 BMPs for Labeling Storm Drain Inlets on Your Property

Seasonal	• Appendix A ○ Snow & Ice Response Plan

2.7 Stormwater treatment and flow control BMPs/facilities

General Maintenance	• Appendix C ○ BMP maintenance tables

Utilities and conveyance	• Appendix A
	  ○ Stormwater pipe cleaning
	  ○ Utility installation and repair
	• Appendix B
	  ○ S415 Maintenance of public and private utility corridors
	  ○ S417 Maintenance of stormwater drainage and treatment systems
	  ○ S442 BMPs for Labeling Storm Drain Inlets on Your Property

Seasonal	• Appendix A ○ Snow & Ice Response Plan

2.8 Temporary Erosion and Sediment Control

General maintenance	• Appendix D ○ List of Construction Source Control and Runoff BMPs

2.9 Other

Commercial/ industrial/ manufacturing	• Appendix B
	  ○ S402 Commercial animal handling areas
	  ○ S403 Commercial composting
	  ○ S404 Commercial printing operations
	  ○ S405 Deicing and anti-icing operations for airports
	  ○ S408 Dust control for manufacturing areas
	  ○ S418 Manufacturing activities – outside
	  ○ S424 Roof/ building drains at manufacturing and commercial buildings
	  ○ S425 Soil erosion and sediment control at industrial sites

Fueling	• Appendix B
	  ○ S409 Fueling at dedicated stations
	  ○ S412 Loading and unloading areas for liquid or solid material
	  ○ S419 Mobile fueling of vehicles and heavy equipment
	  ○ S426 Spills of oil and hazardous substances
	  ○ S439 In-water and over-water fueling

Landscaping	• Appendix B
	  ○ S411 Landscaping and lawn/ vegetation management
	  ○ S435 Pesticides and an Integrated Pest Management Program
	  ○ S443 Fertilizer application
	  ○ S444 Storage of dry pesticides and fertilizers
	  ○ S449 Nurseries and greenhouses
	  ○ S450 Irrigation

Storage	• Appendix B
	  ○ S427 Storage of liquid, food waste, or dangerous waste containers
	  ○ S428 Storage of liquids in permanent aboveground tanks
	  ○ S429 Storage or transfer (outside) of solid raw materials, by products, or finished products
	  ○ S445 Temporary fruit storage

Miscellaneous	• Appendix B
	  ○ S413 Log sorting and handling
	  ○ S422 Railroad yards
	  ○ S423 Recyclers and scrap yards
	  ○ S432 Wood treatment areas
	  ○ S434 Dock washing
	  ○ S436 Color events
	  ○ S438 Construction demolition
	  ○ S446 Well, utility, directional, and geotechnical drilling

3 REFERENCES

Washington State Department of Ecology (Ecology) 2019. Stormwater Management Manual for Western Washington, Volumes IV – V. July. Web address: https://fortress.wa.gov/ecy/ezshare/wq/Permits/Flare/2019SWMMWW/2019SWMMWW.htm

APPENDIX A

Activity Specific Policies and Procedures:

- Pipe cleaning
- Cleaning of culverts that convey stormwater in ditch systems
- Ditch maintenance
- Street cleaning
- Road repair and resurfacing, including pavement grinding
- Snow and ice control
- Utility installation
- Pavement striping maintenance
- Maintaining roadside areas, including vegetation management
- Dust control
- Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts
- Sediment and erosion control
- Landscape maintenance and vegetation disposal (integrated into the fertilizer plan above)
- Trash and pet waste management
- Building exterior cleaning and maintenance

This page left intentionally blank.

Stormwater Pipe Cleaning BMP

Description of Work
Routine cleaning of stormwater lines to remove accumulated dirt and debris.

Objectives
Remove dirt and debris to allow adequate stormwater flow reducing the likelihood of localized flooding. Provide a safe roadway surface for the traveling public.

Site Preparation
1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

BMP Maintenance During Site Work

1. Pipe Cleaning:

Locate and identify pipe and locations.

Select proper nozzle for sediment or root removal.

Use jet/vactor truck for cleaning and dirt/debris containment by inserting nozzle into pipe and vacuum tube at pipe inlet or outlet depending on circumstances, ideally jetting against flow.

Engage vacuum before cleaning of line.

Engage jetting hose and proceed with cleaning of line, allowing vacuum to remove/contain sediment and debris.

If vacuum hose cannot be used due to space limitations the use of sediment removal traps is required.

3. Equipment and Vehicle Maintenance:

Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

4. Waste Disposal:

Properly dispose of wastes at City of Port Angeles Decant Facility.

Stormwater Culvert Cleaning BMP

Description of Work
Routine cleaning of stormwater culverts to remove accumulated dirt and debris.

Objectives
Remove dirt and debris to allow adequate stormwater conveyance reducing the likelihood of localized flooding. Provide a safe roadway surface for the traveling public.

Site Preparation
1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

BMP Maintenance During Site Work

1. Culvert Cleaning

Locate and identify culvert and locations.

Use jet/vactor truck for cleaning and dirt/debris containment by inserting nozzle into culvert and vacuum tube at culvert inlet or outlet depending on circumstances, ideally jetting against flow.

Engage vacuum before cleaning of culvert to reduce the potential of sediments bypassing the vacuum inlet.

Engage jetting hose and proceed with cleaning of culvert, allowing vacuum to remove/contain sediment and debris.

Culvert cleaning to be performed during dry season/periods of no water flow unless emergency situation.

2. Equipment and Vehicle Maintenance:

Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

3. Waste Disposal:

Properly dispose of wastes at an approved dump site after pipe cleaning is finished.

Ditch Maintenance BMP

Description of Work
Routine cleaning, reshaping and regrading of stormwater ditches to remove accumulated sediment and vegetation (sod).

Objectives
Remove sediment and vegetation (sod) to allow adequate stormwater conveyance reducing the likelihood of localized flooding and reduce saturation of road sub-base along with providing a safe roadway surface for the traveling public.

Site Preparation
1. Spill Kit: Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

BMP Maintenance During Site Work

1. Ditch Maintenance:

Locate and identify ditches that need to have maintenance performed.

Ditch maintenance to be performed from March through September except in emergency situations.

Skip ditching with backhoe/excavator will be the preferred methodology. The ditch having maintenance performed will be divided into equal sections, not one of which will exceed 50 linear feet in length. The sections will alternate between areas of sediment/sod removal and areas left in natural state to act as energy dissipater and sediment filtration. If for any reason this method cannot be implemented then either triangular silt dikes, rock check dams or a combination of both shall be employed.

Areas of disturbed soil shall be hydroseeded or covered with straw within two days of ditch maintenance completion if occuring during March through June and seven days from July through September.

2. Equipment and Vehicle Maintenance:

Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

3. Waste Disposal:

Properly dispose of wastes at an approved dump site.

Street Sweeping BMP

Description of Work

Routine sweeping of streets and alleys with mechanical and air sweepers to remove accumulated dirt and debris for safe, clean streets including the sweeping of designated routes, grids, and any non-route sweeping of streets and alleys resulting from complaints or other situations requiring a mechanical or air sweeper.

Objectives

Reduce sediments and contaminants, such as petroleum hydrocarbons, heavy metals, road wash off, snow sand, and debris, from reaching the stormwater, watercourse, stream system and other water bodies. Reduce occurrence of flooding and debris clogged drain inlets, and provide a safe roadway surface for the traveling public.

BMP Maintenance During Site Work

1. Sweeping:

Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose). Washing is not an alternative to sweeping and vacuuming because of the risk of pollutant transport.

Schedule sand removal as part of the snow and ice emergency response.

Control speed of sweeper to minimize airborne particulates and remove maximum amount of debris.

Use water spray system on sweeper to reduce dust.

Avoid sweeping up any unknown substance or any object that may be potentially hazardous.

Adjust brooms frequently; maximize efficiency of sweeping operations.

Prevent sediment from entering storm drain system.

2. Equipment and Vehicle Maintenance:

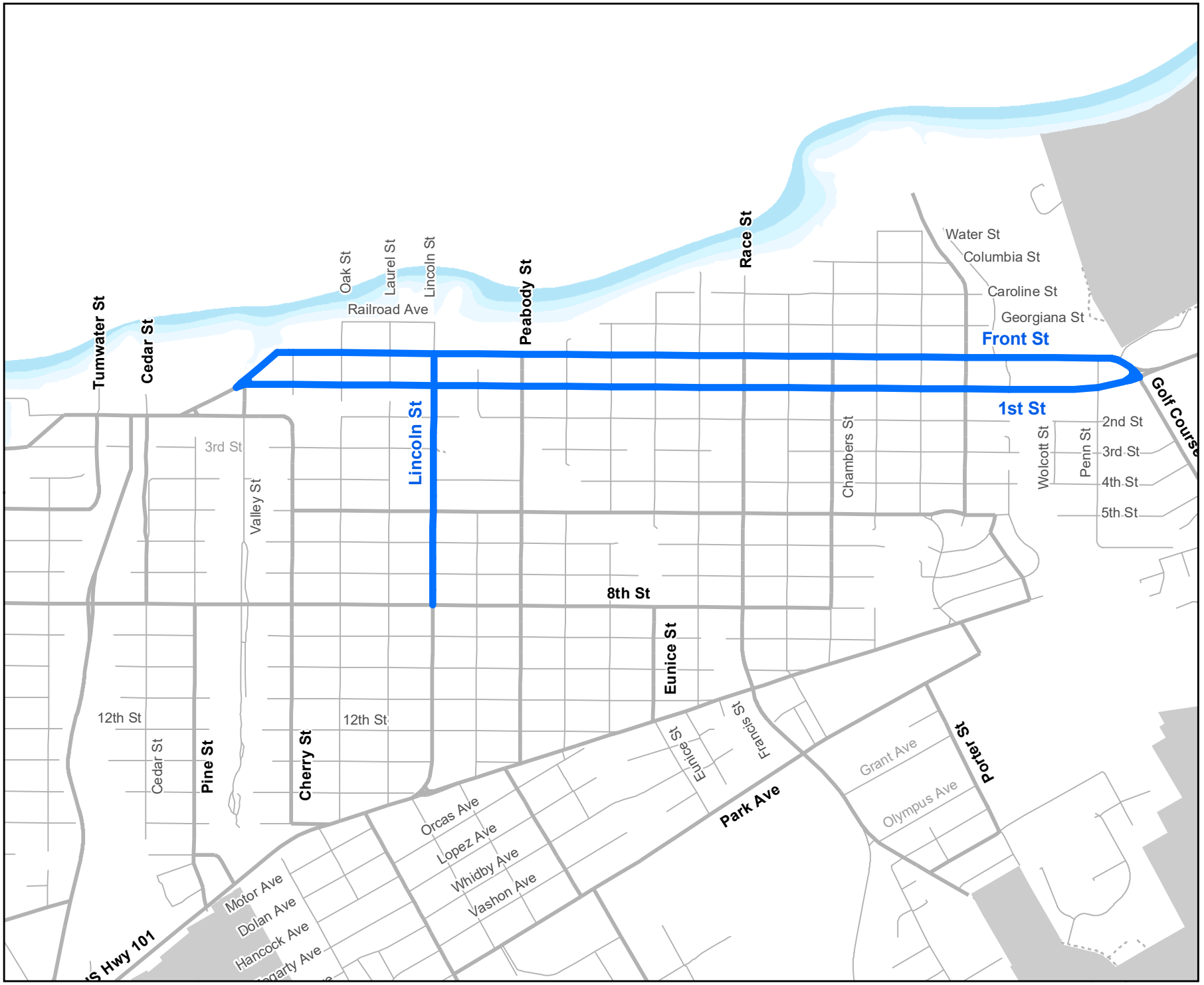
Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

3. Waste Disposal:

Properly dispose of sweeper wastes at the City of Port Angeles Decant Facility.



Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91

1,200

Feet

Street sweeping

Monday

Map legend

County

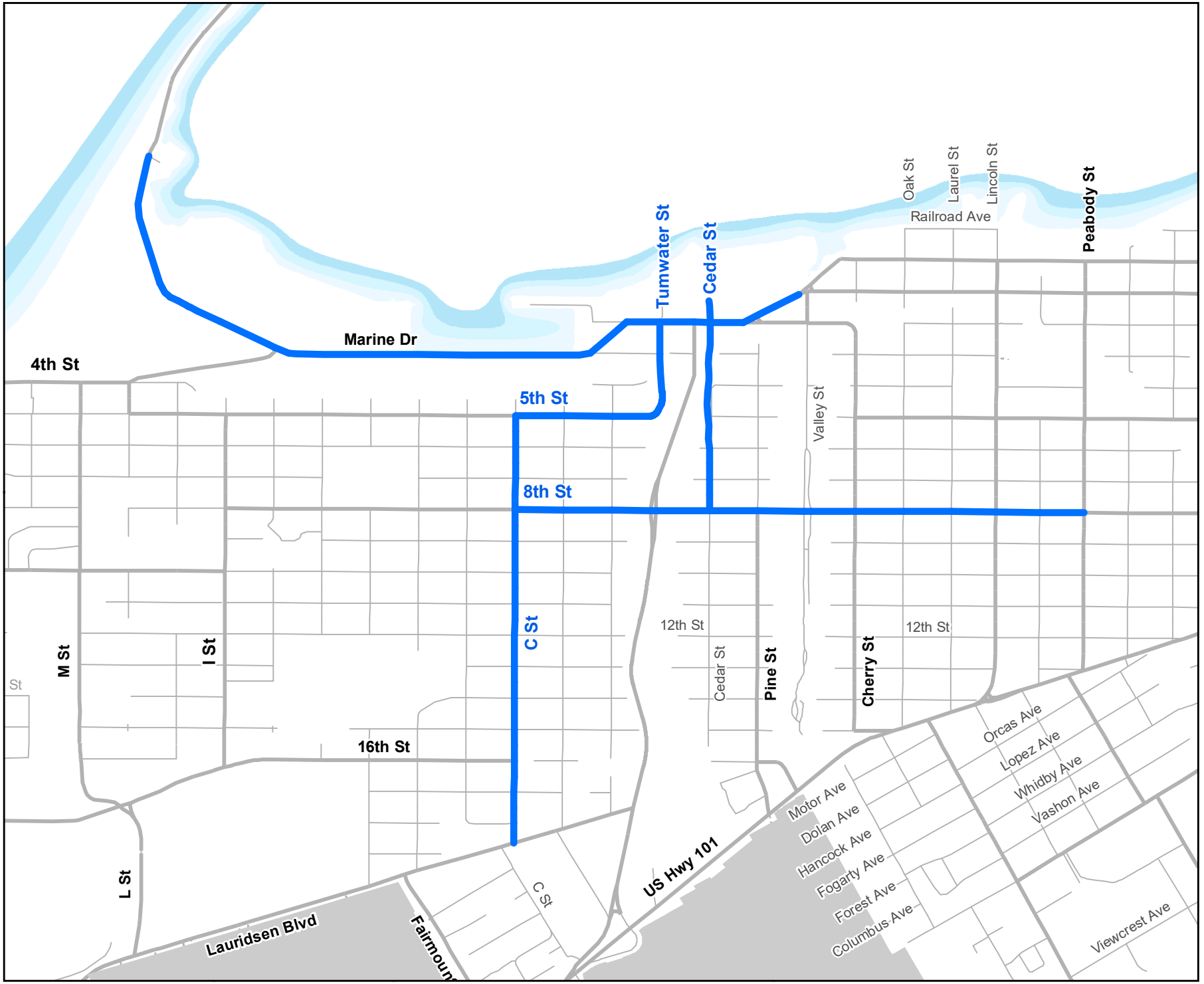
City Streets

Arterial

SideStreet

County Roads

This map is not intended to be used as a legal description.
This map/drawing is produced by the City of Port Angeles for its own use and purposes.
Any other use of this map/drawing shall not be the responsibility of the City.



Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91

N

1,200

Feet

Street sweeping

Tuesday

Map legend

County

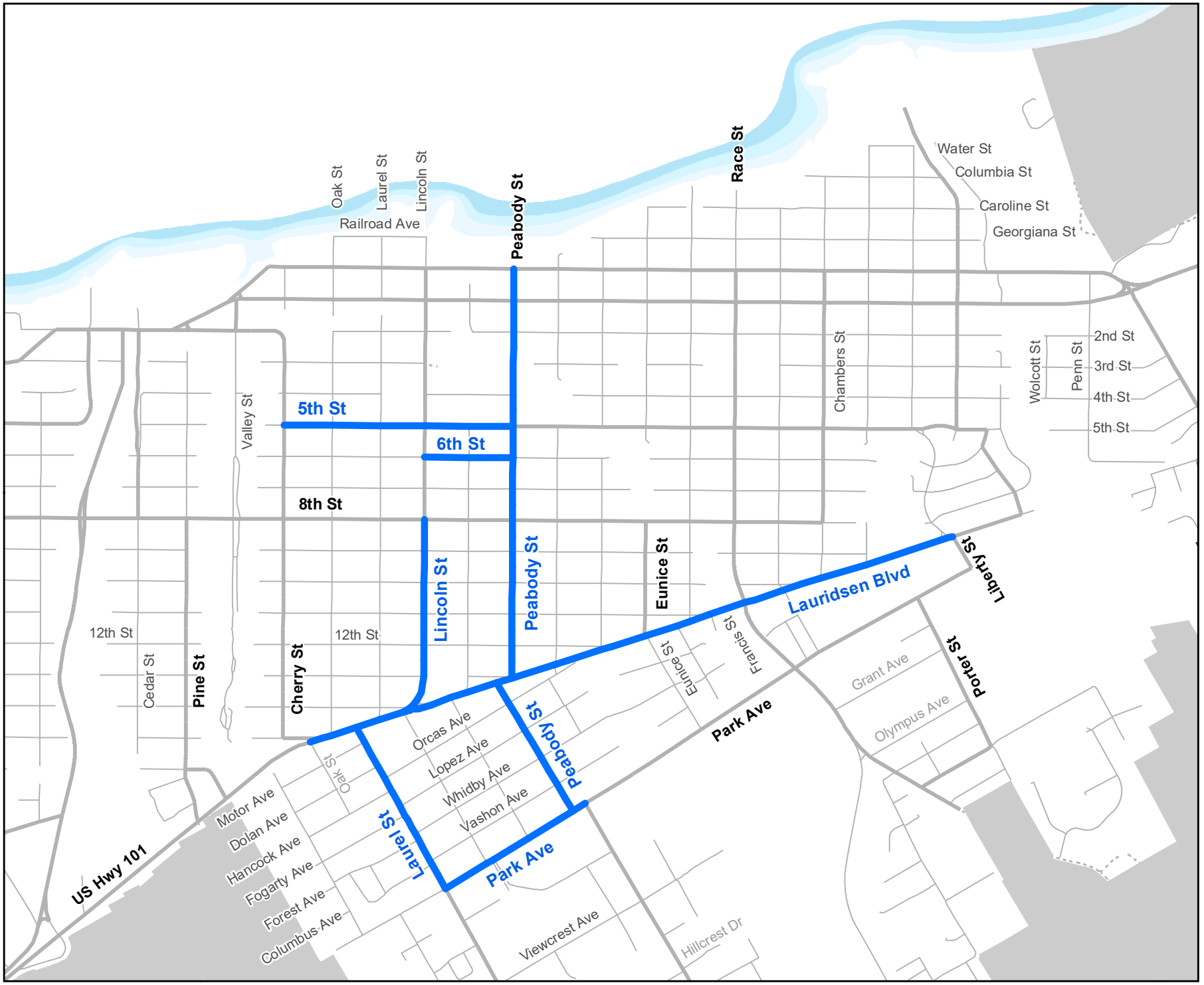
City Streets

Arterial

SideStreet

County Roads

This map is not intended to be used as a legal description.
This map/drawing is produced by the City of Port Angeles for its own use and purposes.
Any other use of this map/drawing shall not be the responsibility of the City.



Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91

N

1,200

Feet

Street sweeping

Wednesday

Map legend

County

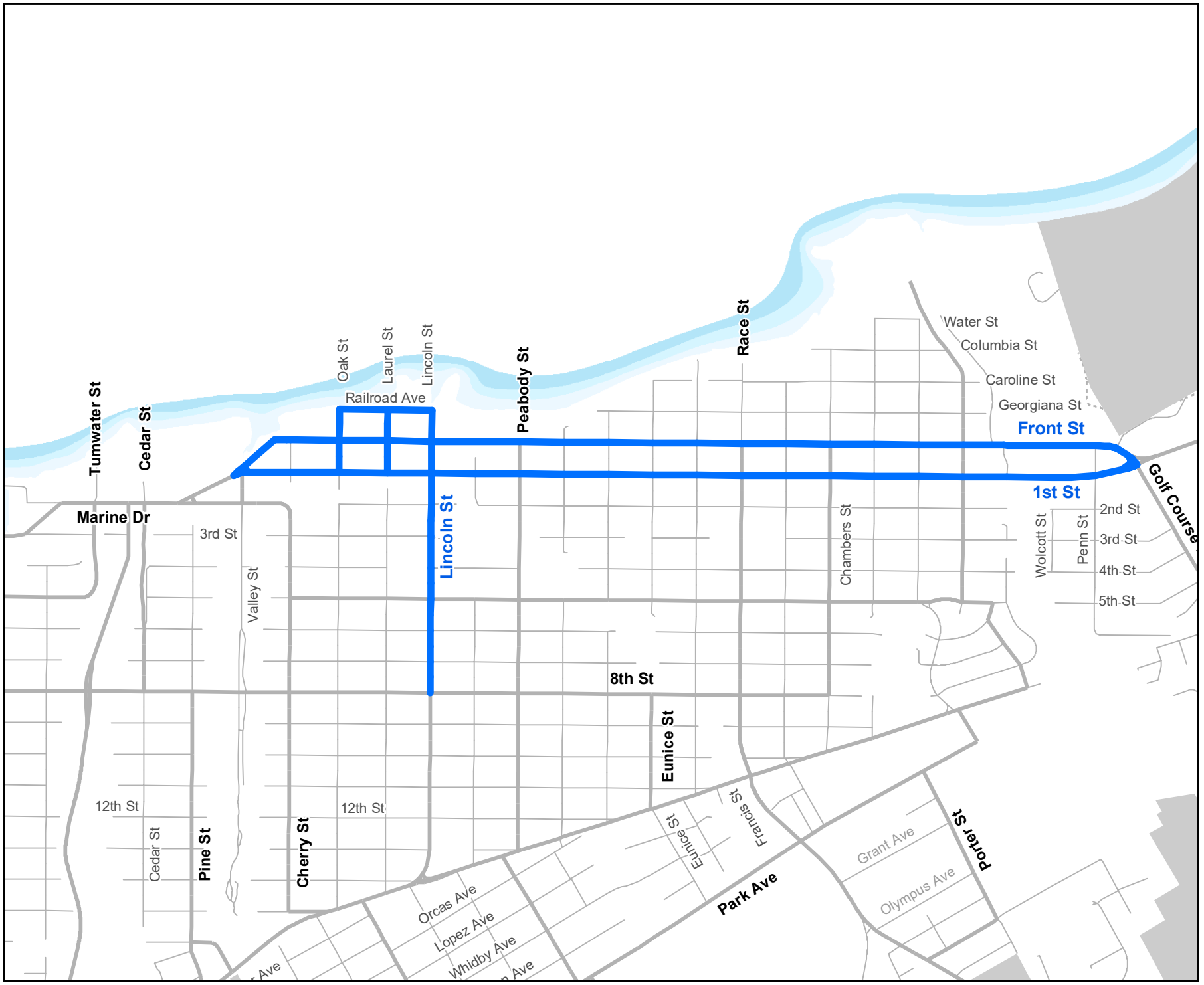
City Streets

Arterial

SideStreet

County Roads

This map is not intended to be used as a legal description.
This map/drawing is produced by the City of Port Angeles for its own use and purposes.
Any other use of this map/drawing shall not be the responsibility of the City.



Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91

N

1,200

Feet

Street sweeping

Thursday

Map legend

County

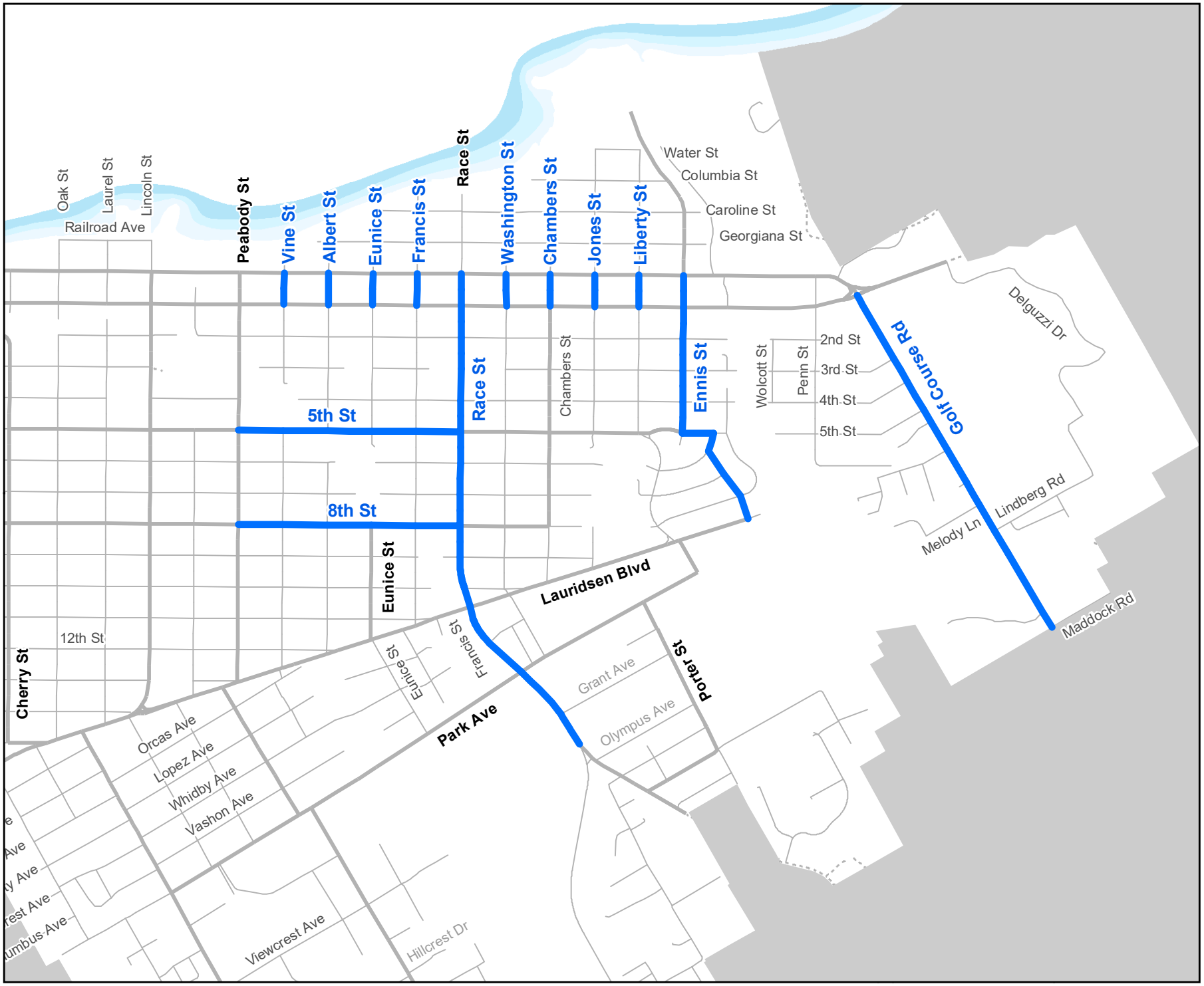
City Streets

Arterial

SideStreet

County Roads

This map is not intended to be used as a legal description.
This map/drawing is produced by the City of Port Angeles for its own use and purposes.
Any other use of this map/drawing shall not be the responsibility of the City.
S:\ARCINFO\Street\8x11 street sweeping map.mxd



Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91

1,200

Feet

Street sweeping

Friday

Map legend

County

City Streets

Arterial

SideStreet

County Roads

This map is not intended to be used as a legal description.
This map/drawing is produced by the City of Port Angeles for its own use and purposes.
Any other use of this map/drawing shall not be the responsibility of the City.

Road Repair and Resurfacing Maintenance BMP

Description of Work

Repair, replace, install, or maintain roadway surfaces. Activities include the following: square cut patching; removing paved surface or roadway base; repaving; crack sealing; overlay and pavement grinding.

Objectives

The roadway surface is part of the ROW structure. The slope of the road surface routes water and sediments off the roadway, to the shoulder, to an open drainage area or to an enclosed drainage system. Thus, the slope of the roadway surface is part of the water flow and sediment collection systems.

These activities are performed to provide a safe roadway surface for the traveling public and to reduce further roadway deterioration or failure. Most patching and resurfacing activities occur from May to October. Potholes are repaired as they occur to reduce accidents, vehicle damage, and adverse environmental impacts.

Site Preparation

1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.
2. **Catch Basin Filter Socks:** Install the appropriate size catch basin filter socks in catch basins of storm drain inlets that are located downslope or adjacent to the work area if needed.

BMP Maintenance During Site Work

1. Catch Basin Filter Socks:

Clean or remove and replace filter sock when sediment has filled one-third of the available storage.

2. Asphalt Repair (square cut patching, removing paved surface, repaving, skin patching, overlay and pavement grinding):

Vacuum slurry and cuttings during the activity to prevent migration off site; do not allow the material to remain on permanent concrete or asphalt paving overnight.

Use jackhammer instead or asphalt/concrete saw if vacuum is not available or during emergency situations where time prohibits the ability to acquire the vacuum.

Collect, treat, and properly dispose of runoff that comes in contact with diesel or coatings used in asphalt applications.

Continually monitor operations to determine whether cuttings or wastewater could enter the stormwater system. If observations indicate that a violation of water quality standards could occur, stop operations and immediately implement preventative measures such as berms, barriers, secondary containment, and vactor trucks.

Sweep sediment and debris into area to be patched that has had asphalt removed.

Use pick-up air sweeper to collect debris after job is complete.

Optional BMP's

Avoid sawcutting when rain is falling or expected, where feasible.

Use a sandbag barrier of containment berm to direct stormwater run-on around the construction site.

3. Crack Sealing:

Avoid this activity when rain is falling or expected.

Use pick-up air sweeper to collect debris from cleaning cracks after cracks have been sealed to prevent sediment from entering the storm drain system.

Site Cleanup

1. Catch Basin Filter Socks:

Remove the filter sock and dispose of the collected sediment in a suitable container to be hauled off site. Reuse the filter sock at another site if it remains in good condition (no rips, tears, or visible staining).

2. Waste Disposal:

Sweep or shovel loose aggregate chunks and dust, and collect the material for recycling or disposal at an approved disposal site.

Remove waste material from site and dispose of it at an approved disposal site.

Dispose of collected slurry and cuttings in a manner that does not violate groundwater or surface water quality standards.

3. Equipment and Vehicle Maintenance:

Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

4. Waste Disposal:

Properly dispose of wastes at an approved dump site(s).

1 SNOW AND ICE RESPONSE PLAN

PUBLIC WORKS AND UTILITIES DEPARTMENT

POLICY AND PROCEDURES

PW 0502 SNOW AND ICE RESPONSE PLAN

1.0 PURPOSE:

1.1 To establish a uniform procedure to be implemented during ice and snow conditions. The plan shall be used to provide a consistent approach to responding to ice and/or snow conditions within the City of Port Angeles.

1.3 The City's principal goal during a snowstorm and/or icy conditions is to keep the major arterial streets open for the motoring public and provide access for emergency vehicles. In addition to arterial streets, priorities are given to: streets adjacent to schools, bus routes and emergency medical facilities, hills, curves, one access locations and problem intersections on residential streets. All remaining residential streets will receive service only after the above priorities are tended to, and when conditions are warranted.

2.0 ORGANIZATIONS AFFECTED:

2.1 Public Works and Utilities Department staff

2.2 Fire and Police Emergency Services

3.0 POLICY:

3.1 **PERSONNEL** - During a storm event, all effected departments and/or divisions may be called upon to perform various functions as set forth in this policy based upon the severity and duration of the event. The Street Division shall be the initial lead division in all events, **EXCEPT** when an emergency is declared due to a major storm event. In that event, the lead shall be coordinated through the Emergency Operations Center (EOC). The determination to open the EOC shall be made in accordance with the City's Emergency Response Procedures maintained by the Fire Chief.

3.2 **PLOWING** - When plowing is required, snow shall be plowed to the curbs. Windrows of snow across driveways will be created and the openings of the driveways are the responsibility of the property owner. Residential plowing shall be on the basis of one traveled lane.

3.3 **PARKING** - In extreme cases residents will be requested to park on odd or even sides of the street, controlled by the calendar date. This will allow as much snow as possible to be plowed on to the parkway and provide as much street width as practical. This residential activity will occur after the storm has passed or when the crew is sufficiently caught up on arterial plowing.

3.4 **PLOWING AREAS** shall be identified as follows:

A. **SOUTH** - Area south of Boulevard - Cherry Street East to City Limits, including Golf Course Rd area.

B. **EAST -** Cedar Street to East City Limits - Boulevard to Caroline Street.

C. **WEST –** Tumwater Truck Route to West City Limits - Boulevard to Marine Drive plus Ediz Hook.

[These areas may merge depending on direction and intensity of storm. Lower elevation assignments will be moved to assist in higher elevation areas and vice versa.]

3.5 **SNOW REMOVAL PRIORITIES** - This policy establishes the order or priority in which streets and alleys receive response:

#1 On arterial streets considered to be the minimum network which must be kept open to provide a transportation system connecting hospitals, fire stations, police stations and emergency rescue units.

#2 On other arterial streets completing the network covering the major traffic volume streets and providing access to all school and transit routes. This also includes single access or dead end streets and alleys that provide sole access to residences treated on a case by case basis.

#3 All remaining residential streets.

3.6 **STREET CLOSURES** - Streets and alleys will not be closed under ice and/or snow conditions. Streets and alleys may be temporarily closed by the Director of Public Works & Utilities when there is a threat to life safety.

3.7 **CLEARING OF PRIVATE SIDEWALKS -** City ordinance states that it is the duty of the owner or tenant of any premises abutting or adjoining any public sidewalk to remove snow and or ice obstructions and all accumulations that remain more than 48 hours from such a sidewalk. [PAMC 11.12.070]

3.8 **WORK ON PRIVATE PROPERTY** - the City does not provide snow removal, plowing, or sanding on private property, except for other public agencies with which the City has an agreement to do so.

3.9 **SUPPORT PERSONNEL -** Support personnel requirements shall depend upon the intensity and duration of the storm: Public Works & Utilities Water, Wastewater, Engineering, and Parks and Recreation Dept. will be responsible for the sidewalks, stairs, zigzag, and elderly calls for special help getting out of driveways as detailed in this policy.

3.10 **EQUIPMENT SHOP OPEN -** Equipment Services will have the shop open and a mechanic available, for the duration of the storm event, around the clock, upon approval from the Director of Public Works & Utilities.

4.0 DEFINITIONS:

4.1 **STORM CATEGORY A** - Weather resulting in icy conditions throughout the City with no snow. When the temperature is low enough and the humidity is high enough to cause moisture to freeze on the streets and/or bridges. [Generally 30 degrees and below.] This would occur when the roadway surface is frozen. All arterials, hazardous stops, hills and emergency facilities and routes are sanded and/or anti-iced only.

4.2 **STORM CATEGORY B** - 1 to 3 inches or more of snow throughout the City and the snow accumulates at the rate of 1 to 2 inches per hour. All arterials and emergency facilities are plowed, then school and transit routes, then residential streets and single access or dead end streets and select alleys that provide sole access to residences (i.e. 8/9 alley east of Chambers Street, commonly referred to as Konopaski alley) are plowed. Plowing of all other residential streets will occur after all other priority streets are plowed. Sanding will occur, as necessary, after the storm subsides.

4.3 **STORM CATEGORY C -** A major snowstorm amounting to six inches or more and falling at a rate of more than 2 inches per hour and is reportedly going to continue for an extended period of time. Concentration is given to arterials and emergency facilities. Residential streets and single access or dead end streets and select alleys that provide sole access to residences (i.e. 8/9 alley east of Chambers Street, commonly referred to as Konopaski alley) are plowed after the storm reduces in intensity. Plowing of all other residential streets will occur after all other priority streets are plowed. Sanding will occur, as necessary, after the storm subsides.

4.4 **EOC** - Emergency Operations Center.

4.5 **SNOW ACCUMULATION** - Snow depth shall be as measured at the Fire Hall at Fifth and Oak Streets

5.0 PROCEDURES:

5.1 **WINTER PRE-PLANNING** - During the months of August thru October each year, the following steps shall be taken to insure that all equipment, tools, and materials are ready and available for the upcoming winter season.

5.1.1 **Review Snow and Ice Control Plan** - This Snow and Ice Control Plan shall be reviewed and revised by August 31st. each year.

5.1.2 **Contractors and suppliers** - The list of contractors and suppliers shall be contacted and confirmed by August 31st. Check to see which contractors can be available and the kinds and types of equipment they have in the case of a major incident.

Type of equipment	Contractor and person to contact	Phone No.
Grader, Backhoes, Loaders, Trucks	Lakeside Industries (Jim Weidman)	452-7803
Grader, Backhoe, Loaders, Trucks	Bruch and Bruch (Shawn Coleman)	452-5388
4x4 Snow Blower, grader	Olympic National Park (Cody Manzer - Road Foreman's Office) (Lisa Purchek – Maintenance Supervisor 565-3175)	Work 565-3175 Cell 912-2771
Grader, Backhoe, Trucks	Horizon Excavating (Kurt Bruch)	452-9976 Office 452-9991 Shop

5.1.3 **Equipment on-board tools** - Supervisors and operators shall be responsible to see that all trucks and equipment have the necessary tools and supplies on board each vehicle to allow operators to make minor repairs and adjustments in the field. The following listed equipment shall be furnished and placed in each plow vehicle by October 15th. As the equipment and supplies are expended or used it shall be up to the driver to make sure each item is replaced. This is especially important when double shifting, to make sure that each vehicle has all of its supplies.

- Flashlight
- Flat bar
- Hammer
- Pliers

- Extra plow flags
- Shovel
- Tow chain
- Extra chain strap ties
- De-ice and scraper for windows
- Extra chain lengths and cross pieces
- Extra pair of gloves

5.1.4 **Equipment** - The Service Garage shall insure all sanding and plowing equipment is checked out for serviceability / usability by October 15th. All attachments for sanding and plowing shall be made to the vehicles so they are ready to accept sanders and plows in the case of an event.

5.1.4.1 City Snow and Ice Equipment Inventory

Equipment Description	Equipment Location	Attachments
#1790 – 2005 International 5 yd dump	Street-Corp Yard	Plow and reverse dump sander
#1581-1995 International 10yd dump	Equipment Pool-Corp Yard	Plow & slide in sander
#1579-1990 Ford 5yd dump	Street-Corp Yard	Plow & slide-in sander
#1603-2001 Freightliner 5yd dump	Street-Corp Yard	Plow & slide in sander
#1440-2008 JD 672D Grader	Street-Corp Yard	Grader
#1569-1988 Cat 926 Loader	Street-Corp Yard	Front Bucket
#1782 – GMC 5 yd dump	Water-Corp Yard	Plow and tailgate sander
#1756-1991 JD Backhoe	Water-Corp Yard	Front bucket
#1570-1995 Case Backhoe	Equipment Pool-Corp Yard	Front Bucket
#1917-1993 CAT 950F Loader	Landfill	Front bucket
#1392-2012 JCB Backhoe	Cemetery	Front bucket
#1884-2003 New Holland Backhoe	Parks Shop	Front bucket
#1350 – 2013 F-550 4X4 Dumptruck	Light Ops Yard	Boss Super V Plow
#1340 – 2013 Ford F-450 4X4 Flatbed	Street – Corp Yard	Boss Super V Plow

# 1331 – 2014 Ford F-450 4X4 Flated	Street – Corp Yard	Anti Ice tank & Boss Super V Plow
#1887- 1999 Dodge 1 ton 4x4	Cemetery	Boss plow

5.1.4.2 **GENERAL REVIEW OF EQUIPMENT**

- Hydraulic problems - hoses and fittings. Spare hose materials shall be in stock.
- Chains - All tire chains shall be inventoried, repaired and/or replaced as needed. Chains shall be readily available for mounting in the case of an event. Additional chains shall be purchased for equipment that need chains and where none are available.
- Augers
- Motors and sprockets
- Skids
- Rubber bits
- Pumps - need spare in stock
- Cylinders

5.1.4.3 **PLOWS**

- Hoses and connections to trucks
- Cylinders - seals, cracks and pins
- Blade cracks - structural bonds
- Bits - rubber - metal, tears or breaks
- Shoes -adjustable - pad wear
- Quick connects, operate easily, will fit any plow truck
- Splash shield - tears and properly attached
- Safety flags - bright and in good repair

5.1.4.4 **SANDERS**

- Augers - straight, flights in good shape
- Cover pans - easy to attach and stay in place
- Gears and chains - lubricated and adjusted
- Spinners - no bends in frame, spinner tubs in good shape, turns true
- Hoses - no cracks or leaking fittings.

5.1.4.5 **TRUCKS**

- Complete safety check

- All lighting, including cleaning of lenses
- Particular attention to brakes, charging system, battery condition, glass, mirrors, etc.
- Mechanical check
- Check to make sure that all plow trucks are interchangeable with all plows (except the patch truck)
- Complete set of chains (front and rear) for all sanding and plowing trucks, as well as, loader, motor grader, and both backhoes (rear chains only).

5.1.5 **Phone List** - Public Works & Utilities Policy PW-604 - Alarm and Emergency Communications shall be updated and distributed by August 31st.

5.1.6 **Materials** - The Street Division Superintendent shall insure that there is a sufficient supply of the following materials on hand (in the yard). The Superintendent shall also make sure that additional sand and other needed material is available from outside sources and will be readily available for pickup and/or delivery.

	Material	**Location of materials**	**Min. inventory**
5.1.6.1	SAND Angeles Concrete [457-0443] Blake Sand & Gravel [683-5227] Clallam County Road Dept. [Emergency] WSDOT Maintenance Yard [Emergency] SELECT SCREENED (larger/unwashed/emergency) Lakeside [452-7803]	Corp Yard	300 Tons
5.1.6.2	De-Ice [Ice Melt] for city maintained walkways	Corp Yard	1 ton, in 50# bags
5.1.6.3	Sandbags for potential flooding	Corp Yard	1,000 bags
5.1.6.4	Magnesium Chloride for Anti-icing	Corp Yard	6500 gallons
5.1.6.4	Road Salt	Corp Yard	30 Tons

5.1.7 **Training** - Street Superintendent shall check to make sure that all operators are sufficiently trained by October 30th and will be available in the case of an event when the crew may have to work around the clock. All crew members shall be familiar with all equipment to be used in a storm. Training shall include review of the Driver's Checklist Prior to Operation of Snow Removal Equipment. [Attachment B]

5.1.8 **Downed trees and iced over catch basins** - The work necessary to clean up downed trees and plugged catch basins will be assigned to Parks and Recreation Dept. or Water Division personnel, when Street Division crews are plowing.

5.2 **EVENTS**

*5.*2.1 **PROCEDURE FOR CALL OUT AND NIGHT SHIFT DURING SNOW OR ICE EVENTS**

*Call Pencom at 417- 4970 and inform them you are on duty, what your call # is, you are on channel 1 and inquire the areas needing addressed.

*Affirm Pencom communications with radio check.

*If leaving vehicle, inform Pencom upon leaving and estimated time of being back on duty. Radio check that you are back on duty.

*Call Pencom at 417- 4970 and inform them you are off duty, and are being relieved by other personnel, and include their call #

5.2.2 **ICY CONDITIONS ONLY AND CATEGORY A** - During the time of year that temperatures are expected to consistently reach freezing at night and early mornings, a truck equipped with a sander, fully loaded and fueled, and a second truck equipped to anti-ice, fully loaded and fueled, shall stand by to be used in the event that calls are received from Central Dispatch. The Sweeper Operator shall cease sweeping operations and sand or anti-ice those areas that historically ice up first as shown on the map in Appendix A as sanding priorities. The operator may also be directed to specific trouble areas by Central Dispatch. If there is too much area for one sander, the night Sweeper Operator shall call the Street Superintendent and request additional personnel and equipment.

5.2.3 **CATEGORY B** - Equipment and manpower will be ready and available prior to snow buildup to prevent the storm from getting ahead of operations. Crews will start mobilizing plows, as instructed by the Director of Public Works & Utilities, when the snow starts to fall and the forecast is for the storm to continue for an extended period of time. The decision will be made based on the best weather information available at the time.

5.2.3.1 The Director of Public Works & Utilities may revise the shift of the crews, depending on the intensity and duration of the storm. The plow crews would then consist of two crews of four plow drivers, plus a supervisor, scheduled for two 12 hour shifts (12 midnight to 12 noon and 12 noon to 12 midnight).

5.2.3.2 During Category B storm events, administration will consider the utilization of utility workers from other divisions or departments as needed to maintain a full roster of snow plow operators. These operators shall be assigned to the Street Division for the duration of the event and will receive training on the use of plows and sanders and will ride with plow operators for the first few days until the operator is comfortable with their abilities.

5.2.3.3 After accumulation of 2 inches or more downtown, the Parks and Recreation Dept. shall begin snow removal of parking lots at the Fire Department, City Hall, and the Senior Center. Snow will be piled in an area and in extreme cases may need to be hauled away. The listings of the lots are in the table below:

PARKING LOT

Fire Department
City Hall
Senior Center
All sidewalks adjacent to the above areas

5.2.4 **CATEGORY C** - The procedures for a major event are the same as for lessor events, EXCEPT when the snow from a single snow fall event reaches a total of six [6] inches over a 12 hour period, and the weather prediction is for a continuous snow fall over an extended period of time, then the City shall go to emergency conditions and the EOC shall be initiated. All requests for assistance shall be routed through the EOC and forwarded to the Street Division shift supervisor for implementation.

5.2.4.1 In addition to the Street shift supervisor, who will be the dispatcher from the Corp.Yard, the Public Works & Utilities Department shall appoint personnel to assist the supervisor by answering the phones, prioritizing the calls, and keeping a log of the calls.

5.2.4.2 All Public Works & Utilities Department personnel shall be under the direction of the Public Works representative in the EOC.

5.2.3.3 If the event reaches a Catergory C level the administration will utilize Utility Workers from other divisions or departments. These operators shall be assigned to the Street Division for the duration of the event and will receive training on the use of plows and sanders and will ride with plow operators for the first few days until the operator is comfortable with their abilities.

5.2.3.4 Public Information Officer - The Public Works & Utilities Department shall appoint a Public Information Officer (PIO). The PIO shall notify all agencies (Police, Fire, School,Transit) of roadway conditions and/or closures and handle all news media contacts.

5.3 **AFTER EVENT DEBRIEFING**

5.3.1 A debriefing of all personnel involved in the event shall be conducted to determine what went right and what needs to change. This debriefing should take place within 5 days of the end of the event. A debriefing with all participants of the EOC and any other involved agency shall also be conducted in the same general time frame.

5.4 **AFTER EVENT CLEANUP**

5.4.1 As soon as practical after the event has passed, the snow melted, and the threat of another major event has passed, cleanup shall begin.

5.4.2 All streets shall be swept starting with the priority arterials and ending with residential streets.

5.4.3 All equipment that was used for the event shall be checked out and repaired as needed by the service garage mechanics, and any supplies that were expended in the use of the vehicles shall be replaced by the operators.

5.4.4 Materials expended during the event shall be replenished to a level necessary to maintain the ability to respond to call outs and/or another event, depending on the time of year.

5.4.5 Catch basins shall be cleaned to remove sand and grit that has accumulated as needed.

5.4.6 Inventory shall be conducted on all streets to determine the centerline buttons that will need to be replaced and any signs that were knocked down or bent over. Inventory shall also take place to determine if any curbing has been broken or damaged by the plowing operation, both on the streets and/or parking lots cleaned by City crews.

6.0 DISCLAIMER

6.1 To the extent that any previous rule, regulation, policy or past practice, written or unwritten, is in conflict with the provisions of this policy, such is hereby withdrawn, voided and all personnel should conduct themselves in conformity with this policy. This policy is not intended to create any duty to any individual member of the public or to protect any particular or circumscribed class of persons. All or parts of this policy may be affected by at least one or more of the following which will delay all or some of the services provided:

A. Equipment breakdowns;

B. Vehicles disabled in deep snow;

C. Weather so severe as to cause crews to be called in from the streets for safety reasons such as during white-out conditions;

D. Equipment rendered inadequate by the depths of the snow or drifts;

E. Crew breaks, and breaks required for refueling, refilling of material spreaders and installing chains or new blades; and unforeseen emergencies.

Utility Installation/Repair BMP

Description of Work
Street and sidewalk cut and tunnel/trench excavation and backfilling for utility installations or repair.

Objectives
Contain sand, soil, crushed rock, and uncured controlled density fill (CDF), prevent chemicals from leaving the work site, and contain water from equipment cleanup.

Site Preparation
1. Spill Kit: Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

2. Catch Basin Filter Socks: : Install the appropriate size catch basin filter socks in catch basins of storm drain inlets that are located downslope or adjacent to the work area if needed.

BMP Maintenance During Site Work

1. Catch Basin Filter Socks:

Clean or remove and replace filter sock when sediment has filled one-third of the available storage.

2. Utility Maintenance and Repair:

When using a concrete/asphalt saw the slurry vacuum must also be used. Do not allow slurry to remain on surface overnight and redirect surface water away from jobsite while sawcutting and vacuuming. If unable to use the slurry vacuum then the saw must not be used and a jackhammer is the preferred alternative.

Wash off hand tools (screeds, shovels, rakes, floats, trowels, etc.) only into the backfilled trench, a temporary sump, or a portable container to collect and contain wash water.

Continually monitor operations to determine whether soil, aggregate, or CDF slurry could enter the stormwater system. If observations indicate that a violation of water quality

standards could occur, stop operations and immediately implement preventative measures such as berms, barriers, secondary containment, and/or vactor trucks.

Clean concrete application and mixing equipment or concrete-delivery vehicles on the work site only in a designated area where the rinse water is controlled or into a portable container for disposal at an approved disposal site.

Use hand sweeping and mechanical sweepers as needed to collect soil and sediment on adjacent paved surfaces.

If disturbed area is in a planted (grass) parking strip or other vegetated area either reseed and mulch or hydro-seed as needed for erosion and sediment control.

Site Cleanup

1. Catch Basin Filter Socks:

Remove the filter sock and dispose of the collected sediment in a suitable container to be hauled off site. Reuse the filter sock at another site if it remains in good condition (no rips, tears, or visible staining).

2. Waste Disposal:

Remove waste material from site and dispose of it at an approved disposal site.

3. Equipment and Vehicle Maintenance:

Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

4. Waste Disposal:

Properly dispose of wastes at an approved dump site.

Pavement Striping/Curb & Building Painting BMP

Description of Work
Painting of white traffic lines (dash lines, edge lines, bike lanes and guidelines), curbs, and the outside of any City Facility.

Objectives
Protect drainage systems and water bodies from paint spills and contamination.

Site Preparation
1. Spill Kit: Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

2. Paint Storage: Store paint materials with secondary containment and tight-fitting lids

BMP Maintenance During Site Work
1. Paint Application:

Train employees in the application and cleanup of paints, finishes, and coatings to reduce misuse and overspraying.

Use only the recommended amounts of paint and apply them in a proper manner. Avoid painting when rain is falling or expected.

Continually monitor operations to determine whether paint materials could enter the separate storm drain system. If observations indicate that a violation of water quality standards could occur, stop operations and immediately implement preventative measures such as berms, barriers, secondary containment, and vactor trucks.

When painting, install catch basin filter socks in storm drain inlets that are located downslope or adjacent to the work area.

Prep site for painting by manual scraping if needed. Use gas powered push vacuum to pick up paint flakes after scraping.

Remove catch basin filter only after all work is completed.

Use a ground cloth, pail, drum, drip pan, tarpaulin, or other protective device for activities such as paint mixing and tool cleaning outside or where spills can contaminate stormwater. Whenever possible, conduct these activities inside or in an enclosed area.

Site Cleanup

1. Waste Disposal:

Follow the regulations and requirements outlined by the Washington State Department of Ecology. Some liquid wastes must be stored and handled according to special guidelines.

Remove additional waste material from site and dispose of properly.

Dispose of unused paint promptly. Recycle paints, paint thinner, solvents, wash water from pressure washers, and any other recyclable materials.

Dispose of wash water using the following methods:

Wash water from water-based paints may go into a sanitary sewer.

Wastes from oil-based paints, cleaning solvents, thinners, and mineral spirits must be disposed of through a licensed waste management firm or treatment, storage, and disposal facility.

2. Equipment and Vehicle Maintenance:

Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

Roadway Shoulder Maintenance BMP

Description of Work
Removal of sediment, sod and debris from the shoulder road edge.

Objectives
To improve drainage, reduce flooding and ponding on roadway, restore proper grade, restore filtering capability, smooth rutting and remove buildup of sediment before entering drainage system.

Site Preparation
1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

BMP Maintenance During Site Work

1. Shoulder Maintenance:

Locate and identify gravel shoulders that need to have maintenance performed.

Roadway shoulder maintenance to be performed from April through September except in emergency situations.

Perform maintenance removing buildup of sediment and sod restoring the gravel shoulder. If possible roll shoulder material to ensure proper grade and retention of sediment control qualities.

Leave vegetative strip where possible between the gravel and ditch line for biofilitration.

Areas of disturbed soil shall be hydroseeded within two days of ditch maintenance occurring if during April through June and seven days from July through September.

Use pickup sweepers to remove dirt/sediment from roadways after shoulder maintenance.

2. Equipment and Vehicle Maintenance:

Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

3. Waste Disposal:

Properly dispose of wastes at an approved dump site.

Roadside Vegetation Management BMP

Description of Work
Vegetation management of roadside areas to include shoulders, ditches, vision triangles, etc.

Objectives
To control and remove vegetation for the purpose of stormwater control and the safety of the traveling public.

Site Preparation
1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

BMP Maintenance During Site Work

1. Vegetation Maintenance:

Locate and identify roadside areas that need to have vegetation maintenance performed.

Mechanical vegetation maintenance will be the preferred method of control for all open ditch and roadside areas. Vegetation to be left at a minimum of 4 inches in height to minimize scalping of soil surface,

Herbicides will be used per Public Works Policies and Procedures Integrated Nutrient, Pest Management, and Landscaping Plan for curb and gutter vegetation control.

2. Equipment and Vehicle Maintenance:

Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

3. Waste Disposal:

Any vegetation that needs to be removed from roadside areas will be disposed of at the City of Port Angeles Compost Facility. Do not dispose of collected vegetation by dumping it into waterways or storm drain systems.

Dust Control Maintenance BMP

Description of Work
Routine street sweeping by both mechanical and air sweepers.

Routine gravel road maintenance to include grading, graveling, and application of magnesium chloride.

Objectives
Reduce the surface and air transport of dust, thereby preventing pollutants from infiltrating into stormwater.

Site Preparation
1. **Spill Kit:** Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

BMP Maintenance During Site Work

1. Dust Control Maintenance:

Use mechanical and air sweepers on paved streets for both routine sweeping and sweeping of construction areas.

Locate and identify gravel roads that are in need of maintenance.

Grading of gravel roads to be performed during spring and fall months to reduce/eliminate the amount of dust generated during maintenance operations.

Use fractured basalt rock with limited fine sediments.

Use only the recommended amount of magnesium chloride and apply it in the proper manner to reduce the potential for polluting storm and surface waters. Apply where needed to promote adhesion of finer particles and retain surface moisture. Magnesium chloride can be applied during the initial grading procedure or during the summer months to moisten the roadway surface and reduce dust particles from becoming airborne.

Leave vegetative strip where possible between the gravel and ditch line for biofilitration.

2. Equipment and Vehicle Maintenance:

Clean equipment and tools off site in an area where pollutants can be contained.

Perform equipment and vehicle maintenance in areas that prevent discharges to the storm drain system.

Promptly repair or replace leaking connections, hoses and/or valves.

INTEGRATED NUTRIENT, PEST MANAGEMENT, & LANDSCAPING PLAN

PW-0506

1.0 PURPOSE:

1.1 This Integrated Nutrient, Pest Management, and Landscaping Plan is part of the City's Stormwater Phase II operational requirements for best management practices. The purpose is preventing the discharge of contaminants into the storm drainage system, surface waters, and groundwater, and to reduce the contamination of surface and stormwater or groundwater in the most efficient and least costly way. This document addresses the use of fertilizers, pesticides, and herbicides throughout City grounds and the landscaping practices in the Parks.

2.0 ORGANIZATIONS AFFECTED:

2.1 Public Works & Utilities Department staff whose positions involve the management or work involved with the application of fertilizers, pesticides, and herbicides throughout City grounds and the landscaping practices in the Parks.

2.2 Overall responsibility for the maintenance and management of this plan is with the Deputy of Operations, Public Works and Utilities Department. The administration of the plan has been delegated to the Superintendent, Parks Maintenance in consultation with the City's Stormwater Engineer.

3.0 POLICY:

3.1 All Public Works & Utilities Department staff shall comply with the requirements in this plan.

3.2 All Public Works & Utilities Department staff involved with the use of fertilizers, pesticides, and herbicides throughout City grounds and the landscaping practices in the Parks shall be trained on the requirements in this plan on at least an annual basis and as soon as practical when new practices are employed, or new personnel are hired.

4.0 PROCEDURES:

4.1 Landscaping and Turf Management BMP'S

1. Description. Landscaping and lawn maintenance can include grading, soil transfer, vegetation removal, pesticide and fertilizer applications, and watering. These type of maintenance activities can contaminate stormwater with fertilizer, soil, and pesticide runoff. Proper landscape management, such as proper plant selection, practical turf areas/use of mulches, efficient water use, and appropriate maintenance can effectively reduce water use and contaminants that can runoff into the stormwater system.

2. Turf/Lawn BMP

    1) Train employees in the proper application of lawn care products.

    2) Minimize/eliminate fertilizer applications. Use slow release or naturally derived (organic) fertilizers when possible. Recommended organic fertilizer is SoundGro (5-4-0)

3) Determine the proper fertilizer application for the areas that being applied. There is a chart located at the Park Shop that lists the amount of fertilizer, both synthetic and organic, that gives the proper amount of fertilizer used per square feet recommended by the manufacturer. Only certain parks/facilities get fertilized, so check the chart for proper areas.

4) Select the appropriate grass seed mixture for our area. The recommended mixture is a three way blend of blue certified perennial rye grass. There is a chart located at the Park Shop that lists the amount of grass seed that gives the proper amount of seed to be used per square foot as recommended by the manufacturer. Only certain parks/facilities get seeded, so check chart for proper facilities.

5) Use fertilization equipment so as to minimize or eliminate broadcasting fertilizer beyond the boundaries of the intended application, and particularly avoid fertilizers from landing in streets, and parking lots. Any fertilizer or grass seed that was discharged onto the sidewalk/street will be cleaned off. If fertilizing within 100 feet of ditches, swales, wetland buffer areas and top of banks or creeks, a slow release organic fertilizer, such as SoundGro, must be used in these areas during the proper times of year, such as spring and fall. These parks/facilities include and are not limited to, Estuary Park, Francis Street Park, the Senior Center, Sail & Paddle Park, and Harborview Park.

6) When mowing set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf.

7) When possible, conduct mulch-mowing and leave grass clippings on turf.

8) Dispose of grass clippings, leaves, sticks, or other collected vegetation, by taking it to the Transfer Station Compost Facility. Do not dispose of collected vegetation by dumping it into waterways or storm drainage systems.

9) Limit watering as necessary to supplement rainwater. One inch per week is adequate.

10) An approved list of fertilizers/grass seed used by the City of Port Angeles is listed below. Product/manufacturers name may vary and use of any other product must be approved by the Park Superintendent.

    a) SoundGro Organic Fertilizer

    b) Synthetic Fertilizer

    c) Weed & Feed Fertilizer

    d) Plant Marble Water Soluble Fertilizer

    e) Osmocote

    f) Certified Blue Perennial Rye Grass

11) Standardized records will be kept on all fertilizer, herbicide, and pesticides applied by City employees. The WSDA Pesticide Application Record (Version 1) Form, appendix 5.1, will be filled out and then turned into the division superintendent. All records will be kept for seven years.

3. Landscaping/Vegetation BMP

1) Employees will be trained in the proper application of herbicide products.

2) The proper herbicide/fertilizer application for the types of soil and vegetation encountered will be determined and applied in accordance with the manufactures recommendations.

3) Use manual and/or mechanical methods of vegetation removal rather than applying herbicides, where practical.

4) Do not dispose of collected vegetation into waterways or storm drainage systems. Dispose of grass clippings, leaves, sticks, or other collected vegetation, by taking it to the Transfer Station Compost Facility. Do not dispose of collected vegetation by dumping into waterways or storm drainage systems.

5) Use mulch to help retain water, reduce weed growth, prevent erosion, and improve the soil for plant growth.

6) No exposed soils should be left unworked for more than two days during the wet season (October 1st-April 30th) and seven days during the dry season (May 1st-Septemer 30th). Exposed and unworked soils shall be stabilized by application of effective BMP's that prevent erosion. Applicable BMP's include, but are not limited to: temporary and permanent seeding, sodding, mulching, plastic covering, and erosion control fabrics and matting.

7) Appropriate plant selection is encouraged. Local and regional plants are environmentally friendly and are generally more water efficient and disease resistant.

8) Water plants in early morning and water only when needed to enhance plant root growth and avoid runoff problems. Drip irrigation is preferred in landscaping areas.

9) An approved list of herbicides used by the City of Port Angeles is listed below. Product/manufacturers name may vary and use of any other product must be approved by the Parks Maintenance Superintendent.

    a) Weed and Feed Fertilizer

    b) Moss Out & Rid Moss

    c) Round-Up

    d) Crossbow

    e) Casaron

    f) Limestone

    g) Surflan

    h) Vaporooter

10) Standardized records will be kept on all fertilizer, herbicide, and pesticides applied by City employees. The WSDA Pesticide Application Record (Version 1) Form, appendix 5.1, will be filled out and then turned into the division superintendent. All records will be kept for seven years.

4. Pesticide BMP

1) Pesticides shall be used sparingly, and only as a last resort. The following BMP must be followed:

2) Choose the least toxic pesticide available that is capable of reducing the infestation to acceptable levels. The pesticide should readily degrade in the environment and/or have properties that strongly bind it to the soil. Any pest control used should be conducted at the life stage when the pest is more vulnerable. Any method used should be site specific, and not used wholesale over a wide area.

3) Apply the pesticide according to the label directions. Under no conditions shall pesticides be applied in quantities that exceed manufacturer's instructions.

4) Mix the pesticides and clean the application equipment in an area where accidental spills will not enter surface or ground waters, and will not contaminate the soil.

5) Store pesticides in enclosed areas or in covered impervious containment. Ensure that pesticide contaminated stormwater or spills/leaks of pesticides are not discharged to storm drains. Do not hose down the paved areas to a storm drain or ditch. Store and maintain appropriate spill cleanup materials in a location known to all City employees near the storage area.

6) Clean up any spilled pesticides and ensure that the pesticide contaminated waste materials are kept in designated covered and contained areas.

7) Do not spray pesticides within 100 feet of open waters including wetlands, ponds, streams, sloughs and drainage ditch or channel that leads to open water except when approved by Ecology or the local jurisdiction. All sensitive areas including wells, creeks and wetlands must be flagged prior to spraying.

8) Notification of Pesticide-Sensitive Individuals. City staff must follow the requirements for Pesticide Sensitive Individuals that are contained within RCW 17.21.420 and 17.21.430 of the Washington Pesticide Application Act. Applicators are required to notify those on the list when making ornamental or right-of-way applications adjacent to their property. Notification of the date and approximate time of the application shall be made in writing, in person or by telephone. This notification must be at least two hours prior to the application except in the case of an immediate service call in which case notification can be made at the time of the application.

9) Certified applicators making landscape applications to the properties listed below are required to post the applications with a marker on the following properties:

a) Residential Property

b) Commercial Property

c) Golf Courses

d) Parks, cemeteries, rest stops, etc.

e) Schools

f) Nursery Schools

g) Licensed Day Cares

10) Spray applications should only be conducted during weather conditions as specified on the product label and in accordance with applicable local and state regulations. Do not apply during rain or immediately before expected rain.

11) Standardize records will kept on all fertilizer, herbicide, and pesticides applied by city employees. The WSDA Pesticide Application Record (Version 1) Form, appendix 5.1, will be filled out and then turned into the division superintendent. All records will be kept for seven years.

4.2 Vegetation, Fertilizer, and Integrated Pest Management:

1. Vegetation Management BMP

1) Use at least an eight-inch layer of topsoil with at least 8 percent organic matter to provide a sufficient vegetation-growing medium.

2) Install engineered soil/landscape systems to improve the infiltration and regulation of stormwater in landscaped areas. Increasing the percent of organic matter and depth of the topsoil can improve the soils, reduce the disease and drought resistance of the vegetation, and reduce fertilizer demand.

3) Aerate lawns regularly in areas of heavy use where the soil tends to become compacted. Aeration should be conducted while the grasses in the lawn are growing most vigorously.

4) When possible, remove layers of thatch greater than ¾-inch deep.

5) Set the mowing height at the highest acceptable level and mow at times and intervals designed to minimize stress on the turf. Generally mowing only 1/3 of the grass blade height will prevent stressing the turf. When turf is mowed too short its productivity is decreased and there is less growth of roots and rhizomes. The turf then becomes more disease prone and is more reliant on pesticides, fertilizers and irrigation to remain healthy.

6) When possible, develop practical turf areas and alternative landscaping.

2. Fertilizer Management BMP

1) Turfgrass is most responsive to nitrogen fertilization, followed by potassium and phosphorus. Fertilization needs vary by site depending on plant, soil and climatic conditions.

2) Fertilizers should be applied in amounts appropriate for the target vegetation and at the time of year that minimizes losses to surface and ground waters.

3) When possible, use slow release fertilizers. SoundGro (5-4-0) is recommended.

4) Time fertilizer applications to periods of maximum plant uptake generally fall and spring applications are recommended, although the athletic fields can be fertilized during the spring, summer, fall, and winter to ensure the fields/turf are in safe playing conditions.

5) Properly trained persons will apply all fertilizers. Fertilizers should not be applied to grass swales, bio-filters, or buffer areas that drain to sensitive water bodies unless approved by the City's Stormwater Engineer.

3. Integrated Pest Management BMP

1) The City's use of pesticides has historically been limited to applications on localized problems. Only the use of over the counter pesticide products are authorized for use by City workers to control pests such as ants, rodents, bees/wasps, aphids, white flies, and fungus. Application will be made only in accordance with the manufacturer's label directions. Under no conditions shall pesticides be applied in quantities that exceed manufacturer's instructions. For pesticide application other than that prescribed above, a certified commercial applicator may be authorized by the Park's Maintenance Superintendent.

2) General broadcasting of pesticides is prohibited without the expressed authorization of the Park's Maintenance Superintendent, and only after consulting with the City's Stormwater Engineer over the possible risks, consequences, and mitigations.

4.3 Administrative

1) Each division manager within Public Works & Utilities is responsible for their employee's recertification and credits for their pesticide application card. Upon recertification a copy of their card needs to be forwarded to the Parks Maintenance Superintendent.

2) Annually, the WSDA pesticide application records need to be forwarded to the Parks Maintenance Superintendent for any fertilizing, herbicides, and pesticides that were applied for that year.

5.0 APPENDIX:

5.1 WSDA Pesticide Application Record (Version 1) Form

SEDIMENT AND EROSION CONTROL PLAN

PW-0507

1.0 PURPOSE:

1.1 This Sediment and Erosion Control Plan is part of the City's Stormwater Phase II operational requirements for best management practices. The purpose is preventing the discharge of sediments or pollutants into the storm drainage system, surface waters, and groundwater, and to reduce the contamination of surface and stormwater or groundwater in the most efficient and least costly way.

2.0 ORGANIZATIONS AFFECTED:

2.1 Public Works & Utilities Department staff whose positions involve the management or work involved with the disturbance of soils or any task that may cause erosion from all lands owned or maintained by the City.

2.2 Overall responsibility for the maintenance and management of this plan is with the Deputy Director of Operations, Public Works and Utilities Department. The administration of the plan has been delegated to the Street/Stormwater Superintendent in consultation with the City's Stormwater Engineer.

3.0 POLICY:

3.1 All Public Works & Utilities Department staff shall comply with the requirements in this plan.

3.2 Public Works & Utilities Department staff involved in tasks that ultimately cause disturbance of soil or any tasks that may cause erosion from all lands owned or maintained by the City will be trained through an ongoing training program that shall address the importance of protecting water quality, operation and maintenance standards, selecting appropriate Best Management Practices (BMP), and ways to perform their job activities to prevent or minimize impacts to water quality.

4.0 PROCEDURES:

4.1 Operations and Maintenance BMP

1. Description: Activities that require sediment and erosion control can include pipe cleaning, cleaning of culverts that convey stormwater in ditch systems, ditch maintenance, street cleaning, road repair and resurfacing (including pavement grinding), snow and ice control, utility installation and repair, maintaining roadside areas (including vegetation management), and dust control. Proper landscape management, such as proper plant selection, practical turf areas/use of mulches, efficient water use, and appropriate maintenance can effectively reduce water use and contaminants that can runoff into the stormwater system.

2. Sediment and Erosion Control BMP

   Current BMP for operations and maintenance procedures exist for the following activities and will be followed by City personnel. They can be found at the following location: N:\PWKS\Stormwater\Stormwater Management Program - SWMP\5 - O&M\BMPs

   - Ditch maintenance
   - Gravel Shoulder Placement and Regrading
   - Roadside Vegetation Removal/Maintenance
   - Stormwater Culvert Cleaning
   - Street Sweeping
   - Dust Control
   - Pavement Striping and Curb/Building Painting
   - Road Repair and Resurfacing
   - Snow and Ice Control
   - Stormwater Pipe Cleaning
   - Utility Installation and Repair

3. Additional Sediment and Erosion Control BMP

   Additional Sediment and Erosion Control BMP can be located in the Stormwater Management Manual for Western Washington if the above BMP fail to address specific job needs.

TRASH MANAGEMENT PLAN
PW- 1015

1.0 PURPOSE:

1.1 This Trash Management Plan is part of the City's Stormwater Phase II operational requirements for best management practices. The purpose is to minimize or prevent the discharge of floating materials and pollutants into storm water runoff from trash and garbage collection containers.

2.0 ORGANIZATIONS AFFECTED:

2.1 Public Works & Utilities Department staff whose positions involve trash management/collection throughout the City.

2.2 Overall responsibility for the maintenance and management of this plan is with the Deputy Director of Operations, Public Works and Utilities Department. The administration of the plan has been delegated to the Superintendent of Solid Waste in consultation with the City's Stormwater Engineer.

3.0 POLICY:

3.1 All Public Works and Utilities Department staff shall comply with the requirements in this plan.

3.2 All Public Works and Utilities Department staff involved with trash management shall be trained on the requirements of this plan on at least an annual basis and as soon as practical when new practices are employed, or new personnel are hired.

4.0 Training:

4.1 Staff training may include regular tailgate sessions for those responsible for trash management. Tailgate sessions should provide information on the selected storm water BMP's and methods for preventing discharge of pollutants into the storm drain system. Encourage employees to create new BMP's; their suggestions will likely reduce labor and increase storm water runoff protection.

4.2 Training records shall be retained by the Solid Waste Superintendent and copies forwarded to the City Stormwater Engineer for inclusion in the annual reporting requirements.

5.0 PROCEDURES:

5.1 Trash Management BMP's

5.1.1 Keep dumpsters, trashcans and recycling bins covered, except when filling or emptying. Schedule pickup frequency to keep trash from holding the cover open. Open lids allow contact with storm water, which dissolves and transports contaminants into the storm water system. Open lids also invite pests to spread trash around.

5.1.2 Check that the compactor, dumpster, or trash can are in good condition, with no holes or accumulation of grime. Trash containers should be leak-free. When necessary, report containers that need to be cleaned or replaced to the Solid Waste Superintendent.

5.1.3 Regularly inspect the trash enclosure and general area for problems such as trash not in the container and accumulation of grease or food on the ground. Report findings to the Solid Waste Superintendent for notification of non-complying property owners.

5.1.4 Clean trash cans in a designated area with a connection to the sanitary sewer. Confirm before using drains to ensure proper disposal. Never discharge wash-water to storm drains or offsite.

5.1.5 If possible, designate an area for trash collection away from storm drains. This allows problems at the trash container to be corrected before reaching the storm drain or flow offsite.

Building Exterior Cleaning and Maintenance BMP

Description of Work
Surface preparation and the application of paints, finishes and/or coatings to the exterior surfaces of buildings.

Objectives
Protect stormwater from pollutants that include organic compounds, oils and greases, heavy metals, and suspended solids.

Site Preparation

1. Spill Kit: Keep a spill cleanup kit in a nearby vehicle or next to the work site so that it is easily accessible. Make sure the contents of the spill kit are appropriate for the types and quantities of materials used for this work task. Refill spill kit materials before beginning work.

2. Catch Basin Filter Sock: Install the appropriate size catch basin filter socks in catch basins of storm drain inlets that are located downslope or adjacent to the work area if needed.

3. Pollutant Control Approach: Cover and contain painting and sanding operations and apply good housekeeping and preventive maintenance practices to prevent the contamination of stormwater with painting oversprays and grit from sanding. Use ground or drop cloths underneath outdoor painting, scraping, sandblasting work.

Applicable Operational BMPs:

- Train employees in the careful application of paints, finishes, and coatings to reduce misuse and over spray. Temporarily store collected debris daily.
- Do not conduct spraying, blasting, or sanding activities over open water or where wind may blow paint into water.
- Wipe up spills with rags and other absorbent materials immediately. Do not hose off spills and painting equipment. If water is used for cleaning, convey it to appropriate treatment and disposal (sanitary system).
- On marine dock areas sweep rather than hose down debris. Collect any hose water generated and convey to appropriate treatment and disposal.
- Use a storm drain cover, filter fabric, or similarly effective runoff control device if dust, grit, washwater, or other pollutants may escape the work area and enter a catch basin. The containment device(s) must be in place at

the beginning of the workday. Collect contaminated runoff and solids and properly dispose of such wastes before removing the containment device(s) at the end of the workday.

- Use a ground cloth, pail, drum, drip pan, tarpaulin, or other protective device for activities such as paint mixing and tool cleaning outside or where spills can contaminate stormwater.
- Properly dispose of all wastes and prevent all uncontrolled releases to the air, ground, or water.
- Clean brushes and tools covered with non-water based paints, finishes, or other materials in a manner that allows collection of used solvents (e.g., paint thinner, turpentine, xylol, etc.) for recycling or proper disposal.
- Store toxic materials under cover (tarp, etc.) during precipitation events and when not in use to prevent contact with stormwater.

Applicable Structural Source Control BMPs:

- Enclose and/or contain all work while using a spray gun or conducting sand blasting and in compliance with applicable air pollution control, OSHA, and WISHA requirements. Do not conduct outside spraying, grit blasting, or sandblasting activities during windy conditions which render containment ineffective.

Recommended Additional BMPs:

- Clean paintbrushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain.
- Recycle paint, paint thinner, solvents, pressure washwater, and any other recyclable materials.
- Use efficient spray equipment such as electrostatic, air atomized, high volume/low pressure, or gravity fed spray equipment.
- Purchase recycled paints, paint thinner, solvents, and other products if feasible.

APPENDIX B

Source Control BMP Library (2019 SWMMWW, Volume IV)

- **IV-1 Source Control BMPs Applicable to *All Sites***
  - S410 BMPs for Correcting Illicit Discharges to Storm Drains
  - S453 BMPs for Formation of a Pollution Prevention Team
  - S454 BMPs for Preventive Maintenance / Good Housekeeping
  - S455 BMPs for Spill Prevention and Cleanup
  - S456 BMPs for Employee Training
  - S457 BMPS for Inspections
  - S458 BMPs for Record Keeping
- **IV-2 Cleaning or Washing Source Control BMPs**
  - S431 BMPs for Washing and Steam Cleaning Vehicles / Equipment / Building Structures
  - S434 BMPs for Dock Washing
  - S441 BMPs for Potable Water Line Flushing, Water Tank Maintenance, and Hydrant Testing
- **IV-3 Roads, Ditches, and Parking Lot Source Control BMPs**
  - S405 BMPs for Deicing and Anti-Icing Operations for Airports
  - S406 BMPs for Streets and Highways
  - S415 BMPs for Maintenance of Public and Private Utility Corridors and Facilities
  - S416 BMPs for Maintenance of Roadside Ditches
  - S417 BMPs for Maintenance of Stormwater Drainage and Treatment Systems
  - S421 BMPs for Parking and Storage of Vehicles and Equipment
  - S430 BMPs for Urban Streets
- **IV-4 Soil Erosion, Sediment Control, and Landscaping Source Control BMPs**
  - S407 BMPs for Dust Control at Disturbed Land Areas and Unpaved Roadways and Parking Lots
  - S408 BMPs for Dust Control at Manufacturing Areas
  - S411 BMPs for Landscaping and Lawn / Vegetation Management
  - S425 BMPs for Soil Erosion and Sediment Control at Industrial Sites
  - S435 BMPs for Pesticides and an Integrated Pest Management Program
  - S444 BMPs for the Storage of Dry Pesticides and Fertilizers
  - S449 BMPs for Nurseries and Greenhouses
  - S450 BMPs for Irrigation
- **IV-5 Storage and Stockpiling Source Control BMPs**
  - S427 BMPs for Storage of Liquid, Food Waste, or Dangerous Waste Containers
  - S428 BMPs for Storage of Liquids in Permanent Aboveground Tanks
  - S429 BMPs for Storage or Transfer (Outside) of Solid Raw Materials, Byproducts, or Finished Products
  - S445 BMPs for Temporary Fruit Storage
- **IV-6 Transfer of Liquid or Solid Materials Source Control BMPs**
  - S409 BMPs for Fueling At Dedicated Stations
  - S412 BMPs for Loading and Unloading Areas for Liquid or Solid Material

- S419 BMPs for Mobile Fueling of Vehicles and Heavy Equipment
- S426 BMPs for Spills of Oil and Hazardous Substances
- S439 BMPs for In-Water and Over-Water Fueling

- **IV-7 Other Source Control BMPs**
  - S401 BMPs for the Building, Repair, and Maintenance of Boats and Ships
  - S402 BMPs for Commercial Animal Handling Areas
  - S403 BMPs for Commercial Composting
  - S404 BMPs for Commercial Printing Operations
  - S413 BMPs for Log Sorting and Handling
  - S414 BMPs for Maintenance and Repair of Vehicles and Equipment
  - S418 BMPs for Manufacturing Activities - Outside
  - S420 BMPs for Painting/Finishing/Coating of Vehicles/Boats/Buildings/Equipment
  - S422 BMPs for Railroad Yards
  - S423 BMPs for Recyclers and Scrap Yards
  - S424 BMPs for Roof / Building Drains at Manufacturing and Commercial Buildings
  - S432 BMPs for Wood Treatment Areas
  - S433 BMPs for Pools, Spas, Hot Tubs, and Fountains
  - S436 BMPs for Color Events
  - S438 BMPs for Construction Demolition
  - S440 BMPs for Pet Waste
  - S442 BMPs for Labeling Storm Drain Inlets On Your Property
  - S443 BMPs for Fertilizer Application
  - S446 BMPs for Well, Utility, Directional and Geotechnical Drilling
  - S447 BMPs for Roof Vents
  - S451 BMPs for Building, Repair, Remodeling, Painting, and Construction
  - S452 BMPs for Goose Waste

- **IV-A: Urban Land Uses and Pollutant Generating Sources**
  - 1. Manufacturing Businesses
    - Cement
    - Chemical Manufacturing
    - Concrete Products
    - Electrical Products
    - Food and Kindred Products
    - Glass Products
    - Industrial Machinery & Equipment, Trucks & Trailers, Aircraft, Aerospace, & Railroad
    - Metal Products
    - Paper, Pulp, and Paperboard Mills
    - Paper Products
    - Petroleum Products
    - Printing
    - Rubber and Plastic Products
    - Ship and Boat Building and Repair Yards
    - Wood
    - Wood Treatment

        - Other Manufacturing Businesses
    - 2. Transportation and Communication
        - Airfields and Aircraft Maintenance
        - Fleet Vehicle Yards
        - Railroads
        - Warehouses and Mini-Warehouses
        - Other Transportation and Communication
    - 3. Retail and Wholesale Businesses
        - Gas Stations
        - Recyclers and Scrap Yards
        - Commercial Composting
        - Restaurants/Fast Food
        - Retail/General Merchandise
        - Retail/Wholesale Vehicle and Equipment Dealers
        - Retail/Wholesale Nurseries and Building Materials
        - Retail/Wholesale Chemicals and Petroleum
        - Retail/Wholesale Foods and Beverages
        - Other Retail/Wholesale Businesses
    - 4. Service Businesses
        - Animal Care Services
        - Commercial Car and Truck Washes
        - Equipment Repair
        - Laundries and Other Cleaning Services
        - Marinas and Boat Clubs
        - Golf and Country Clubs
        - Miscellaneous Services
        - Professional Services
        - Vehicle Maintenance and Repair
        - Multifamily Residences
        - Construction Businesses
    - 5. Public Agency Activities
        - Introduction
        - Public Facilities and Streets
        - Maintenance of Open Public Space Areas
        - Maintenance of Public Stormwater Pollutant Control Facilities
        - Water and Sewer Districts and Departments
        - Port Districts
- **IV-B: Management of Street Waste Solids and Liquids**

This page left intentionally blank.

APPENDIX C

BMP Maintenance Tables (2019 SWMMWW, Volume V)

This page left intentionally blank.

APPENDIX D

Existing City of Port Angeles Policies and Procedures Index (revised 1/2016)

This page left intentionally blank.

PUBLIC WORKS & UTILITIES DEPARTMENT
POLICY AND PROCEDURES
INDEX

Note that items that are shaded below are associated with the Building Division, which is now a part of the Department of Community Development. Therefore some of these files are obsolete or have not been updated.

INDEX BY POLICY DIVISIONS

0001 Introduction
0002 Index by Policy and Alpha listing

0010 DEPARTMENT ISSUES
0011 Department Mission and Values
0012 Divisions Missions
0013 Customer Relations

0100 CLERICAL PROCEDURES
0101 Letters and Memos
0102 Telephone Message Recording
0103 Records Management – Laserfiche & Microfilm
0104 Zoning Map Amendments

0200 OFFICE PROCEDURES
0201 Public Nuisances
0202 Abatement of Junk Vehicles
0203 Key Disbursement to City Facilities
0204 Purchasing Policy/Procedure
0205 Assignment of Street Addresses
0206 Disposal of Surplus Property (City Attorney)
0207 Trees in Unopened Street, Alleys and City-Owned Lots in Greenbelt
0208 System Development Charges and Developer Reimbursement Charges
0209 Public Works Construction and Right-of-Way Permits
0210 Traffic Committee
0211 Community Service Worker Program

0300 PERSONNEL
0301 Personnel Agreement and Salary Ordinances with AFSCME #1619
0302 Personnel Agreement and Salary Ordinances with Administrative Group
0303 Personnel Agreement and Salary Ordinances with IBEW Local #997
0304 Personnel Position Descriptions
0305 Time and Equipment Cards
0306 Smoking at Public Works Facilities
0307 Employee Performance Evaluation
0308 Employee orientation
0309 Interviews
0310 Superior Performance Awards Program
0312 Sick Leave and Notice to Supervisor
0313 Work Standards
0314 Travel Time Procedures
0315 Out of Class Assignments
0316 Employee Morale and Welfare Funds

0400 PROJECT ADMINISTRATION
0401 Right of Way Acquisition Procedures
0402 Project Administration (after Notice to Proceed)
0403 Consultant Selection for Professional Services
0404 Change Orders on Construction Projects
0405 Project Bidding-Small Works Roster Procedures
0406 Women and Minority Owned Business Solicitations
0407 Project Bidding-Competitive Bidding Procedures
0408 Materials Bidding Procedures
0409 Equipment Bidding Procedures
0410 Consultant Contract Management
0411 Local Improvement Districts and Neighborhood Cooperative Improvements
0412 Consultant Roster Procedures
0413 Operations Contracts

0500 STREETS & PARKS
0501 Street and Sidewalk Maintenance and Sidewalk Construction
0502 Snow Plan
0503 Block Watch Signs
0504 Chemical Hazard Communication Program-PK
0505 Chemical Hazard Communication Program-ST
0506 Integrated Nutrient, Herbicide, & Landscaping Plan
0507 Sediment and Erosion Control Plan
0508 Retroreflectivity Sign Change Out

0600 FIELD OPERATIONS
0601 Scheduling of Work
0602 Work Orders
0603 Estimate Request to do Work for Other Departments
0604 Alarm and Emergency Communications
0605 Confined Space Entry
0606 Excavation and Trenching
0607 Accident Prevention Program and Safety Manual
0608 Spill Response Plan
0609 Voluntary Respiratory Protection Program
0610 Illicit Discharge Detection & Elimination (IDDE) Response
0611 Engineering Services and Infrastructure Configuration Control
0612 Reporting Loss of Operating Capability

0700 EQUIPMENT USAGE
0701 Rental and Loan of City Barricades
0702 Special Equipment Rental Rates
0703 Pool Car usage
0704 Equipment Rental Rates
0705 Replacement/Addition of Fleet Equipment
0706 Equipment Maintenance
0708 Chemical Hazard Communication Program
0709 Vehicle Idling Policy

0800 WASTEWATER UTILITY
0801 Sampling and Testing of Wastewater
0802 Septic Waste Discharge Sampling and Manifest Forms
0803 Sewer Rate - Equivalent Plumbing Fixture Count Method
0804 Industrial Pre-Treatment Program
0805 Wastewater Treatment Plant Lab Forms
0806 Wastewater Collection System Forms
0807 Management Reports
0808 Accidental Spill Prevention Program
0809 Chemical Hazard Communication Program
0810 Off Site Clean Waste Disposal
0811 Sewer Pump Sta. No. 4 - Flomatcher Operate

POLICY AND PROCEDURE INDEX

0812 P.A. Landfill Stormwater Pollution Prevention Plan

0900 WATER UTILITY

0901 Repairing, Tapping and Cutting Asbestos-Cement Pipe
0902 Sampling and Testing of Potable Water
0903 Backflow Prevention Policy
0904 Peabody Heights Dam Emergency Action Plan
0905 Peabody Heights Dam O&M Manual
0906 Reservoir Drawdown and Draining Procedures
0907 Water Shortage Response Plan
0908 Chemical Hazard Communication Program
0909 Access to City Facilities on Private Property
0910 Industrial Water Line Maintenance SOP

1000 SOLID WASTE DIVISION

1001 Gravel Sales at Landfill
1002 Collection Vehicle Operation
1003 Collection Vehicle Operator Training
1004 Collection Vehicle Daily Equipment Checks
1005 Collection Vehicle Operator Periodic Maintenance
1006 Vehicle Stickers Allowing Landfill Usage
1007 Landfill Employee Bloodborne Pathogen Safety
1008 Sampling and Testing of the Landfill
1009 Waste Acceptance Policy
1010 Wildlife Hazard Management Plan for Landfill
1011 Landfill Closure Plan
1012 Landfill Post-Closure Plan
1013 Chemical Hazard Communication Program - Disposal
1014 Chemical Hazard Communication Program – Collection
1015 Trash Management Plan

1100 BUILDING DIVISION

1101 Building Permit Fees
1102 Building Permit Plan Submittal and Review
1103 Certificate of Occupancy for New/Change in Use
1104 Project Concept Review Committee
1105 House Move Permits
1106 Courtesy Inspections or Construction Inquiries
1107 Design Assistance
1108 Permit Issuance for Warranty Work
1109 Building Permit Expiration Notification
1110 Bed and Breakfast Permit Procedures
1111 Mobile Home installation
1112 Sign Area Interpretation
1113 A-Frame Signs
1114 Fuel Burning Appliances and Chimneys
1115 Restrooms in Buildings with Public Access Interpretation and Restaurants
1116 Site and Foundation Drainage
1117 Driveway Access on Corner Lots
1118 Vertical Rebar in Footings/Foundations
1119 Removal or Placement of Underground Fuel Tanks
1120 Rated and Non-Rated Plywood
1121 Re-Roof Over Cedar Shingles
1122 How to Obtain a Building Permit for Residential Work
1123 Evaluation and Assessment of Buildings and Other Structures After an Earthquake or Other Disaster
1124 Abatement of a Dangerous Structure
1125 Plan Review of Non-Residential Energy

0850 STORMWATER

0851 Corps Yard Stormwater Pollution Prevention Plan

1200 POWER MANAGEMENT/CONSERVATION

1201 Fuel Cell, Solar, Wind, Hydropower Net Metering
1202 Placement of Telecommunications Facilities

1300 ELECTRIC UTILITY

1301-01 Service Area Agreement
1301-02 Service Wheeling Agreement
1301 Service Territory
1302 Electric Utility Line Extensions
1303 Service Upgrades and Maintenance
1304 Overhead to Underground Conversions
1305 Electric Utility Easements
1306 Lighting
1307 Utility Joint Use Poles
1308 Current Diversion
1310 Vegetation Control
1311 Chemical Hazard Communication Program
1312 Light Operations Accident Prevention Program
1313 Flame Resistant Clothing
1314 Streetlight Pole Banner Policy
1315 Metering Responsibilities and Functions

1400 RECREATION

1401 The Gateway Usage Policy
1402 Community Athletics Programs Non-Discrimination Policy
1403 Recreation Division Hiring Policy

9000 INDIVIDUAL FORMS

9001 Vacation Request
9002 Conference and Workshop Report
9003 Early Check Request
9004 Private Vehicle Mileage Request
9005 Hold Harmless for Entry Onto Private Property
9006 Construction Code Board of Appeals Handout
9007 deleted - see 1124_01
9008a PW Department Route Slip - Engineering
9008b PW Department Route Slip - Divisions
9009 Temporary Construction Easement
9010 Handout Cover - Counter Service
9011 Handout - Counter Service Comment Page
9012 Storm Event Complaint Form
9013 Document Recording Cover Sheet
9014 Landfill Operations Inspection Form
9015 Landfill Random Waste Inspection Report
9016 Route Slip - everyone [8/99]

9500 MONTHLY REPORT FORMS

APPENDIX E

List of Construction Source Control and Runoff BMPs (2019 SWMMWW, Volume II)

- **II-3.2 Construction Source Control BMPs**
  - BMP C101: Preserving Natural Vegetation
  - BMP C102: Buffer Zones
  - BMP C103: High-Visibility Fence
  - BMP C105: Stabilized Construction Access
  - BMP C106: Wheel Wash
  - BMP C107: Construction Road / Parking Area Stabilization
  - BMP C120: Temporary and Permanent Seeding
  - BMP C121: Mulching
  - BMP C122: Nets and Blankets
  - BMP C123: Plastic Covering
  - BMP C124: Sodding
  - BMP C125: Topsoiling / Composting
  - BMP C126: Polyacrylamide (PAM) for Soil Erosion Protection
  - BMP C130: Surface Roughening
  - BMP C131: Gradient Terraces
  - BMP C140: Dust Control
  - BMP C150: Materials on Hand
  - BMP C151: Concrete Handling
  - BMP C152: Sawcutting and Surfacing Pollution Prevention
  - BMP C153: Material Delivery, Storage, and Containment
  - BMP C154: Concrete Washout Area
  - BMP C160: Certified Erosion and Sediment Control Lead
  - BMP C162: Scheduling
- **II-3.3 Construction Runoff BMPs**
  - BMP C200: Interceptor Dike and Swale
  - BMP C201: Grass-Lined Channels
  - BMP C202: Riprap Channel Lining
  - BMP C203: Water Bars
  - BMP C204: Pipe Slope Drains
  - BMP C205: Subsurface Drains
  - BMP C206: Level Spreader
  - BMP C207: Check Dams
  - BMP C208: Triangular Silt Dike (TSD)
  - BMP C209: Outlet Protection
  - BMP C220: Inlet Protection
  - BMP C231: Brush Barrier
  - BMP C232: Gravel Filter Berm
  - BMP C233: Silt Fence
  - BMP C234: Vegetated Strip
  - BMP C235: Wattles

- BMP C236: Vegetative Filtration
- BMP C240: Sediment Trap
- BMP C241: Sediment Pond (Temporary)
- BMP C250: Construction Stormwater Chemical Treatment
- BMP C251: Construction Stormwater Filtration
- BMP C252: Treating and Disposing of High pH Water

This page left intentionally blank.

Implementation of the City's Source Control (SC) Program | Summary of Actions Taken

Per S5.C.8.b.iii and S5.C.8.b.iv of the Permit

- Performed SC inspections, exceeding the minimum 20% inspection rate of the business inventory list.
- Documented inspection results and provided guidance to businesses inspected.
- Sent out a second notice mailer to all businesses in the SC inventory informing them of the program and harvesting additional contact information.
- Developed a funding plan for the City's SC program (partnering with PPA), obtaining the recommendation of the Utility Advisory Committee and the approval of City Council.
- Developed a multi-program outreach brochure (SC & PPA) for local small businesses and orgs.
- Developed business sector-specific brochures for business sectors commonly inspected for SC.
- SC inspector continued various trainings, including obtaining a CESCL Certification and a NPDES CSI certification.
- Partnered with the City's Wastewater Source Control Coordinator for combined inspections
- SC inspector partnered with Clallam County Streamkeepers to assist in tracking local water pollutants from their point source to their ultimate discharge into State waters.
- Developed digital inspection forms via Survey123 (Esri) to increase reporting, tracking, and analysis efficiency/capability.
- Developed an online SC HUB platform (ArcGIS) for program participants to access inspection documents, upload documents, access utility maps, and view pertinent informational material.
- Developed HUB Dashboards for SC inspector and supervisors to track program progress/status.
- Purchased equipment and supplies needed to perform work.

Source Control Program | Business Inspection List

Data Source: WA Dept. of Revenue (DOR) **Program Manager:** R. Jeffries **PAMC:** 13.63
Quiery Date: August, 2023 **SC/PPA Inspector:** H. Carlseen **Phase II SW Permit:** S5.C.8.b.ii

Count	Business Name	Location Address1	Location City	Location State	Location Zip	NAICS1	NAICS1 Code Description	Appendix 8 Code
1	1ST ST MARKET & DELI	210 E 1ST ST	PORT ANGELES	WA	98362	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service
2	A & A APPLIANCE SERVICE, INC.	914 S EUNICE ST	PORT ANGELES	WA	98362	444180	Other Building Material Dealers	444 (Building Materials, Hardware, Garden Supplies
3	ALDERSON'S AUTO BODY AND PAINT, INC.	1935 EDGEWOOD DR	PORT ANGELES	WA	98363	811121	Automotive Body, Paint, and Interior Repair and N	8111xx (Repair and Maintenance)
4	ALL METAL RECYCLING	124 S ALBERT ST	PORT ANGELES	WA	98362	423930	Recyclable Material Merchant Wholesalers	423930 (Wholesale Trade- Durable Goods)
5	ANGELES BREWING SUPPLIES	116 N LINCOLN ST	PORT ANGELES	WA	98362	312120	Breweries	312 (Beverage, Food, and Tobacco Manufacturing),
6	ANGELES COMPOSITE TECHNOLOGIES, INC.	2138 W 18TH ST	PORT ANGELES	WA	98362	325211	Plastics Material and Resin Manufacturing	325 (Chemical Manufacturing)
7	ANGELES ELECTRIC, INC.	524 E 1ST ST	PORT ANGELES	WA	98362	238210	Electrical Contractors and Other Wiring Installatio	238 (Specialty Trade Contractors)
8	ANGELES MACHINE WORKS, INCORPORATED.	404 E 2ND ST	PORT ANGELES	WA	98362	332710	Machine Shops	332 (Fabricated Metal Product Manufacturing)
9	ANGELES MILLWORKS & LUMBER CO., INC.	1601 S C ST	PORT ANGELES	WA	98362	444190	Other Building Material Dealers	444 (Building Materials, Hardware, Garden Supplies
10	ANGELES PLUMBING & PUMPS	917 W 8TH ST	PORT ANGELES	WA	98363	238220	Plumbing, Heating, and Air-Conditioning Contract	238 (Specialty Trade Contractors)
11	ARCO AM/PM - AYUSH & ANSH INC III	807 S LINCOLN ST	PORT ANGELES	WA	98362	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service
12	ARROW MARINE GROUP aka ARROW LAUNCH SERVICE, INC	916 MARINE DR	PORT ANGELES	WA	98362	811490	Other Personal and Household Goods Repair and	8111xx (Repair and Maintenance)
13	ARROW MARINE GROUP aka WASHINGTON MARINE REPAIR LLC	830 MARINE DR	PORT ANGELES	WA	98362	336612	Boat Building	336 (Transportation Equipment Manufacturing)
14	ASIAN BUFFET	1940 E 1ST ST STE 160	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
15	AUTOZONE #4110	1936 E 1ST ST	PORT ANGELES	WA	98362	441310	Automotive Parts and Accessories Stores	441 (Automotive Dealers and Gasoline Service
16	AVIS CAR RENTAL or HECKMAN ENTERPRISES	111 E 8TH ST	PORT ANGELES	WA	98362	532111	Passenger Car Rental	5321xx (Rental and Leasing Services)
17	BAR N9NE	229 W 1ST ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)
18	BARBECUE aka MYOPIC MEATS, LLC	110 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
19	BARHOP BREWING	124 W RAILROAD AVE	PORT ANGELES	WA	98362	424810	Beer and Ale Merchant Wholesalers	4248xx (Wholesale Trade- Nondurable Goods)
20	BARHOP BREWING	2506 W 19TH ST	PORT ANGELES	WA	98362	424810	Beer and Ale Merchant Wholesalers	4248xx (Wholesale Trade- Nondurable Goods)
21	BAYVIEW TRANSMISSION AND MUFFLER INC	2026 E 1ST ST	PORT ANGELES	WA	98362	811113	Automotive Transmission Repair	8111xx (Repair and Maintenance)
22	BELLA ITALIA	118 E 1ST ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
23	BELLA ROSA COFFEE SHOP	403 S LINCOLN ST STE 1	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
24	BRUCE'S SPECIALTY AUTO	109 N ENNIS	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)
25	BRUCH & BRUCH CONSTRUCTION, INC.	1706 W HIGHWAY 101	PORT ANGELES	WA	98363	237310	Highway, Street, and Bridge Construction	237 (Heavy and Civil Engineering Construction)
26	BUENA LUZ BAKERY	1105 S EUNICE ST	PORT ANGELES	WA	98362	311811	Retail Bakeries	311 Beverage, Food, and Tobacco Manufacturing
27	C STREET MINI MART AND FOOD	901 S C ST	PORT ANGELES	WA	98363	445120	Convenience Stores	445 (Food and Beverage Stores)
28	CAUDILL DISTILLERY	125 MOTOR AVE	PORT ANGELES	WA	98362	312120	Breweries	312 (Food, Beverage, and Tobacco Manufacturing)
29	CENTURYLINK QC	406 S LAUREL	PORT ANGELES	WA	98362	237130	Power and Communication Line and Related Struc	237 (Heavy and Civil Engineering Construction)
30	CHESTNUT COTTAGE RESTAURANT	929 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
31	CLALLAM TRANSIT SYSTEM	4100 TUMWATER TRUCK RTE	PORT ANGELES	WA	98362	485210	Interurban and Rural Bus Transportation	485 (Transit and Ground Passenger Transportation)
32	CONVERGENCE DESIGN & APPAREL LLC	1013 1/2 W 11TH ST	PORT ANGELES	WA	98363	323113	(**Observed NIACS**) Commercial Screen Printing	323 Printing and related support activities
33	COUNTRY AIRE NATURAL FOODS	200 W 1ST ST	PORT ANGELES	WA	98362	445298	All Other Specialty Food Stores	445 (Food and Beverage Stores)
34	COYOTE BBQ PUB	201 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
35	DAREN'S POINT S TIRE & SERVICE	320 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	441300	Automotive Parts, Accessories, and Tire Stores	441 (Automotive Dealers and Gasoline Service
36	DAVE'S HEATING & COOLING SERVICE, INC.	1206 S C ST	PORT ANGELES	WA	98363	238220	Plumbing, Heating, and Air-Conditioning Contract	238 (Specialty Trade Contractors)
37	DELHUR INDUSTRIES, INC.	4333 S TUMWATER TRUCK RTE	PORT ANGELES	WA	98362	237990	Other Heavy and Civil Engineering Construction	237 (Heavy and Civil Engineering Construction)
38	DISCOVER E-BIKE, LLC	109 N OAK ST	PORT ANGELES	WA	98362	441227	Motorcycle, ATV, and All Other Motor Vehicle Dea	441 (Automotive Dealers and Gasoline Service
39	DOMINO'S PIZZA aka TERBOR ENTERPRISES LLC	1210 E FRONT ST STE B	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
40	DOWN TO EARTH LANDSCAPING & EXCAVATION	306 S VALLEY ST	PORT ANGELES	WA	98362	561730	Landscaping Services	238 (Specialty Trade Contractors)
41	DOWNRIGGERS RESTAURANT	115 E RAILROAD AVE	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
42	DRAKES U-BAKE PIZZA & SUBS	819 S LINCOLN ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
43	EARTH TECH CONSTRUCTION LLC	232 W 8TH ST	PORT ANGELES	WA	98362	238990	All Other Specialty Trade Contractors	238 (Specialty Trade Contractors)
44	EASY STREET COFFEE AND TEA HOUSE LLC	128 W 1ST ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
45	ELECTRIC CLOUD COFFEE LLC	630 E 1ST ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
46	ENTERPRISE RENT-A-CAR	902 E 1ST ST STE D	PORT ANGELES	WA	98362	532111	Passenger Car Rental	5321xx (Rental and Leasing Services)
47	EVANS AUTOMOTIVE	1938 E ENNIS CREEK RD	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)
48	EVERGREEN COLLISION CENTERS, INC. & EVERGREEN TOWING	820 E FRONT ST STE B	PORT ANGELES	WA	98362	811121	Automotive Body, Paint, and Interior Repair and N	8111xx (Repair and Maintenance)
49	EVERGREEN MEATS	306 S VALLEY ST	PORT ANGELES	WA	98362	424470	Wholesale Trade - nondurable goods	424 (Wholesale trade - nondurable goods)
50	EXTRA MILE TECH & ELECTRICAL	1246 W HIGHWAY 101	PORT ANGELES	WA	98362	238210	Electrical Contractors and Other Wiring Contracto	238 (Speciality trade contractors)
51	FAIRMOUNT MARKET (SHELL HWY 101)	1137 W HIGHWAY 101	PORT ANGELES	WA	98363	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service
52	FAIRMOUNT RESTAURANT aka FAIRMOUNT DINER	1127 HWY 101 W	PORT ANGELES	WA	98363	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)

53	FAST BURRITOS	940 EAST FIRST STREET	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
54	FASTENAL COMPANY	724 E 1ST ST	PORT ANGELES	WA	98362	423710	Hardware Merchant Wholesalers	4237xx (Wholesale Trade- Durable Goods)
55	FIESTA JALISCO OF PORT ANGELES	636 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
56	FIREHOUSE GRILL	117 E 8TH ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
57	FIRST RACE CAR WASH	907 E 1ST ST	PORT ANGELES	WA	98362	811192	Car Washes	811192 (Repair and Maintenance)
58	FIRST STREET CHEVRON OR CHEVRON PORT ANGELES	601 E 1ST ST	PORT ANGELES	WA	98362	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service
59	FIRST STREET HAVEN	107 E 1ST ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
60	FKC CO., LTD.	2708 W 18TH ST	PORT ANGELES	WA	98363	333248	Other Industrial Machinery Manufacturing	333 (Machinery, Computer, and Electronic Product
61	FOGTOWN COFFEE BAR	1105 E FRONT ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
62	FRANK'S AUTO REPAIR & PARTS INC.	1416 E FRONT ST	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)
63	FRESH WOK	1603 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
64	FRUGALS	1520 E FRONT ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
65	FULL WESTERN INDUSTRIAL	4130 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	811121	Repair and maintenance	8111xx (Repair and Maintenance)
66	GATEWAY	120 N LINCOLN ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)
67	GEORGE ZINK SALVAGE	3140 SADDLE CLUB RD	PORT ANGELES	WA	98362	423930	Recyclable Material Merchant Wholesalers	423930 (Wholesale Trade- Durable Goods)
68	GORDY'S PIZZA & PASTA	1123 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
69	GRANDVIEW GROCERY, INC	802 C ST SOUTH	PORT ANGELES	WA	98362	445110	Supermarkets and Other Grocery (except Conveni	445 (Food and Beverage Stores)
70	GRAY MOTORS	1937 E 1ST ST	PORT ANGELES	WA	98362	441120	Used Car Dealers	441 (Automotive Dealers and Gasoline Service
71	GRAYSON'S	205 E 8TH ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
72	HARBINGER BREWERY	2358 W HIGHWAY 101	PORT ANGELES	WA	98362	312130	Wineries	312 (Beverage, Food, and Tobacco Manufacturing)
73	HARBOR FREIGHT TOOLS #596	1940 E 1ST ST_STE 168	PORT ANGELES	WA	98362	444130	Hardware Stores	444 (Building Materials, Hardware, Garden Supplies
74	HAWK DIESEL MARINE SERVICES, LLC	934 MARINE DR	PORT ANGELES	WA	98363	811490	Repair and maintenance	8114xx (Repair and Maintenance)
75	HECKMAN ENTERPRISES, INC.	111 E 8TH ST	PORT ANGELES	WA	98362	532111	Passenger Car Rental	5321xx (Rental and Leasing Services)
76	HIGH TIDE SEAFOODS, INC.	808 MARINE DR	PORT ANGELES	WA	98363	424460	Fish and Seafood Merchant Wholesalers	4244xx (Wholesale Trade- Nondurable Goods)
77	HIGHER GROUNDS ESPRESSO CORPORATION	802 C ST	PORT ANGELES	WA	98363	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
78	HIGHWAY 101 FOOD MART aka DHOOT LLC (SHELL ROAD RUNNER)	1023 E FRONT ST	PORT ANGELES	WA	98362	457110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service
79	HOAGLAND INC aka THURMAN SUPPLY	1807 E FRONT ST	PORT ANGELES	WA	98362	444190	Other Building Material Dealers	444 (Building Materials, Hardware, Garden Supplies
80	HOCH CONSTRUCTION	4201 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	236115	New Single-Family Housing Construction (except F	236 (Construction of Buildings)
81	HWY 101 SERVICES LLC	2450 W HIGHWAY 101	PORT ANGELES	WA	98363	811192	Car Washes	8111xx (Repair and Maintenance)
82	JACK IN THE BOX aka AJP ENTERPRISES, LLC	902 E FRONT ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
83	JACKPOT FOOD MART aka MARATHON	331 W 1ST ST	PORT ANGELES	WA	98362	457110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service
84	JASMINE BISTRO	222 N LINCOLN ST STE 111	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
85	JIMMY JOHNS aka FNS FOOD SERVICE GROUP, LLC	108 DEL GUZZI DR	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
86	JOSHUA'S RESTAURANT	113 DEL GUZZI DR	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
87	JUST REWARDS ESPRESSO	1001 E 1ST ST # A	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
88	KNIGHT FIRE PROTECTION	2509 W 19TH ST	PORT ANGELES	WA	98362	238220	Plumbing, Heating, and Air-Conditioning Contract	238 (Specialty Trade Contractors)
89	KOKOPELLI GRILL	203 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
90	LA BELLE CREPERIE aka BURNETTE, NICHOLAS	222 N LINCOLN ST STE 103	PORT ANGELES	WA	9362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
91	LAKESIDE INDUSTRIES, INC.	163 ECLIPSE WEST DR	PORT ANGELES	WA	98363	238990	All Other Specialty Trade Contractors	238 (Specialty Trade Contractors)
92	LAUREL LANES CAFÉ	108 8TH ST W	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
93	LD'S WOODFIRE GRILL	929 WEST 8TH STREET	PORT ANGELES	WA	98363	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
94	LINCOLN INDUSTRIAL CORPORATION, INC. DBA LINCOLN WELDING	4130 TUMWATER TRUCK RTE	PORT ANGELES	WA	98362	333924	Industrial Truck, Tractor, Trailer, and Stacker Mach	333 (Machinery, Computer, and Electronic Product
95	LINCOLN MOBIL	504 S LINCOLN ST	PORT ANGELES	WA	98362	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service
96	LINCOLN STREET COFFEE POT	902 LINCOLN ST # A	PORT ANGELES	WA	98363	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
97	LITTLE DEVIL'S GRILL	824 S C ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
98	LITTLE DEVIL'S LUNCHBOX	315 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
99	LOLA'S CAFE	112 A S LINCOLN ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
100	M&P GARAGE DOORS INC	502 1/2 W 8TH ST	PORT ANGELES	WA	98362	238350	Finish Carpentry Contractors	238 (Specialty Trade Contractors)
101	MARINE DRIVE CHEVRON	402 MARINE DR	PORT ANGELES	WA	98363	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service
102	MCDONALD'S aka PENINSULA MCDONALD'S	1706 E FRONT	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
103	MCKINLEY PAPER COMPANY, WASHINGTON MILL	1815 MARINE DR	PORT ANGELES	WA	98363	322121	Paper (except Newsprint) Mills	3221xx (Paper Manufacturing)
104	MCPHEE'S PARKWAY GROCERY	717 S RACE ST	PORT ANGELES	WA	98362	445110	Supermarkets and Other Grocery (except Conveni	445 (Food and Beverage Stores)
105	MIGHTY PINE BREWING, LLC	540 E 8TH ST	PORT ANGELES	WA	98362	312120	Breweries	312 (Beverage, Food, and Tobacco Manufacturing)
106	MOBILE MUSIC UNLIMITED / SOUNDS GREAT, INC.	532 E 1ST ST	PORT ANGELES	WA	98362	441310	Automotive Parts and Accessories Stores	441 (Automotive Dealers and Gas Service Station),
107	MOBY DUCK CHOWDER & SEAFOOD	222 N LINCOLN ST STE 101	PORT ANGELES	WA	98362	722330	Mobile Food Services	722 (Food Services and Drinking Places)
108	N C MACHINERY CO	73 ECLIPSE INDUSTRIAL PKWY	PORT ANGELES	WA	98362	423810	Construction and Mining (except Oil Well) Machin	4238xx (Wholesale Trade- Durable Goods)
109	NEW DAY EATERY	102 W FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
110	NEW MOON CRAFT TAVERN	130 S LINCOLN ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)
111	NEXT DOOR GASTROPUB	113 W 1ST STE #A	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
112	NORTHWEST FUDGE AND CONFECTIONS	108 W 1ST ST	PORT ANGELES	WA	98362	445292	Confectionery and Nut Stores	445 (Food and Beverage Stores)

113	OLYMPIC ELECTRIC COMPANY, INC.	4230 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	238210	Electrical Contractors and Other Wiring Installatio	238 (Specialty Trade Contractors)
114	OLYMPIC POWERSPORTS	221 S PEABODY ST STE A	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)
115	OLYMPIC PRINTERS, INC.	310 E 1ST ST	PORT ANGELES	WA	98362	323111	Commercial Printing (except Screen and Books)	323 (Printing and Related Support Actvities)
116	OLYMPIC TIRE & AUTO REPAIR, INC.	731 E 1ST ST	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)
117	O'REILLY AUTO PARTS #2750	1911 E 1ST ST	PORT ANGELES	WA	98362	441310	Automotive Parts and Accessories Stores	441 (Automotive Dealers and Gasoline Service
118	PA FAR WEST MACHINE & HYDRAULICS aka MICHAEL J MILLER LLC	4317 TUMWATER TRUCK RTE	PORT ANGELES	WA	98362	811310	Commercial and Industrial Machinery and Equipm	8113xx (Repair and Maintenance)
119	PAPA MURPHYS	1405 E FRONT ST	PORT ANGELES	WA	98362	722513	Limited Service Restaurants	722 (Food Services and Drinking Places)
120	PAYNE CUSTOMS, LLC	4317 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	811121	Automotive Body, Paint, and Interior Repair and M	8111xx (Repair and Maintenance)
121	PEN PRINT, INC.	230 E 1ST ST STE A	PORT ANGELES	WA	98362	323111	Commercial Printing (except Screen and Books)	323 (Printing and Related Support Actvities)
122	PENINSULA AUTOMOTIVE LLC	2012 S OAK ST	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)
123	PENINSULA BOTTLING CO., INC.	311 S VALLEY ST	PORT ANGELES	WA	98362	445320	Beer, Wine, and Liquor Stores	445 (Food and Beverage Stores), 4244xx (Wholesale
124	PENINSULA COLLEGE	1502 E LAURIDSEN BLVD	PORT ANGELES	WA	98362	722310	Food Service Contractors	722 (Food Services and Drinking Places)
125	PENINSULA COLLEGE	1502 E LAURIDSEN BLVD	PORT ANGELES	WA	98362	611310	Colleges, Universities, and Professional Schools	6113xx (Educational Services)
126	PETROCARD, INC.	501 MARINE DR	PORT ANGELES	WA	98363	447190	Other Gasoline Stations	447 (Automotive Dealers and Gasoline Service
127	PETROCARD, INC.	605 TUMWATER TRUCK ROUTE	PORT ANGELES	WA	98363	447190	Other Gasoline Stations	447 (Automotive Dealers and Gasoline Service
128	PETROCARD, INC.	832 BOATHAVEN DR	PORT ANGELES	WA	98362	447190	Other Gasoline Stations	447 (Automotive Dealers and Gasoline Service
129	PETROCARD, INC. (PACIFIC PRIDE)	516 S TUMWATER TRUCK ROUTE	PORT ANGELES	WA	98363	447190	Other Gasoline Stations	447 (Automotive Dealers and Gasoline Service
130	PHO NEW SAIGON	106 W FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
131	PIES CAKES AND MORE	1940 E 1ST ST STE#156	PORT ANGELES	WA	98362	311811	Retail Bakeries	311 (Beverage, Food, and Tobacco Manufacturing)
132	PIZZA HUT aka EMERALD CITY PIZZA LLC	902 E 1ST ST STE A	PORT ANGELES	WA	98362	722513	Limited Service Restaurants	722 (Food Services and Drinking Places)
133	PLATYPUS MARINE, INC.	518 MARINE DR	PORT ANGELES	WA	98362	336612	Boat Building	336 (Transportation Equipment Manufacturing)
134	PORT ANGELES AUTO GLASS	833 E 1ST ST	PORT ANGELES	WA	98362	811122	Automotive Glass Replacement Shops	8111xx (Repair and Maintenance)
135	PORT ANGELES FARMERS MARKET	125 E FRONT ST	PORT ANGELES	WA	98362	445230	Fruit and Vegetable Retailers	445 (Food and beverage stores)
136	PORT ANGELES HARDWOOD, LLC	333 ECLIPSE INDUSTRIAL PKWY	PORT ANGELES	WA	98362	321211	Hardwood Veneer and Plywood Manufacturing	321 (Wood Product Manufacturing)
137	PORT ANGELES SCHOOL DISTRICT	304 E PARK	PORT ANGELES	WA	98362	722310	Food Service Contractors	722 (Food Services and Drinking Places)
138	RABBIT FOOD, LLC	511 W 8TH ST BLDG C	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
139	RACE STREET AUTO PARTS	1230 E 1ST ST	PORT ANGELES	WA	98362	441310	Automotive Parts and Accessories Stores	441 (Automotive Dealers and Gasoline Service
140	RAINBOW SWEEPERS, INC.	4101 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	238990	All Other Specialty Trade Contractors	238 (Specialty Trade Contractors)
141	RANDY'S AUTO SALES INC & MOTORSPORTS	819 E 1ST	PORT ANGELES	WA	98362	441120	Used Car Dealers	441 (Automotive Dealers and Gasoline Service
142	REBEL HEART COFFEE COMPANY LLC	525 E 8TH ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
143	REBEL HEART COFFEE COMPANY LLC	108 S RACE ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
144	RICHMOND 2-WAY RADIO aka GRITCO, LLC	1246 W HIGHWAY 101	PORT ANGELES	WA	98363	443142	Electronics Stores	238 (Specialty Trade Contractors)
145	RODOCKER WOODWORKS, LLC	302 S TUMWATER TRUCK RTE	PORT ANGELES	WA	98362	444190	Other Building Material Dealers	444 (Building Materials, Hardware, Garden Supplies
146	ROOSEVELT	115 E RAILROAD AVE	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
147	RUDDELL AUTO, INC	110 S GOLF COURSE RD	PORT ANGELES	WA	98362	441110	New Car Dealers	441 (Automotive Dealers and Gasoline Service
148	RUDY'S AUTOMOTIVE	202 N FRANCIS ST	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)
149	SABAI THAI	903 W 8TH ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
150	SAFEWAY FUEL STATION # 1492	110 E 3RD ST	PORT ANGELES	WA	98362	445110	Supermarkets and Other Grocery (except Conveni	445 (Food and Beverage Stores), 447 (Autommotive
151	SAFEWAY STORE #1492	110 E 3RD ST	PORT ANGELES	WA	98362	445110	Supermarkets and Other Grocery (except Conveni	445 (Food and Beverage Stores), 447 (Autommotive
152	SASQUATCH DONUTS LLP	135 E 1ST ST	PORT ANGELES	WA	98362	311811	Retail Bakeries	311 (Beverage, Food, and Tobacco Manufacturing)
153	SERGIO'S HACIENDA	205 E 8TH ST STE B	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
154	SHIRLEY'S CAFE	612 S LINCOLN ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
155	SMUGGLER'S LANDING RESTAURANT & LOUNGE	115 E RAILROAD AVE # 101	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)
156	SODEXO AMERICA- #72001096	731 MARINE DR	PORT ANGELES	WA	98363	722310	Food Service Contractors	722 (Food Services and Drinking Places)
157	SONGOKU	134 W FRONT ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
158	SPRUCE	128 E FRONT ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)
159	STARBUCKS #68183	2027 E 1ST ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
160	STEVE'S MUFFLER SHOP	931 W 8TH ST	PORT ANGELES	WA	98363	811112	Automotive Exhaust System Repair	8111xx (Repair and Maintenance)
161	STRAIT ALIGNMENT & BRAKES	120 S ALBERT	PORT ANGELES	WA	98362	811118	Other Automotive Mechanical and Electrical Repa	8111xx (Repair and Maintenance)
162	STRAIT AUTO INC (LITTLE CAR CORNER)	402 E 1ST ST	PORT ANGELES	WA	98362	441120	Used Car Dealers	441 (Automotive Dealers and Gasoline Service
163	SUNRISE CARWASH	1333 E 1ST ST	PORT ANGELES	WA	98362	811192	Car Washes	8111xx (Repair and Maintenance)
164	SUNRISE MEATS, INC.	1325 E 1ST ST	PORT ANGELES	WA	98362	445210	Meat Markets	445 (Food and Beverage Stores)
165	TACO BELL/KFC aka ORCHARD LLC	2001 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
166	TACO TIME	1105 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
167	TENDY'S GARDEN	920 E 1ST ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
168	THE ANSWER FOR YOUTH	826 E 1ST ST	PORT ANGELES	WA	98362	813410	Civic and Social Organizations	444 (Building Materials, Hardware, Garden Supplies
169	THE BEANERY	116 EAST W FRONT ST	PORT ANGELES	WA	98362	453220	Gift, Novelty, and Souvenir Stores	722 (Food Services and Drinking Places)
170	THE BLACKBIRD COFFEEHOUSE	336 E 8TH ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
171	THE COFFEE BOX	224 E 1ST ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
172	THE DAILY GRIND LLC	1919 E 1ST ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)

173	THE EMPOSSIBLE EDEN CAFE,LLC	704 MARINE DR	PORT ANGELES	WA	98363	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
174	THE FRONT STREET ALIBI	1605 E FRONT ST STE A	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)
175	THE GREAT NORTHERN COFFEE BAR	118 W 1ST ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)
176	THE METTA ROOM	132 E FRONT ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)
177	THE RAIL	128 E RAILROAD AVE	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
178	THE STRAIT SLICE	121 1/2 W 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
179	TONI'S SERVICE CENTER	302 W 8TH ST	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)
180	TRACTOR SUPPLY COMPANY	114 E LAURIDSEN BLVD	PORT ANGELES	WA	98362	444240	Nursery, Garden Center, and Farm Supply Retailer	444 (Building Materials, Hardware, Garden Supplies
181	TRANCO TRANSMISSIONS	703 E 1ST ST	PORT ANGELES	WA	98362	811113	Automotive Transmission Repair	8111xx (Repair and Maintenance)
182	TRINITY ATV	221 S PEABODY ST, #A	PORT ANGELES	WA	98362	811490	Other Personal and Household Goods Repair and	8114xx (Repair and Maintenance)
183	VAN DYKE FLOORS	821 E 1ST ST	PORT ANGELES	WA	98363	238330	Flooring Contractors	238 (Specialty Trade Contractors)
184	WATERFRONT AUTOMOTIVE	930 MARINE DR	PORT ANGELES	WA	98363	811111	General Automotive Repair	8111xx (Repair and Maintenance)
185	WENDYS aka WTCWEND	1830 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)
186	WESTPORT, L.L.C. aka WESTPORT YACHT	637 MARINE DR	PORT ANGELES	WA	98362	336612	Boat Building	336 (Transportation Equipment Manufacturing)
187	WESTSIDE PIZZA	612 S LINCOLN ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)
188	WILDER AFFORDABLE HOMES	1536 E FRONT ST	PORT ANGELES	WA	98362	441110	New Car Dealers	441 (Automotive Dealers and Gasoline Service
189	WILDER RV	1527 E FRONT ST	PORT ANGELES	WA	98362	441110	New Car Dealers	441 (Automotive Dealers and Gasoline Service
190	WILLY'S SMOKE SHOP	1409 E 1ST ST	PORT ANGELES	WA	98362	445120	Convenience Stores	445 (Food and Beverage Stores)

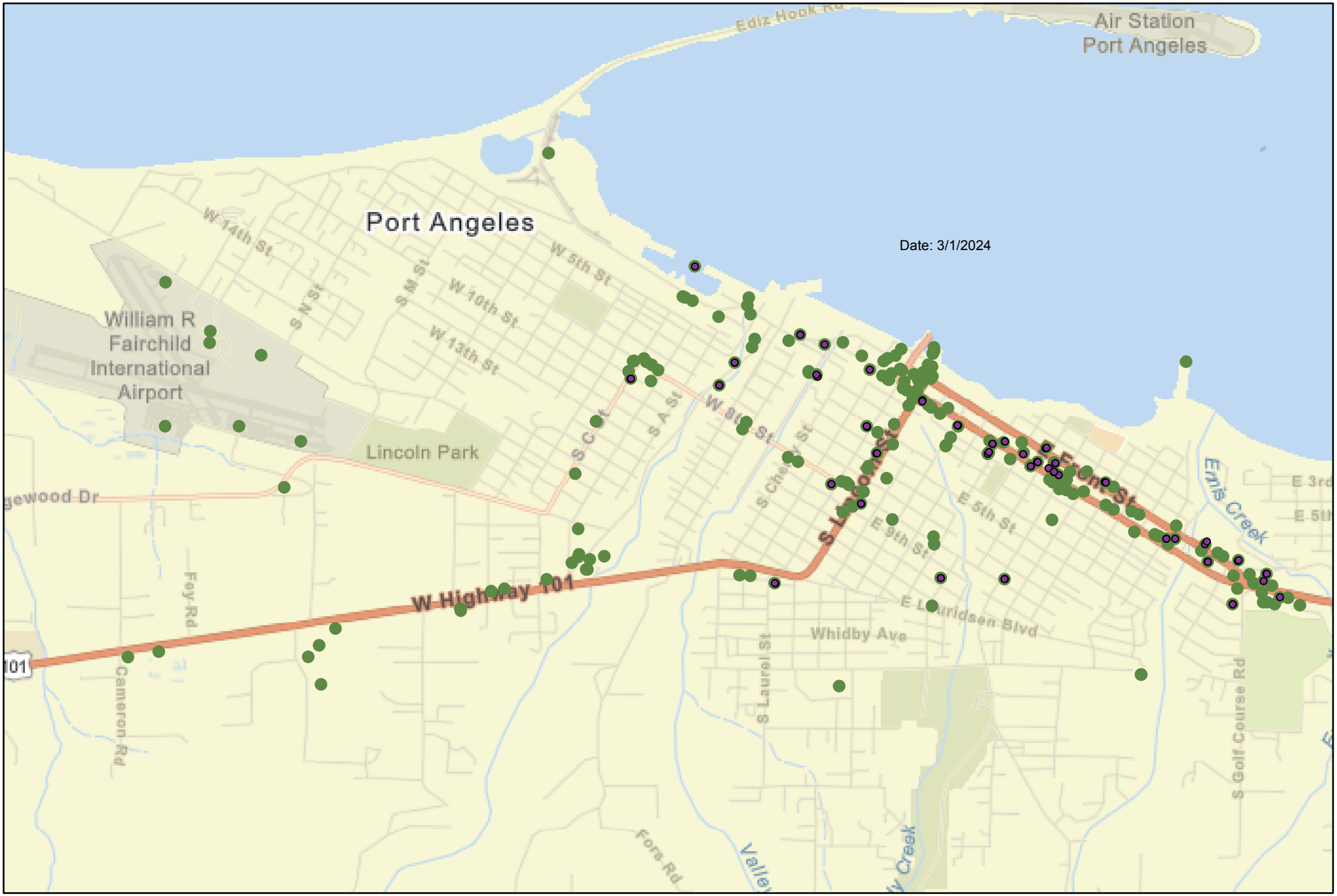
Source Control Program | Inspections Performed in 2023

Program Manager: R. Jeffries
SC/PPA Inspector: H. Carlseen

PAMC: 13.63
Phase II SW Permit: S5.C.8.b.ii

Count	Visit Type	Inspection Date	Business Name	Business Address	Location City	Location Zip	NAICS Code
1	initial	7/19/2023	1st St Market & Deli	210 E 1ST ST	Port Angeles	98362	457110
2	followup	12/11/2023	1st St Market & Deli	210 E 1ST ST	Port Angeles	98362	457110
3	initial	5/12/2023	A & A Appliance Service, Inc.	914 E Eunice St.	Port Angeles	98362	444180
4	initial	7/20/2023	All Metal Recycling	124 S Albert St	Port Angeles	98362	423930
5	initial	9/6/2023	Arco	807 S Lincoln St	Port Angeles	98362	447110
6	followup	12/12/2023	Arco	807 S Lincoln St	Port Angeles	98362	447110
7	initial	7/27/2023	Bayview Transmission and Muffler Inc	2026 E 1st St	Port Angeles	98362	811113
8	initial	8/23/2023	Bruce's Specialty Auto	109 N Ennis	Port Angeles	98362	811111
9	followup	11/20/2023	Bruce's Specialty Auto	109 N Ennis	Port Angeles	98362	811111
10	initial	3/7/2023	C Street Mini Mart and Food	901 S C St	Port Angeles	98363	445120
11	followup	4/21/2023	C Street Mini Mart and Food	901 S C St	Port Angeles	98363	445120
12	initial	3/28/2023	Centurylink QC	406 S Laurel St	Port Angeles	98362	237130
13	followup	6/28/2023	Centurylink QC	406 S Laurel St	Port Angeles	98362	237130
14	initial	4/18/2023	County Aire Natural Foods	200 W 1st St	Port Angeles	98362	445298
15	initial	8/10/2023	Evans Automotive	1938 E Ennis Creek Rd	Port Angeles	98362	811111
16	followup	9/28/2023	Evans Automotive	1938 E Ennis Creek Rd	Port Angeles	98362	811111
17	initial	7/25/2023	Evergreen Collision Centers Inc	820 E Front St Suite A	Port Angeles	98362	811121
18	followup	8/3/2023	Evergreen Collision Centers Inc	820 E Front St Suite A	Port Angeles	98362	811121
19	initial	3/14/2023	Fastenal Company	724 E 1st St	Port Angeles	98362	423710
20	initial	9/21/2023	First Street Chevron	601 E 1st St	Port Angeles	98362	447110
21	followup	11/6/2023	First Street Chevron	601 E 1st St	Port Angeles	98362	447110
22	initial	8/23/2023	Frank's Auto Repair & Parts Inc.	1416 E Front St	Port Angeles	98362	811111
23	initial	4/19/2023	Gray Motors	1937 E 1st St	Port Angeles	98362	441120
24	initial	7/26/2023	Highway 101 Food Mart (Shell)	1023 E Front St	Port Angeles	98362	447110
25	followup	9/1/2023	Highway 101 Food Mart (Shell)	1023 E Front St	Port Angeles	98362	447110
26	initial	5/23/2023	Laurel Lanes Cafe	108 W 8th St	Port Angeles	98362	722515
27	initial	9/13/2023	Lincoln Mobil	504 S Lincoln St	Port Angeles	98362	447110
28	followup	12/11/2023	Lincoln Mobil	504 S Lincoln St	Port Angeles	98362	447110
31	initial	8/14/2023	Marine Drive Chevron	402 Marine Dr	Port Angeles	98362	447110
32	initial	5/31/2023	McPhee's Parkway Grocery	717 S Race St	Port Angeles	98362	445110

33	followup	11/6/2023	McPhee's Parkway Grocery	717 S Race St	Port Angeles	98362	445110
34	initial	3/21/2023	Mobile Music Unlimited	532 E 1st St	Port Angeles	98362	441310
35	followup	8/2/2023	Mobile Music Unlimited	532 E 1st St	Port Angeles	98362	441310
36	initial	10/4/2023	Olympic Tire & Auto Repair, Inc.	731 E 1st St	Port Angeles	98362	811111
37	followup	11/13/2023	Olympic Tire & Auto Repair, Inc.	731 E 1st St	Port Angeles	98362	811111
38	initial	5/18/2023	Peninsula Bottling Co., Inc.	311 S Valley St	Port Angeles	98362	445320
39	followup	8/16/2023	Peninsula Bottling Co., Inc.	311 S Valley St	Port Angeles	98362	445320
40	followup	11/29/2023	Petrocard (Pacific Pride)	516 S Tumwater Truck Rte	Port Angeles	98363	447120
41	initial	9/20/2023	Petrocard (Pacific Pride)	516 S Tumwater Truck Rte	Port Angeles	98363	447120
42	followup	11/29/2023	Petrocard Inc	605 Tumwater Truck Rte	Port Angeles	98363	447120
43	initial	9/20/2023	Petrocard Inc	605 Tumwater Truck Rte	Port Angeles	98363	447120
44	initial	9/20/2023	Petrocard, Inc.	501 Marine Dr	Port Angeles	98363	447120
45	followup	11/29/2023	Petrocard, Inc.	501 Marine Dr	Port Angeles	98363	447120
46	initial	9/20/2023	Petrocard, Inc.	832 Boathaven Dr	Port Angeles	98362	447120
47	initial	3/21/2023	Port Angeles Auto Glass	833 E 1st St	Port Angeles	98362	811122
48	initial	4/11/2023	Randy's Auto Sales (Inc and Motorsports)	819 E 1st St	Port Angeles	98362	441120
49	initial	6/6/2023	Ruddell Auto Mall	110 S Golf Course Rd	Port Angeles	98362	441110
50	followup	8/16/2023	Ruddell Auto Mall	110 S Golf Course Rd	Port Angeles	98362	441110
51	initial	8/23/2023	Rudy's Automotive	202 N Francis St	Port Angeles	98362	811111
52	followup	9/13/2023	Rudy's Automotive	202 N Francis St	Port Angeles	98362	811111
53	initial	7/20/2023	Strait Alignment and Brakes	120 S Albert	Port Angeles	98362	811118
29	initial	5/19/2023	Strait Auto Inc aka Little Car Corner	402 E 1st St	Port Angeles	98362	441120
30	followup	9/28/2023	Strait Auto Inc aka Little Car Corner	402 E 1st St	Port Angeles	98362	441120
54	initial	5/2/2023	Thurman Supply	1807 E Front St	Port Angeles	98362	444190
55	followup	8/31/2023	Thurman Supply	1807 E Front St	Port Angeles	98362	444190
56	initial	6/20/2023	Tractor Supply Company	114 E Lauridsen Blvd	Port Angeles	98362	444240
57	initial	8/2/2023	Tranco Transmissions	703 E 1st St	Port Angeles	98362	811114
58	initial	4/21/2023	Van Dyke Floors	821 E 1st St	Port Angeles	98362	238330
59	followup	7/12/2023	Van Dyke Floors	821 E 1st St	Port Angeles	98362	238330
60	initial	4/4/2023	Wilder Affordable Homes	1536 E Front St	Port Angeles	98362	441110
61	followup	8/17/2023	Wilder Affordable Homes	1536 E Front St	Port Angeles	98362	441110
62	initial	4/4/2023	Wilder RV	1527 E Front St	Port Angeles	98362	411110
63	followup	8/17/2023	Wilder RV	1527 E Front St	Port Angeles	98362	411110



Source Control Annual Report Map 2024

Business Inventory

Sites Inspected

2,750
Feet

Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91
Printed: 3/1/2024

N
Area Map

CITY OF PORT ANGELES
PUBLIC WORKS & UTILITIES DEPARTMENT

This map is not intended for use as a legal description. Locations of features are approximate only. Topographic/Map features are +-5 feet of actual locations. This map/drawing is produced by the city of Port Angeles for its own use and purposes. Any other use of this map/drawing shall not be the responsibility of the City.

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47600, Olympia, WA 98504-7600 • 360-407-6000

May 31, 2023

City of Port Angeles
321 E 5th St
Port Angeles, WA 98362-3206
RS-WAR045028

RE: Annual SAM Invoice 2023 - City of Port Angeles

Dear Vincent McIntyre:

According to our records, your municipality is participating in the Stormwater Action Monitoring (SAM) program to comply with Special Condition S8. of the:

- Phase I Municipal Stormwater Permit, or
- Phase II Western Washington Municipal Stormwater Permit

The 2023 SAM invoice is enclosed. See the invoice for instructions on how send your payment. Receipts for SAM payments are maintained in Ecology's Water Quality Permitting and Reporting Information System (PARIS) database.

We have also enclosed the 2022 SAM annual report. You'll find information on effectiveness and source control studies completed and updates on long-term projects. Learn more about SAM at Ecology's SAM webpage[1].

For questions, please contact Brandi Lubliner, SAM Coordinator, at brandi.lubliner@ecy.wa.gov.

Sincerely,

Jeff Killelea, Manager
Program Development Services Section
Water Quality Program

Enclosures (2)

[1] https://ecology.wa.gov/Regulations-Permits/Reporting-requirements/Stormwater-monitoring/Stormwater-Action-Monitoring

DEPARTMENT OF ECOLOGY
State of Washington

INVOICE

STORMWATER ACTION MONITORING

CITY OF PORT ANGELES

VINCE MCINTYRE

321 E 5TH ST
PORT ANGELES, WA 98362
USA

Invoice date	5/30/2023
Invoice number	RS-000000670
Due date	8/15/2023
Amount Due	9,059.00
Reference	WAR045028 Special Condition S8.A & S8.B

Description	Line amount
Puget Sound Status and Trends (F92AA500)	3,204.00
Effective Studies and Source ID (F92AB500)	5,855.00
Total	**9,059.00**

Pay online

Pay by credit card (Visa/Mastercard/Discover) or bank account (electronic check) at https://ecology.wa.gov/EcoEPay.

Please have your invoice number ready: RS-000000670

Pay by mail

Detach the bottom of this invoice and send check or money order payable to:
Department of Ecology Cashiering Unit PO Box 47611 Olympia, WA 98504-7611 USA

Questions about your bill?

Invoice amounts are from the MS4 permits. For questions about SAM see ecy.wa.gov/SAM

Budget Code:	406-7412-538-4990
Line Item:	ECY Monitoring & Assess. Fee
Dept/Div Approval:	PWKS / ENG / Stormwater
Date:	6/5/2023
Signature:	V. McIntyre

DETACH HERE

Detach and return this portion with your check/money order. Please write the invoice number on your check.

DO NOT SEND CASH

STORMWATER ACTION MONITORING

Total Amount Due $9,059.00 by 08/15/2023

Invoice number	RS-000000670
Reference	WAR045028 Special Condition S8.A & S8.B

CITY OF PORT ANGELES

VINCE MCINTYRE

321 E 5TH ST
PORT ANGELES, WA 98362
USA

Mail Payment To:

DEPARTMENT OF ECOLOGY
CASHIERING UNIT
PO BOX 47611
OLYMPIA, WA 98504-7611
USA

CITY OF PORT ANGELES
WASHINGTON, U.S.A.
Public Works & Utilities Department

November 8th, 2019

Angela Vincent
Department of Ecology
Southwest Regional Office
Water Quality Program
PO Box 47775
Olympia, WA 98504-775

RE: S8. Monitoring and Assessment | 2019-24 Western WA Phase II Municipal Stormwater Permit (WAR045028)

Dear Angela Vincent,

This letter is to serve as official written notification of the City's intent to meet the requirements of Section S8 of our 2019-2024 Phase II Municipal Stormwater Permit with Ecology.

In lieu of conducting our own stormwater discharge monitoring program, the City intends to continue participating in the regional Stormwater Action Monitoring (SAM) program for both Status and Trends Monitoring (S8.A.2.a) and SWMP Effectiveness and Source Identification Studies (S8.B.2.a). It is understood that partnership in this regional effort requires an annual payment into a collective fund.

If you have any questions, please contact the City's Stormwater Engineer, Vince McIntyre, at (360) 417-4701.

Sincerely,

Thomas Hunter
Director of Public Works and Utilities

"I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that Qualified Personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for willful violations."

CC: Nathan West, City Manager
Jonathan Boehme, City Engineer
Vince McIntyre, Stormwater Engineer

Phone: 360-417-4800 / **Fax**: 360-417-4542
Website: www.cityofpa.us / **Email**: publicworks@cityofpa.us
321 East Fifth Street / Port Angeles, WA 98362-0217

Stormwater Action Monitoring 2022 Annual Report

June 2023

This is the eighth annual report from the Washington State Department of Ecology (Ecology) on implementation of Stormwater Action Monitoring (SAM), a collaborative program funded by more than 90 Western Washington cities and counties, the ports of Seattle and Tacoma, and the Washington State Department of Transportation (WSDOT). Ecology manages SAM's revenues, expenditures, agreements, and communication of findings.

Stormwater Action Monitoring (SAM) is the regional cooperative stormwater monitoring option in the municipal stormwater permits.

SAM is the alternative to outfall monitoring in the permits.

The SAM program funds projects to improve stormwater management, reduce pollution, improve water quality, and reduce flooding. The projects do this by measuring stormwater impacts on the environment, evaluating the effectiveness of stormwater management techniques, and suggesting changes to the stormwater manuals, local practices, and permit requirements. SAM projects also build tools, techniques, and resources for permittees.

All jurisdictions, large and small, can benefit from SAM projects by using findings to protect local lakes, rivers, streams, wetlands, and Puget Sound.

https://ecology.wa.gov/SAM

Highlights for 2022

All but one of the Stormwater Work Group (SWG) approved SAM projects that came out of the Round 3 Solicitation were started. The remaining project on permeable pavement will start in 2023.

Still some delays on SAM projects due to global pandemic related impacts

While many of the lead or subcontracted staff have adjusted well to the hybrid field, office, or telework settings, there were still delays in return of laboratory data, or loss of work time due to staff turnovers. Several of the active SAM Effectiveness Studies or Source ID projects needed time extensions and additional resources this last year to meet already approved study goals.

Staffing changes at Ecology

Karen Dinicola, Ecology's lead staff to the Stormwater Work Group retired in August. Karen orchestrated 99 SWG meetings and countless subgroup meetings bringing order and purpose to this important permittee committee on stormwater monitoring. We will miss her!

Keunyea Song, the SAM Scientist, and project manager left Ecology for other opportunities. We wish her well! Ecology was successful in recruiting a new SAM Scientist, Dr. Chelsea Morris. See back page for more information.

Looking ahead

Next year, SAM staff will begin to contract the Round 4 SWG approved projects. These projects will get going as staff time allows which is expected to span into the beginning of the 2024 permit cycle.

Program Management

Stormwater Work Group

The Stormwater Work Group (SWG) scale is larger, but participates in the Puget Sound Ecosystem Monitoring Program (PSEMP). SWG is a coalition of representatives of local, state, and federal governments, environmental and business organizations, public ports, tribes, and agriculture. SWG formed in 2008 to develop a strategic, coordinated, and integrated approach for monitoring municipal stormwater in Western Washington and evaluating effectiveness of stormwater practices and management activities.

The SWG welcomes participation on the group's subcommittees and caucuses. All meetings are open to the public. See the SWG website: https://sites.google.com/site/pugetsoundstormwaterworkgroup/

What is the connection between SAM and the SWG?

All SAM projects are selected and approved by the SWG. The SWG sets priorities and makes recommendations to support SAM implementation and other stormwater-related monitoring.

The Pooled Resources Oversight Committee (PRO-C), a subgroup of SWG, oversees Ecology's administration of SAM. The PRO-C approves all SAM contracting decisions and spending and also reviews each project's scope of work and amendments. Both the SWG and PRO-C are formal committees whose members represent stakeholder groups.

Permittees, state and federal agencies , and university faculty provide funding and/or leadership on SAM projects. Ecology serves as the administrative entity that manages SAM funds and executes SAM contracts.

Who makes up SAM?

SAM receives annual revenue from Cities, Counties, Ports, WSDOT and the US Navy via an option in the NPDES Municipal stormwater permits.

Cities*:* Aberdeen, Algona, Anacortes, Arlington, Auburn, Bainbridge Island, Battle Ground, Bellevue, Bellingham, Black Diamond, Bonney Lake, Bothell, Bremerton, Brier, Buckley, Burien, Burlington, Camas, Centralia, Clyde Hill, Covington, Des Moines, DuPont, Duvall, Edgewood, Edmonds, Enumclaw, Everett, Federal Way, Ferndale, Fife, Fircrest, Gig Harbor, Granite Falls, Issaquah, Kelso, Kenmore, Kent, Kirkland, Lacey, Lake Forest Park, Lake Stevens, Lakewood, Longview, Lynden, Lynnwood, Maple Valley, Marysville, Medina, Mercer Island, Mill Creek, Milton, Monroe, Mount Vernon, Mountlake Terrace, Mukilteo, Newcastle, Normandy Park, Oak Harbor, Olympia, Orting, Pacific, Port Angeles, Port Orchard, Poulsbo, Puyallup, Redmond, Renton, Sammamish, SeaTac, Seattle, Sedro-Woolley, Shoreline, Snohomish, Snoqualmie, Steilacoom, Sumner, Tacoma, Tukwila, Tumwater, University Place, Vancouver, Washougal, Woodinville.

Counties: Clark, Cowlitz, King, Kitsap, Pierce, Skagit, Snohomish, Thurston, Whatcom.

Ports: Tacoma and Seattle.

Agencies: Washington Department of Transportation and the United States Navy.

Ecology manages permittees' annual funding receipts in PARIS: https://apps.ecology.wa.gov/paris.

* In-kind funds have been received from: Washington Departments of Ecology, Agriculture, and Fish and Wildlife and the United States Geological Survey
* In-kind funds have been received by Penn Cove Shellfish and Cedar Grove Composting.

Administration

Round 4 Solicitation is Underway

The SAM Study Solicitation Subgroup chair Angela Bolton (City of Mill Creek) leads the development of the Round 4 Solicitation Process

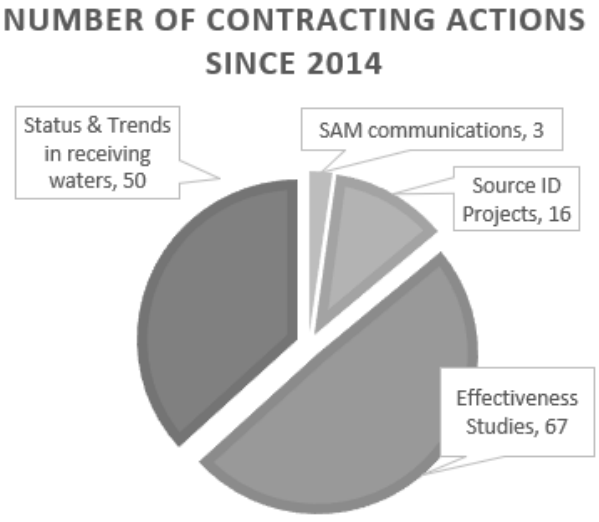
- Round 4 Solicitation process will take all of 2023 to complete. The SAM RFP Guidelines are available on the SAM Effectiveness Studies Webpage.
- SAM revenue gathered in 2022 and 2023 will fund new Effectiveness Studies and Source Identification projects, and extend monitoring for the long-term Status and Trends studies. With oversight by SWG, a Round 4 solicitation process will begin in 2022.
- The final Round 3 SWG Approved project to get started under SAM was delayed due to staff capacity at both Ecology and WSU-Puyallup. (FP4) Replacement and lifecycle costs of permeable pavements compared with conventional pavements will begin in 2023.



Contracts and Agreements

In 2022, many of SAM's studies were still adjusting to delays caused by the global pandemic and needed contract extensions. Since 2014, SAM staff as well as Ecology's fiscal, management, and contracts section have processed over 130 contracting actions such as initial contracts and amendments.

We continue to try to build in contingencies, time to hire subcontractors, and time to incorporate review processes that are expected by technical committees and Ecology's SAM staff to minimize the high rate of amendments.



Receiving Water Status & Trends

Are conditions in receiving waters getting better or worse?

SAM is assessing the impacts of stormwater runoff in urban and urbanizing areas in the Puget Sound and Lower Columbia River watersheds. These studies are long-term and active each year. Reports completed in 2022 are showcased in the blue boxes.

Puget Sound Basin Studies



Two receiving water status and trends monitoring regions: Puget Sound and Lower Columbia River Watersheds

Stormwater managers know that effective and lasting improvements to infrastructure, best management practices, and changing behaviors of Puget Sound residents takes time. Long-term monitoring of key environments help us determine if conditions are getting better in the areas adjacent to urban areas. Two receiving waters studies cover the Puget Sound watershed. Each study monitors 33 randomly selected sites from across four levels of impervious cover and two reference sites.

- **Puget Small Streams (PSS):** U.S. Geological Survey (USGS) leads the small urban streams assessment for SAM. Monitoring includes water, sediment, macroinvertebrate sampling and physical habitat assessment. Water level and temperature using sensors are monitored continuously throughout the year. Restrictions related to the pandemic continue to impact field work, chemical analysis, and reporting. The annual reports for water year 2020 and 2021 will now likely be published in mid-2023.



2019-2020 Nearshore Mussels Survey Findings

SAM Fact Sheet #27, September 2022

Biannual monitoring in the marine nearshore is helping us determine if conditions are getting better as stormwater management improves.

The 2019-20 winter survey provided the first opportunity to evaluate changes in contamination of nearshore mussels living inside the urban growth areas (UGAs) of Puget Sound. Mussels in the urban nearshore accumulated organic contaminants (PAHs, PCBs, PBDEs, DDTs) at a greater rate than at the reference site. PAHs, PBDEs, and DDTs had significantly lower central tendency concentrations in mussels from this third survey (2019-20) than the prior two surveys. Results from the 2021-22 survey will be published in winter 2023.

- **Puget Sound Nearshore Mussels:** Washington Department of Fish and Wildlife (WDFW) leads the biannual nearshore assessment for SAM. WDFW's next round of monitoring will start in fall of 2023.



Lower Columbia River Study

The Lower Columbia Urban Streams (LCUS) study monitors small urban streams in Clark and Cowlitz counties. The LCUS study design includes trend sites that will be monitored yearly and status sites that will be sampled at five-year intervals. Trend analyses will be conducted every five years.

Clark County leads this streams assessment for SAM. Monitoring includes water, sediment, macroinvertebrate sampling and physical habitat assessment. Water level and temperature using sensors are monitored continuously throughout the year. Clark County completed the second round of sampling in 2022.

2020 Lower Columbia Urban Streams Findings

Annual Report, August 2022

Monitoring began in late 2020 and the first results identified several important stressors that effect overall stream health:

- Most stream flow measurements met criteria for supporting salmonoid use, while no site met the temperature criteria.
- Benthic Index of Biotic Integrity (BIBI) scores generally declined in subwatersheds with increasing impervious surface and traffic values greater than 10,000 daily trip miles per square mile. BIBI scores in nearly all streams showed severe drought stress.
- Metal concentrations in stream sediments were below the cleanup standards.
- All streams had excessive fine-grained sediment as measured by embeddedness or the amount of fine sediment in gravel beds.

Over time, this study will provide enough data to categorize LCUS streams in good, fair, or poor condition. Trend analyses and risk assessments will be conducted every five years to identify the key stressors causing poor stream conditions in the region.

Source Identification Projects



What are the common sources of illicit discharges and best ways to reduce them?

SAM Source Identification projects identify common problems and propose regional actions on source control to prevent transport of pollutants in stormwater. These projects are active.

- ***Mobile Business***: King County and consultants have worked with the WA Department of Revenue to pull business listing information to help jurisdictions identify mobile business types from business licensing data. A pilot outreach effort in southern King County began mid-year. The goals are to recommend ways to identify mobile businesses and methods to conduct inspections and outreach for the purposes of stormwater source control and pollution prevention. The pilot source control effort will evaluate if the new tools and guidance will be helpful in source control activities among jurisdictions.



- ***Business Source Control***: Washington Stormwater Center (WSC) and consultants have completed a resource webpage on the WSC website, an online guidance manual for stormwater program development, and four in-person business inspection trainings. The contract was extended for two more trainings in 2023 and an online module.

Effectiveness Studies

How well are required or innovative stormwater management practices working?

SAM is measuring the effectiveness of BMPs and stormwater management actions to reduce negative hydrologic impacts and the discharge of pollutants to receiving waters. Bulleted studies were active in 2022, and completed SAM projects are shown in the blue boxes.

Mulch choices for bioretention

SAM Fact Sheet #25, June 2022

Using the 16 experimental bioretention cells at Washington State University (WSU) at the Washington Stormwater Center (WSC) found that all three evaluated mulch types (arborist chips, medium bark, and nuggets) offered significant benefits to bioretention facilities.



Three types of mulch were tested in bioretention systems

In particular, weed suppression, much better soil moisture, and water discharge rates over controls were measured. The nugget mulch also significantly reduced water outflow volumes.

Stormwater maintenance programs utilizing mulches may see reduced O&M costs overall due to reducing watering needs in the summer, improved plant survival, and reduced weeding or the need for herbicides.

Bioretention designers, landscape designers, horticulturists and others should limit use of water loving and easily spreading plants such as 'ninebark' to minimize maintenance needs in bioretention facilities and rain gardens.

Hydrologic benefit of larger individual trees

SAM Fact Sheet #26, August 2022



Mature trees were outfitted with sensors to measure tree transpiration and interception of rainfall

Washington Department of Natural Resources, Washington Stormwater Center, and Evergreen State College are quantifying the hydrologic benefits of retaining mature trees. Over 60 trees were monitored to quantify how much rain and runoff is captured by common native evergreen and deciduous trees in Western Washington.

All four species intercepted and transpired 44-65% of the rainfall landing on their canopies on an annual basis, meaning this rainfall did not become runoff. Differences between tree species were most evident in the winter when the stormwater management needs are highest. Evergreen trees (which keep leaves year-round) continue to transpire and intercept rainfall on their canopies.

These findings reinforce the importance of mature tree retention to intercept rain, transpire moisture, and generally aid in water management on site. Stormwater managers should plant and retain trees and, where feasible, use evergreen trees.

- ***Ongoing Study: Hydrologic benefit of smaller street trees.*** WSU was contracted for a second objective to repeat the above study but on much smaller trees of the same species.

Effectiveness Studies (cont'd)

- ***Paired watershed retrofit and restoration:*** The City of Redmond paired watershed study is in year 7 of 10. Substantial work was done this year to correct an error in the Aquarius software package used to process the continuous flow data for the entire study. The Annual Report for Water Year 2020 was revised and the 2016-2019 Trend Analysis Report will be revised next year.

Note: A unique source control BMP study within the Watershed Scale Retrofit and Restoration

The City leveraged the ongoing long-term monitoring of the Paired Watershed Study to quantify in-stream benefits of the source control BMP street sweeping in one of the streams. The found a consistent and statistically significant decrease in total suspended solids and total copper concentrations in Monticello Creek that appeared to be related to the increase in street sweeping frequency. (See Trend Analysis Report Water Years 2016-2018 on the SAM project webpage and the Water Year 2020 Data Report).

This effort is being repeated using Ecology's legislative proviso funds in Tosh Creek, another basin already monitored part of this long-term project. Two additional parameters were also added, polycyclic aromatic hydrocarbons (PAHs) and the emergent 6PPD-quinone.

- ***Hydrologic performance of the oldest bioretention***: City of Olympia will find and test the infiltration rate of the oldest facilities to evaluate influential factors on the best designs and maintenance lessons learned.
- ***Evaluation of BMP Maintenance:*** The City of Bellevue will evaluate (survey and data review) the maintenance thresholds or conditions for ponds, vaults, trenches, and tanks. A white paper will make suggestions how permittees might adjust BMP maintenance efforts to maximize overall environmental outcomes to meet permit requirements.

- ***Ditch Maintenance for water quality study*:** WSU's study to evaluate different grass mixtures for roadside ditch reseeding is underway. The water quality study aspect of reshaping ditches will be removed from the project because safe and suitable locations to conduct roadside ditch sampling could not be found.



- ***Particle size importance for stormwater characterization and BMP effectiveness:*** Washington State Department of Natural Resources is leading a literature search and synthesis on particle sizes in stormwater, attached pollutants and load reduction as a function of particle capture.
- ***Guidance for evaluating the effectiveness of public education and outreach programs***: WSU synthesizes and evaluates effective behavior change campaigns for local jurisdictions to use to improve stormwater management success. The final deliverables will be completed in early 2023.
- ***Orifice control of bioretention for water quality treatment:*** WSU is evaluating the impacts of small orifice as part of a bioretention underdrain system on water quality and quantity performance improvements. The project was extended into July 2023. Both modelling evaluation and real-time data are now contracted to assess long term runoff volume reduction and pollutant reduction benefits from smaller orifices in underlined bioretention facilities.
- ***Longevity of bioretention soil mix for toxicity reduction:*** WSU continues to evaluate coho toxicity reduction by the 60:40 default bioretention soil mix.

Note on this SAM Study: Longevity of bioretention soil mix for toxicity reduction.

Ecology leveraged this existing SAM study to add 3 additional water years for coho toxicity and quantification of the emergent 6PPD-quinone compound using legislative proviso funds.

SAM's 2022 Communications

SAM funded projects were featured at Green Stormwater Infrastructure Summit, local, APWA stormwater managers meetings, PSEMP Freshwater and Toxics workgroup and other meetings in 2022.

Ecology maintains approximately 20 webpages for SAM communication and transparency. Individual project pages exist for each of the active SAM studies. Completed projects are summarized, in the accordions, under Effectiveness Studies Source Identification and Status and Trends. SAM communication includes factsheets, SAM newsletters, SAM booklet of completed studies in 2013-2019 and multiple SAM educational videos.

All final reports, scopes of work, and other key deliverables are available on the SAM website under ***Completed Studies***. SAM staff and the study lead co-author a two-page fact sheet for each final report.

Hiring and Shifting Workloads

- Ecology hired the new SAM Scientist Dr. Chelsea Morris who will manage all the Status and Trends projects and approximately half of the Effectiveness Studies.
- Ecology is exploring different ways to maintain their commitment to administer SAM, staff SWG, and ensure adequate representation from the agency. The Phase I Municipal Stormwater Permit Writer position was updated to develop agenda content and workplan support for SWG. There was turnover in this position in 2022. Emma Trewhitt pursued other opportunities and we wish her the best. Amy Waterman was hired mid-year in the Phase I permit writer and SWG support position.



Brandi Lubliner, PE, is the SAM Coordinator (left) and Chelsea Morris, PhD „is the SAM Scientist (right).

Subscribe to Learn More!

In early 2022 Ecology began using a new mass email software and the active subscribers were migrated to GovDelivery. New subscribers go to our GovDelivery Subscriber Preferences Page. Enter your email address, click to add subscriptions, and navigate to the Water Quality Program list to subscribe to:

STORMWATER-ACTION-MONITORING: a newsletter announcing SAM study findings and upcoming workshops.
SWG-REPORTER: four issues per year to hear about study findings and the process for selecting studies.
STORMWATER-WORK-GROUP: meeting agendas, materials, summaries, and announcements related to SWG.

ADA Accessibility

To request an ADA accommodation, contact Ecology by phone at 360-407-6600 or email at brandi.lubliner@ecy.wa.gov, or visit https://ecology.wa.gov/accessibility. For Relay Service or TTY call 711 or 877-833-6341.

An S4F1 notification was made to Department of Ecology on January 4, 2011. Sampling activities for bacteria continue through an Inter Local Agreement with Streamkeepers of Clallam County. Sampling for fecal coliform is conducted monthly in Peabody, Tumwater, and Valley Creeks. A larger sampling of sites in Port Angeles is conducted quarterly for both dry and wet weather conditions. Sample results are analyzed monthly and compared against the City IDDE Response Policy. This work has resulted in the identification (2016) and disconnection (2017) of a broken subsurface side sewer line leaking into a Storm main which was discharging into Peabody Creek. Attached is the 2018 sampling plan. This plan was in effect during 2023 where throughout the year, the geometric mean remained below the threshold for determining when IDDE investigation is necessary; However, where the levels for E.coli in Peabody Creek remain high, investigations in the area will continue to identify and eliminate sources of pollution.

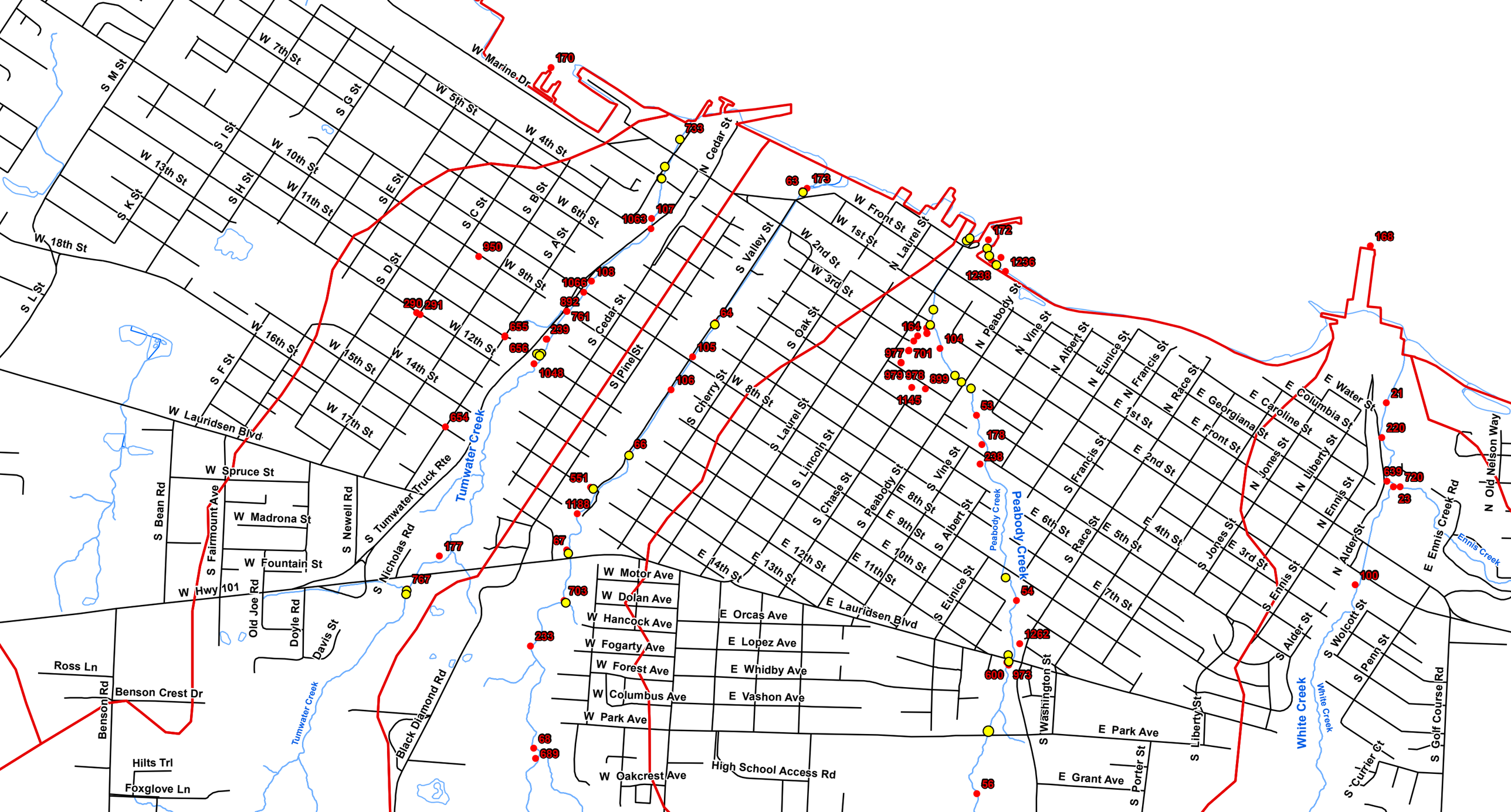
City of Port Angeles project: Streamkeepers Grab-Sample Plan, *revised 4/30/18*

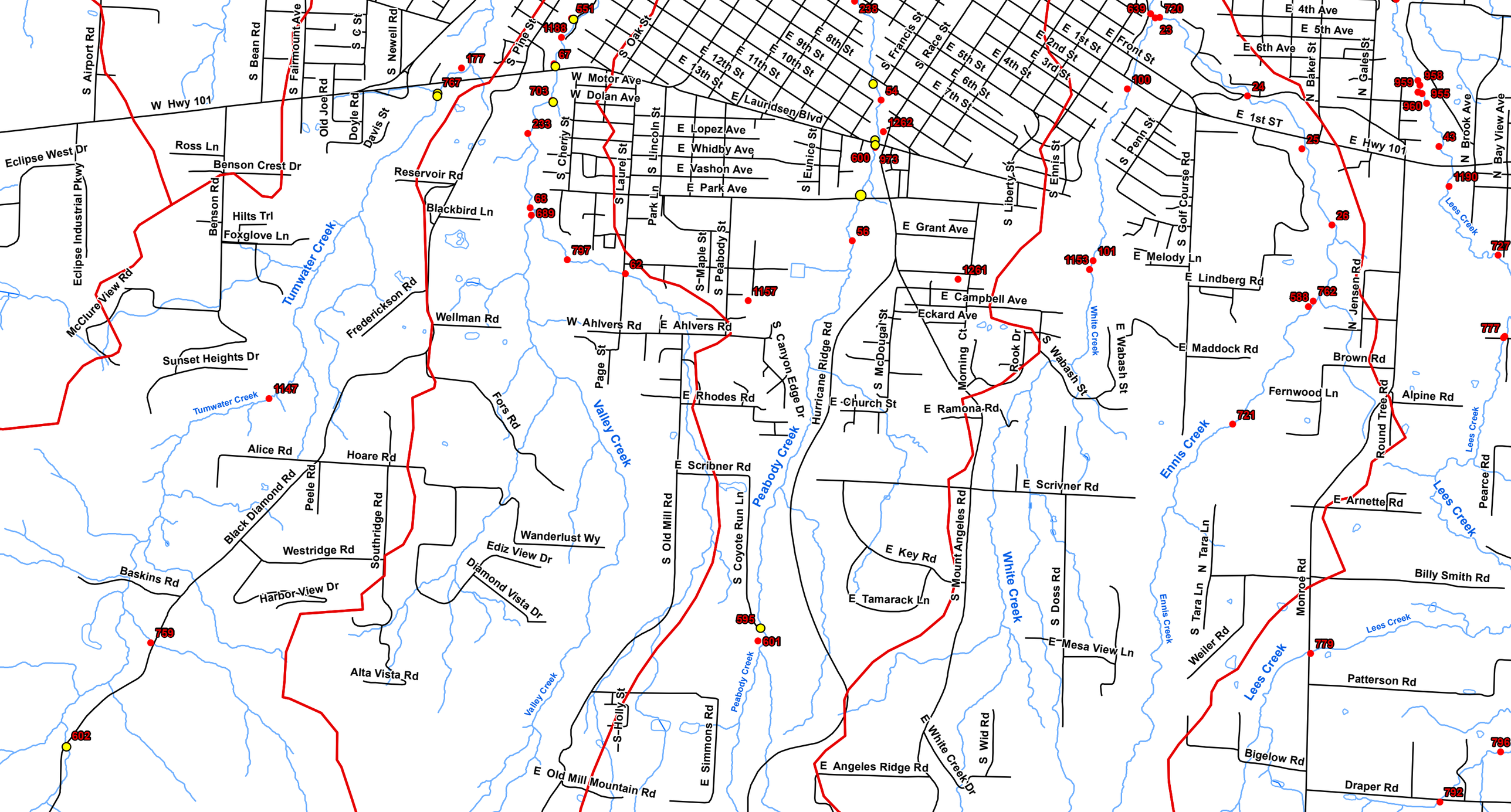
****Include Precip (24 hr) readings or multi-day retrospectives of preceding wet and dry periods, based on a reliable local weather station****

--Organize sampling tours around volunteer/lab availability; min. 2 volunteers needed, and lab is generally available M-Th before 2 PM.
--Try for 50% monthly wet-weather tours during the year, where "wet" is defined as ≥ 0.15" of rain-equivalent within the prior 24 hours.
--If 50% wet-weather tours have not been taken as the year progresses, conduct a wet-weather tour if volunteers are available even if a dry-weather tour has already been conducted that month.
--Conduct two "storm" (defined as ≥ 1" of rain-equivalent within the prior 24 hours) tours per year, preferably in different seasons, with or without volunteers, even if a sample has already been taken that month.
--If volunteers are available, precede "storm" sampling tours with pre-storm tours, preferably the day prior to the storm.
--If a "storm" tour has been conducted during a month, no further tours will be conducted that month.
--If two "storm" tours have not been conducted by the end of November, consider relaxing the 1" criterion in December.
--For "wet-weather" or "storm" sampling, use best judgment to label each visit as Baseflow; First-Flush; Rising-Curve; Peak; or Post-Peak, considering storm intensity, turbidity, flow velocity, and stream stage relative to what it was pre-storm. The storm may iterate back and forth through multiple stages during a sampling tour.

	Monthly Samples--Organize around volunteer availability; Aim for 6 dry-weather and 6 wet-weather samples
	Peabody 0.0 (when possible)
	Peabody 0.2 (just u/s of final culvert; include stage reading)
	Peabody 0.2 rep
	Peabody 0.2a (pipe d/s of trailer park office)
	Peabody 0.2b (u/s of pipe)
	Peabody 0.4b (u/s of trailers, d/s of plunge pool below culvert)
	Peabody 0.4 (u/s of Peabody St.)
W	Peabody 0.4a (storm input under Peabody St.)
	Peabody 0.9 (beneath water pipe, d/s of kids' play area)
	Peabody 1.2 (beneath Lauridsen, u/s of stormwater flume)
	Peabody 1.2c (beneath Lauridsen, stormwater flume)
C	Peabody 1.4 (National Park loop trail, u/s of u/s crossing)
	Tumwater 0.0 (across from Westport side door)
	Tumwater 0.0 rep
	Tumwater 0.8 (d/s of storm input below Tumwater Truck Rt)
	Tumwater 0.8d (storm pipe below Tumwater Truck Route)
	Tumwater 0.8e (u/s of storm input below Tumwater Truck Rt)
	Tumwater 1.5 (u/s of Hwy 101, d/s of storm input from west)

	Additional sites for storm sampling (see above)--aim for 1 pre-storm and 1 during-storm or just-after-storm sample (preferably on consecutive days) 2x/yr if possible (preferably in different seasons)
C	Peabody 2.9 (Coyote Run Lane off Scrivner Rd)
	Tumwater 0.1 (d/s of storm pipe)
W	Tumwater 0.1b (LB storm drain input @ 3rd St.)
	Tumwater 0.1a (@ 3rd St. u/s of LB storm drain input)
	Tumwater 1.5a (u/s of Hwy 101, u/s of storm input from west)
	Tumwater 1.5b (u/s of Hwy 101, storm channel from west)
	Tumwater 4.4 (3142 Black Diamond Rd)
	Valley 0.0 (when possible)
	Valley 0.4 (u/s of final culvert @ 6th St)
	Valley 0.4 rep
	Valley 0.7 (@ 12th St., near end of Valley Street)
	Valley 1.0 (u/s of "flatbed" bridge @ 14th St)
	Valley 1.2 (d/s of Hwy 101)
	Valley 1.4 (Vern Samuelson Trail ~0.1 mile u/s of Hwy 101)
	Semi- Annual Marine Samples--fecal + entero (big 500 mL bottles)
	PA Harbor @Hollywood west
	PA Harbor @Hollywood central
	PA Harbor @Hollywood east
	PA Harbor @Peabody mouth
	PA Harbor @Peabody mouth rep


W Marine Dr
S M St
W 7th St
S G St
W 5th St
W 4th St
S I St
W 10th St
W 13th St
S H St
W 11th St
S K St
S E St
S C St
S B St
W 6th St
S A St
W 18th St
S L St
S D St
W 9th St
W 16th St
W 15th St
W 14th St
W 12th St
S F St
W 17th St
W Lauridsen Blvd
S Cedar St
S Pine St
N Cedar St
S Valley St
W 2nd St
W 3rd St
W Front St
W 1st St
N Laurel St
S Oak St
S Cherry St
W 8th St
S Laurel St
S Lincoln St
S Chase St
N Peabody St
N Vine St
N Albert St
N Eunice St
N Francis St
N Race St
E Georgiana St
E Front St
E 1st St
E 2nd St
E Caroline St
E Columbia St
E Water St
S Francis St
S Peabody St
E 8th St
S Vine St
S Albert St
E 9th St
E 10th St
E 11th St
S Eunice St
E 12th St
E 13th St
E 14th St
E Lauridsen Blvd
E 6th St
S Race St
E 5th St
E 4th St
S Jones St
E 3rd St
E 7th St
N Jones St
N Liberty St
N Ennis St
S Ennis St
N Alder St
S Alder St
S Washington St
S Liberty St
E Park Ave
E Grant Ave
S Porter St
S Wolcott St
S Penn St
S Golf Course Rd
S Currier Ct
N Old Nelson Way
E Ennis Creek Rd
Ennis Creek
White Creek
Peabody Creek
Tumwater Creek
S Tumwater Truck Rte
W Spruce St
W Madrona St
W Fountain St
W Hwy 101
S Bean Rd
S Fairmount Ave
S Newell Rd
S Nicholas Rd
Old Joe Rd
Doyle Rd
Davis St
Black Diamond Rd
W Motor Ave
W Dolan Ave
W Hancock Ave
W Fogarty Ave
W Forest Ave
W Columbus Ave
W Park Ave
W Oakcrest Ave
High School Access Rd
E Orcas Ave
E Lopez Ave
E Whidby Ave
E Vashon Ave
Ross Ln
Benson Crest Dr
Benson Rd
Hilts Trl
Foxglove Ln
170
733
63
173
172
1236
1238
168
107
1063
108
1066
950
892
761
290
291
655
656
239
1048
684
64
105
106
66
551
1188
67
177
767
703
233
68
689
56
104
977
701
979
978
899
1145
53
178
238
54
1262
600
973
21
220
339
720
23
100


W Hwy 101
S Airport Rd
S Bean Rd
S Fairmount Ave
S C St
S Newell Rd
Old Joe Rd
Doyle Rd
Davis St
Eclipse West Dr
Eclipse Industrial Pkwy
Ross Ln
Benson Crest Dr
Benson Rd
Hilts Trl
Foxglove Ln
McClure View Rd
Sunset Heights Dr
Tumwater Creek
Reservoir Rd
Blackbird Ln
Wellman Rd
Frederickson Rd
Fors Rd
Alice Rd
Hoare Rd
Peele Rd
Black Diamond Rd
Southridge Rd
Westridge Rd
Baskins Rd
Harbor View Dr
Wanderlust Wy
Ediz View Dr
Diamond Vista Dr
Alta Vista Rd
S Pine St
S Oak St
E 8th St
E 9th St
E 10th St
E 11th St
E 12th St
E 13th St
E Lauridsen Blvd
W Motor Ave
W Dolan Ave
E Lopez Ave
E Whidby Ave
E Vashon Ave
E Park Ave
S Cherry St
S Laurel St
S Lincoln St
Park Ln
S Maple St
S Peabody St
S Eunice St
W Ahlvers Rd
E Ahlvers Rd
Page St
S Canyon Edge Dr
E Rhodes Rd
E Scribner Rd
S Old Mill Rd
S Coyote Run Ln
Valley Creek
Peabody Creek
S Holly St
E Simmons Rd
E Old Mill Mountain Rd
S Francis St
S Race St
E 1st St
E 2nd St
E 3rd St
E 4th St
E 5th St
E 6th St
E 7th St
E Front St
S Liberty St
S Ennis St
E Grant Ave
E Campbell Ave
Eckard Ave
Morning Ct
Rook Dr
S Wabash St
E Wabash St
S McDougal St
Hurricane Ridge Rd
E Church St
E Ramona Rd
E Key Rd
E Tamarack Ln
S Mount Angeles Rd
E Scrivner Rd
S Doss Rd
E Mesa View Ln
E Angeles Ridge Rd
E White Creek Dr
S Wid Rd
White Creek
S Penn St
S Golf Course Rd
E Melody Ln
E Lindberg Rd
E Maddock Rd
N Jensen Rd
Brown Rd
Fernwood Ln
Alpine Rd
Round Tree Rd
Pearce Rd
E Arnette Rd
Billy Smith Rd
Monroe Rd
S Tara Ln
N Tara Ln
Weiler Rd
Ennis Creek
Lees Creek
Patterson Rd
Bigelow Rd
Draper Rd
E 4th Ave
E 5th Ave
E 6th Ave
N Baker St
N Gales St
E 1st ST
E Hwy 101
N Brook Ave
N Bay View Ave
177
767
703
293
68
699
797
62
1157
551
1188
67
54
1262
600
973
238
639
720
23
100
24
959
958
955
960
25
43
1190
26
727
1153
101
1261
56
762
538
777
721
1147
759
602
595
601
779
796
792

Vince McIntyre

From: Bob Wisseman <bobwisseman@mac.com>
Sent: Monday, March 27, 2023 11:52 AM
To: Green Joel
Cc: Vince McIntyre
Subject: Re: Clallam County Stream Keepers

[CAUTION - EXTERNAL EMAIL]

Hi Joel and Vince,

I just entered all the Clallam County data into the Puget Sound Stream Benthos (PSSB) database. It may take a day or two for the data to clear and get posted. You can contact Kate Macneale at the PSSB if you need assistance accessing your data. Kate.Macneale@kingcounty.gov

The PSSB will have a complete listing of the data, calculate a variety of metrics, and calculate the Benthic Index of Biotic Integrity (BIBI). Let me know if you have any questions about the results.

We have invoiced Vince for the City of Port Angeles samples.

Joel: On our lab account I only saw 1 site visit for Tumwater Creek 0.8f. There was no listing for Tumwater Creek 0.8fduplicate. Can you get into your account and list that one, so we can finish data entry? That will bring the number of samples to invoice you at Clallam County to 3. We'll go ahead and invoice you for that later today.

Thanks, Bob

Robert Wisseman-Senior Scientist
Aquatic Biology Associates, Inc.
3490 NW Deer Run Street
Corvallis, OR 97330
Cell: 541-740-1568
bob@aquaticbio.com

> On Feb 17, 2023, at 2:56 PM, Green, Joel <joel.green@clallamcountywa.gov> wrote:
>
> Hi Bob,
> Yes, I am aware of the Puget Sound Stream Benthos database, though I still need to contact Kate MacNeale and make sure all site information is entered. I think it makes most sense for the site data to be entered under the Clallam County Streamkeepers account. Some of these sites have been monitored by Streamkeepers for years. Thanks for prioritizing our samples.

Cheers,

Joel Green
Streamkeepers Coordinator
Clallam County Dept. of Community Development
360-325-3979

From: Bob Wisseman <bobwisseman@mac.com>
Sent: Friday, February 17, 2023 2:39 PM
To: Green, Joel <joel.green@clallamcountywa.gov>
Cc: McIntyre Vince <vmcintyr@cityofpa.us>
Subject: Re: Clallam County Stream Keepers

Joel,

I've been out of town a few weeks for work and vacation. Sorry for the delay. It has been a busy year.

I will fast track these samples and try to get the data done by March 31.

Clallam County benthic macroinvertebrate data is housed in the Puget Sound Stream Benthos database. Did Ed Chadd fill you in on this database? I do encourage you to house the data here. It allows for the calculation of the most up-to-date benthic index of biotic integrity (BIBI), generates site reports, and tracks site trends. https://pugetsoundstreambenthos.org/Default.aspx

Clallam County streamkeepers already has an account set up. The City of Port Angeles does not. Would you like all the site data entered under the Clallam Couny Streamkeepers account? If so, Joel on your end you will have to create site visits for the 2022 samples and enter some basic information. Then designate Aquatic Biology Associates as the lab that will be entering the bug data. Kate Macneale at King County Kate.Macneale@kingcounty.gov can help you access the Clallam County Streamkeeper account and walk you through the process of entering site visit information.

Best regards, Bob

Robert Wisseman-Senior Scientist
Aquatic Biology Associates, Inc.
3490 NW Deer Run Street
Corvallis, OR 97330
Cell: 541-740-1568
bob@aquaticbio.com

> On Feb 16, 2023, at 4:51 PM, Green, Joel <joel.green@clallamcountywa.gov> wrote:
>
> Hi Bob,

How does it look for getting the Streamkeepers samples identified, do you have an estimate for when that might be done? Vince McIntyre at the City of Port Angeles asked if I could have a report to him by March 31st.
Thanks,
Joel

Joel Green
Pronouns: he/him
Streamkeepers Coordinator
Clallam County Dept. of Community Development
223 E. 4th St., Suite 5, Port Angeles, WA 98362
Mobile (360) 325-3979
Office (360) 417-2281

From: Bob Wisseman <bobwisseman@mac.com>
Sent: Tuesday, January 24, 2023 4:24 PM
To: Green, Joel <joel.green@clallamcountywa.gov>
Cc: Macneale Kate <Kate.Macneale@kingcounty.gov>
Subject: Clallam County Stream Keepers

Hi Kate,

Joel Green has taken over from Ed Chadd for the Clallam County Streamkeepers. He needs help getting the account transferred to him and setting up some 2022 site visits. We will be entering the data.

As always, your help with clients is much appreciated.

Cheers, Bob

Robert Wisseman-Senior Scientist
Aquatic Biology Associates, Inc.
3490 NW Deer Run Street
Corvallis, OR 97330
Cell: 541-740-1568
bob@aquaticbio.com

DocuSign Envelope ID: 834496C5-4831-4284-83CE-D64BB0163400

332.22.007

2a
01/27/22

INTER-LOCAL AGREEMENT
BETWEEN
CITY OF PORT ANGELES
AND
CLALLAM COUNTY
FOR STREAM WATER QUALITY MONITORING
2022 – 2026
PSA-2022-53

This Inter-Local Agreement is between the City of Port Angeles (herein after referred to as "the City") and Clallam County (herein after referred to as "the County") for the purpose of volunteer recruitment, training and coordination for water quality monitoring, and associated data storage and reporting. Funding for this work is through the City of Port Angeles.

WHEREAS, the Inter-Local Cooperation Act, RCW 39.34, provides that any two public agencies of the state having separate authority to exercise a particular power may enter into an agreement for cooperative or joint exercise of that power; and

WHEREAS, the City is a municipal corporation of the State of Washington, and the County is a political subdivision of the State of Washington, and each party has the authority to contract for water quality monitoring services under Article XI § 11 of the Washington State Constitution; Chapter 17.10 RCW; Chapter 36.89 RCW; Chapter 85.15 RCW; and

WHEREAS, the City desires to monitor levels of bacteria, and other water quality parameters in the streams and harbor of Port Angeles, in a systematic and scientific manner; and

WHEREAS, the City would like to use the services of the County's Streamkeepers program; and

WHEREAS, the County will benefit from the information gathered by the City's monitoring of the above-mentioned water quality parameters in the County's own water quality monitoring projects.

Therefore, it is mutually agreed that:

A. The County's Responsibilities:

1. Project management: The County shall track work hours and budget of the County's Streamkeepers program to ensure effective expenditure of funds and provide a breakdown of hours and activities on pay applications.
2. Recruit and train volunteers through the County's Streamkeepers program to perform water-quality monitoring in the Port Angeles area.
3. Devise a sampling plan in conjunction with the City. Sample sites, parameters, and periodicity will be agreed upon by Streamkeepers and the City. Sites will have safe access. Where a sampling site is not accessible from a public road or other easement, the City will obtain the landowner's permission for Streamkeepers' staff and/or volunteers to access the site. Baseline sampling is expected to include monthly sampling for *Escherichia coli* (*E. coli*) bacteria in freshwater streams and *Enterococci* bacteria in marine waters. The sampling plan will depend upon funding and laboratory costs.

DocuSign Envelope ID: 834496C5-4831-4284-83CE-D64BB0163400

4. Sampling for benthic macroinvertebrates will occur in 2022 in approved locations central to each streams extent within the City limits for the following creeks: Peabody, Valley, Tumwater, & Ennis. Additional sampling events or locations must be approved by the City in advance and have funds available within the approved budget. Benthic Macroinvertebrate sampling is to occur on a 5-year interval. It is anticipated that these same sites will be sampled again in 2027 under the next ILA.
5. Conduct water quality monitoring (done by staff or volunteers), including collection of samples, in situ measurements, and installation and retrieval of continuous data loggers at designated sample sites using standard Streamkeepers protocols and quality-control measures.
6. Conduct quarterly stream flow monitoring at agreed-upon sites using standard Streamkeepers equipment, protocols, and quality-control measures. Flow monitoring data is to be included in the annual report to the City.
7. Submit samples to laboratories for analysis:

   a. Bacterial and other water-quality samples to the County Environmental Health Lab or, when the County Environmental Health Lab is unable to perform the analysis, another state accredited lab as defined in RCW 43.21A.230 and WAC 173-50-040.

   b. Benthic macroinvertebrate samples to professional taxonomy laboratories for identification and verification.
8. Record, confirm, and analyze all results, and report them to the City as soon as possible but no later than 30 days following collection via the standard reporting/recordkeeping formats as used by the County's Streamkeepers program. Along with providing the sampling results, produce and submit to the City each month a table of data for that month, and a brief written summary pointing out any anomalies or exceedances of State water quality standards that may warrant follow-up investigation by the City's Illicit Discharge Detection and Elimination (IDDE) response team.
9. Produce and submit to the City a yearly report compiling the collected data for the year and providing detailed graphical and statistical analysis and interpretation of results. In addition, where appropriate, annual data is to be overlain and compared against data collected during previous years. The report shall discuss trending, comparisons, anomalies, etc., and calculate and report statistical significance of results as appropriate.
10. Produce and submit to the City a comprehensive report on water quality trends in Port Angeles streams over the period 2001-2021. This comprehensive report is to be submitted to the City no later than December 31st, 2023.

B. <u>The City's Responsibilities:</u>

1. Provide direction as to overall sampling design, including sites, parameters, and periodicity.
2. In the instance a sampling site is not accessible from a public road or other easement, obtain landowner permission to access the site for sampling purposes.
3. Arrange with analytical laboratories for payment, as appropriate. Expected laboratory services include:

a) Water samples for pollutant analysis. The 2022 lab fees at the Clallam County Environmental Health Laboratory are $35.00 per sample for *E. coli* and $40.00 per sample for *Enterococci* bacterial tests. Payment of lab fees will be based on current year sample rates as set by the Clallam County Environmental Health Laboratory. If other parameters, methods, or laboratories are used, fees will vary.

b) Benthic macroinvertebrate samples for taxonomic analysis per the Benthic Index of Biological Integrity (B-IBI). Laboratory fees are estimated at $430 per sample, however, rates are known to fluctuate and cannot be accurately determined in advance, but the City will use the same taxonomist(s) the County uses and will pay the same rate, including pro-rated costs for Quality Assurance laboratory analysis.

4. The City will pay for staff time and costs for the services described in "A." above at the staff billing rate set by the County, and the actual cost of incidental material. The staff billing rate will be the composite rate of the staff salary set by Clallam County. The County will invoice the City monthly, and the City will pay within 30 days. The 2022 Streamkeeper Coordinator's billing rate is $50.82 per labor hour. Subsequent years will be billed at the established staff billing rate set by Clallam County.

5. City's maximum obligation: The total cost of services for the above tasks, including payments to Streamkeepers and laboratories, shall not exceed $14,000 for year 2022 and $21,000 for each additional calendar year, totaling $98,000 for the years 2022 through 2026.

C. General Conditions:

1. Duration: Unless terminated by either party, this agreement shall commence on the date of execution, and shall remain in effect through December 31, 2026.

2. Modification: This Agreement may be amended or altered only by written agreement of the designated representatives of both the City and the County upon the signature of such representatives. The amendment shall explicitly state that it is an amendment to this Agreement.

3. Termination: This Agreement may be terminated by either party sixty (60) days after receipt of written notice of intent to terminate; PROVIDED that either party may immediately terminate this Agreement for public convenience or in the event of a financial emergency. If this contract is terminated or expires, the City is obligated to reimburse the County for all costs incurred in performance of the Agreement prior to its termination or expiration.

4. Property: The parties do not intend to purchase or acquire any real or personal property in performance of this Agreement, other than the supplies necessary to perform this Agreement. Property purchased or acquired in performance of this Agreement will remain with the purchasing party upon termination or expiration of this Agreement.

5. Ownership of Items Produced: All writing, programs, data, public records or other materials prepared by the County and/or its consultants, subcontractors, or volunteers, in connection with performance of this Agreement will be entered into the Clallam County Water Resources

DocuSign Envelope ID: 834496C5-4831-4284-83CE-D64BB0163400

database, and then delivered to the City. The parties recognize and acknowledge that all such information is available to the public.

6. Non-Discrimination: The County shall not discriminate against any person on the basis of race, creed, political ideology, color, national origin, sex, marital status, sexual orientation, age, or the presence of any sensory, mental or physical handicap.

7. Defense, Indemnity, Hold Harmless: The County shall defend, indemnify, and hold the City harmless from and against any liability for any/all injuries to person or property arising from the sole negligent act or omission of the County or its elected officials, department heads, agents, or employees in performance of this Agreement.

   The City shall defend, indemnify, and hold the County harmless from and against any liability for any/all injuries to person or property arising from the sole negligent act or omission of the City or its elected officials, department heads, agents, or employees in performance of this agreement.

8. Administration: This Agreement will be administered by the County's Streamkeepers program.

   The County's contact is: Joel Green, Streamkeepers Coordinator, Clallam County, 223 E. 4th Street, Suite 5, Port Angeles, WA 98362, (360) 417-2281, joel.green@clallamcountywa.gov

   The City's contact is: Vince McIntyre, Stormwater Engineer, City of Port Angeles, 321 E. 5th Street, Port Angeles, WA 98362, (360) 417-4701, Vmcintyr@cityofpa.us.

DocuSign Envelope ID: 834496C5-4831-4284-83CE-D64BB0163400

IN WITNESS HEREOF, this Agreement is executed by Clallam County and by the City of Port Angeles, Washington.

CITY OF PORT ANGELES

DocuSigned by:
Nathan West
0F7345F35344417...
Nathan West, City Manager

Dated: 10/6/2022

Attest:

DocuSigned by:
Kari Martinez-Bailey
C3E8F3647C5341C...
Kari Martinez-Bailey, City Clerk

Approved As To Form:

DocuSigned by:
William Bloor
E5EC5EBD4113427...
William E. Bloor, City Attorney

CLALLAM COUNTY BOARD OF COMMISSIONERS

Mark Ozias, Chair

Dated: 9/27/22

Attest:

Loni Gores, Clerk of the Board

CLERK OF THE BOARD CLALLAM COUNTY COMMISSIONERS PORT ANGELES WA

Approved As To Form:

Dee Boughton, Deputy Prosecuting Attorney

Issuance Date: July 1, 2019
Effective Date: August 1, 2019
Expiration Date: July 31, 2024

Western Washington Phase II Municipal Stormwater Permit

National Pollutant Discharge Elimination System and
State Waste Discharge General Permit for discharges from
Small Municipal Separate Storm Sewers
In Western Washington

State of Washington
Department of Ecology
Olympia, WA 98504-7600

In compliance with the provisions of
The State of Washington Water Pollution Control Law
Chapter 90.48 Revised Code of Washington
and
The Federal Water Pollution Control Act
(The Clean Water Act)
Title 33 United States Code, Section 1251 *et seq.*

Until this Permit expires, is modified, or revoked, Permittees that have properly obtained coverage under this Permit are authorized to discharge to waters of the State in accordance with the special and general conditions which follow.

Heather R. Bartlett
Water Quality Program Manager
Department of Ecology

This page intentionally left blank

TABLE OF CONTENTS

S1. PERMIT COVERAGE AREA AND PERMITTEES 1
S2. AUTHORIZED DISCHARGES 5
S3. RESPONSIBILITIES OF PERMITTEES 6
S4. COMPLIANCE WITH STANDARDS 7
S5. STORMWATER MANAGEMENT PROGRAM FOR CITIES, TOWNS, AND COUNTIES 9
S5.C.1 Stormwater Planning 11
S5.C.2 Public Education and Outreach 14
S5.C.3 Public Involvement and Participation 16
S5.C.4 MS4 Mapping and Documentation 17
S5.C.5 Illicit Discharge Detection and Elimination 18
S5.C.6 Controlling Runoff from New Development, Redevelopment and Construction Sites 22
S5.C.7 Operations and Maintenance 24
S5.C.8 Source Control Program for Existing Development 28
S6. STORMWATER MANAGEMENT PROGRAM FOR SECONDARY PERMITTEES 31
S7. COMPLIANCE WITH TOTAL MAXIMUM DAILY LOAD REQUIREMENTS 37
S8. MONITORING AND ASSESSMENT 38
S9. REPORTING REQUIREMENTS 40
GENERAL CONDITIONS 42
DEFINITIONS AND ACRONYMS 49

APPENDICES

APPENDIX 1. Minimum Technical Requirements for New Development and Redevelopment

APPENDIX 2. Total Maximum Daily Load Requirements

APPENDIX 3. Annual Report Questions for Cities, Towns and Counties

APPENDIX 4. Annual Report Questions for Secondary Permittees

APPENDIX 5. Annual Report Questions for New Permittees

APPENDIX 6. Street Waste Disposal

APPENDIX 7. Determining Construction Site Damage Transport Potential

APPENDIX 8. Businesses and activities that are potential sources of pollutants

APPENDIX 9. Stormwater Discharge Monitoring

APPENDIX 10. Equivalent programs for runoff controls for new and redevelopment and construction sites

APPENDIX 11. Annual contribution amounts for regional monitoring

APPENDIX 12. IDDE Reporting data and format

SPECIAL CONDITIONS

S1. PERMIT COVERAGE AREA AND PERMITTEES

A. Geographic Area of Permit Coverage

This Permit is applicable to owners or operators of regulated small Municipal Separate Storm Sewer Systems (MS4s) located west of the eastern boundaries of the following counties: Whatcom, Skagit, Snohomish, King, Pierce, Lewis, and Skamania.

1. For all cities required to obtain coverage under this Permit, the geographic area of coverage is the entire incorporated area of the city.

2. For all counties required to have coverage under this Permit, the geographic area of coverage is the urbanized areas and urban growth areas associated with permitted cities under the jurisdictional control of the county. The geographic area of coverage also includes any urban growth area contiguous to permitted urbanized areas under the jurisdictional control of the county.

3. For Whatcom County, the geographic area of coverage also includes the unincorporated Birch Bay urban growth area.

4. For Secondary Permittees required to obtain coverage under this Permit, the minimum geographic area of coverage is all areas identified under S1.A.1 and S1.A.2. At the time of permit coverage, the Washington State Department of Ecology (Ecology) may establish a geographic area of coverage specific to an individual Secondary Permittee.

5. All regulated small MS4s owned or operated by the Permittees named in S1.D.2.a(i), and (ii), and S1.D.2.b and located in another city or county area requiring coverage under this Permit, or the *Phase I Municipal Stormwater Permit* or the *Eastern Washington Phase II Municipal Stormwater Permit,* are also covered under this Permit.

B. Regulated Small Municipal Separate Storm Sewer Systems (MS4s)

All operators of regulated small MS4s are required to apply for and obtain coverage under this Permit or be permitted under a separate individual permit, unless waived or exempted in accordance with condition S1.C.

1. A regulated small MS4:

a. Is a "Small MS4" as defined in the *Definitions and Acronyms* section at the end of this Permit; and

b. Is located within, or partially located within, an urbanized area as defined by the latest decennial census conducted by the U.S. Census Bureau, or designated by Ecology pursuant to 40 CFR 123.35(b) or 40 CFR 122.26(f); and

c. Discharges stormwater from the MS4 to a surface water of Washington State; and

d. Is not eligible for a waiver or exemption under S1.C, below.

2. All other operators of MS4s, including special purpose districts, which meet the criteria for a regulated small MS4 shall obtain coverage under this Permit. Other operators of small MS4s may include, but are not limited to: flood control, or diking and drainage districts; schools, including universities; and correctional facilities that own or operate a small MS4 serving non-agricultural land uses.

3. Any other operators of small MS4s may be required by Ecology to obtain coverage under this Permit or an alternative NPDES permit if Ecology determines the small MS4 is a significant source of pollution to surface waters of the State. Notification of Ecology's determination that permit coverage is required will be through the issuance of an Administrative Order issued in accordance with RCW 90.48.

4. The owner or operator of a regulated small MS4 may obtain coverage under this Permit as a Permittee, Co-Permittee, or Secondary Permittee as defined in S1.D.1, below.

5. Pursuant to 40 CFR 122.26(f), any person or organization may petition Ecology to require that additional small MS4s obtain coverage under this Permit. The process for petitioning Ecology is:

    a. The person or organization shall submit a complete petition in writing to Ecology. A complete petition shall address each of the relevant factors for petitions outlined on Ecology's website.

    b. In making its determination on the petition, Ecology may request additional information from either the petitioner or the entity that is the subject of the petition.

    c. Ecology will make a final determination on a complete petition within 180 days of receipt of the petition and inform both the petitioner and the MS4 of the decision, in writing.

    d. If Ecology's final determination is that the candidate MS4 will be regulated, Ecology will issue an order to the operator of the MS4 requiring them to obtain coverage under this Permit. The order will specify:

        i. The geographic area of permit coverage for the MS4.

        ii. Any modified dates or deadlines for developing and implementing this Permit, as appropriate to the MS4, and for submitting their first annual report.

        iii. A deadline for the operator of the MS4 to submit a complete Notice of Intent (NOI, provided on Ecology's website) to Ecology.

C. Owners and operators of an otherwise regulated small MS4 are ***not*** required to obtain coverage under this Permit if:

1. The small MS4 is operated by:

    a. A federal entity, including any department, agency, or instrumentality of the executive, legislative, and judicial branches of the Federal government of the United States.

    b. Federally recognized Indian Tribes located within Indian Country, including all trust or restricted lands within the 1873 Survey Area of the Puyallup Tribe of Indians.

    c. The Washington State Department of Transportation.

Or

2. The portions of the small MS4 located within the census defined urbanized area(s) serve a total population of less than 1000 people and a, b, and c, below ***all*** apply:

   a. The small MS4 is not contributing substantially to the pollutant loadings of a physically interconnected MS4 that is regulated by the NPDES stormwater program.

   b. The discharge of pollutants from the small MS4 has not been identified as a cause of impairment of any water body to which the MS4 discharges.

   c. In areas where an EPA approved TMDL has been completed, stormwater controls on the MS4 have not been identified as necessary to meet wasteload allocations established in the TMDL that address the pollutant(s) of concern.

   In determining the total population served, both resident and commuter populations shall be included. For example:

   - For publicly operated school complexes including universities and colleges, the total population served would include the sum of the average annual student enrollment plus staff.
   - For flood control, diking, and drainage districts, the total population served would include residential population and any non-residents regularly employed in the areas served by the small MS4.

D. Obtaining coverage under this Permit.

All operators of regulated small MS4s are required to apply for and obtain coverage in accordance with this Section, unless waived or exempted, in accordance with Section S1.C.

1. Unless otherwise noted, the term "Permittee" shall include a city, town, or county Permittee, New Permittee, Co-Permittee, Secondary Permittee, and New Secondary Permittee as defined below:

   a. "Permittee" is a city, town, or county owning or operating a regulated small MS4 applying and receiving a permit as a single entity.

   b. "New Permittee" is a city, town, or county that is subject to the *Western Washington Phase II Municipal Stormwater General Permit* and was not subject to the Permit prior to August 1, 2019.

   c. "Co-Permittee" is any owner or operator of a regulated small MS4 that is applying in a cooperative agreement with at least one other applicant for coverage under this Permit. Co-Permittees own or operate a regulated small MS4 located within or in proximity to another regulated small MS4.

   d. A "Secondary Permittee" is an operator of a regulated small MS4 that is not a city, town, or county. Secondary Permittees include special purpose districts and other MS4s that meet the criteria for a regulated small MS4 in S1.B, above.

   e. "New Secondary Permittee" is a Secondary Permittee that is covered under a Municipal Stormwater General Permit and was not covered by the Permit prior to August 1, 2019.

2. Operators of regulated small MS4s have submitted, or shall submit, to Ecology either a Notice of Intent (NOI) for Coverage under National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater General Permit or a Duty to Reapply - NOI provided on Ecology's website.

   a. The following Permittees and Secondary Permittees submitted a *Duty to Reapply - NOI* to Ecology prior to February 1, 2018:

      i. **Cities and towns:** Aberdeen, Algona, Anacortes, Arlington, Auburn, Bainbridge Island, Battle Ground, Bellevue, Bellingham, Black Diamond, Bonney Lake, Bothell, Bremerton, Brier, Buckley, Burien, Burlington, Camas, Centralia, Clyde Hill, Covington, Des Moines, DuPont, Duvall, Edgewood, Edmonds, Enumclaw, Everett, Federal Way, Ferndale, Fife, Fircrest, Gig Harbor, Granite Falls, Issaquah, Kelso, Kenmore, Kent, Kirkland, Lacey, Lake Forest Park, Lake Stevens, Lakewood, Longview, Lynden, Lynnwood, Maple Valley, Marysville, Medina, Mercer Island, Mill Creek, Milton, Monroe, Mountlake Terrace, Mount Vernon, Mukilteo, Newcastle, Normandy Park, Oak Harbor, Olympia, Orting, Pacific, Port Orchard, Port Angeles, Poulsbo, Puyallup, Redmond, Renton, Sammamish, SeaTac, Sedro-Woolley, Shoreline, Snohomish, Snoqualmie, Steilacoom, Sumner, Tukwila, Tumwater, University Place, Vancouver, Washougal, and Woodinville.

      ii. **Counties:** Cowlitz, Kitsap, Thurston, Skagit, and Whatcom.

      iii. **Secondary Permittees:** Bainbridge Island School District #303, Bellingham School District, Bellingham Technical College, Cascadia College, Central Kitsap School District, Centralia College, Clark College, Consolidated Diking Improvement District #1 of Cowlitz County, Edmonds Community College, Evergreen College, Highline Community College, Kelso School District, Kent School District, Longview School District, Lower Columbia College, Port of Anacortes, Port of Bellingham, Port of Olympia, Port of Skagit County, Port of Vancouver, Skagit County Drainage District #19, Skagit Valley College, University of Washington Bothell, Washington State University Vancouver, Washington State Department of Enterprise Services (Capitol Campus), Washington Department of Corrections, Western Washington University, and Whatcom Community College.

   b. Operators of regulated small MS4s have submitted or shall submit to Ecology a "Notice of Intent (NOI) for Coverage under National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater General Permit" provided on Ecology's website before the effective date of this Permit, with the following exceptions:

      i. Operators of regulated small MS4s located in the City of Shelton, and the Clallam County urban growth area surrounding Port Angeles shall submit a NOI or application to Ecology no later than 30 days after the effective date of this Permit.

      ii. Operators of regulated small MS4s listed in S1.D.2.a do not need to submit a new application to be covered under this Permit.

   c. For operators of regulated small MS4s listed in S1.D.2.a, coverage under this Permit is automatic and begins on the effective date of this Permit, unless the operator chooses to opt out of this General Permit. Any operator of a regulated small MS4 that

is opting out of this Permit shall submit an application for an individual MS4 permit in accordance with 40 CFR 122.33(b)(2)(ii) no later than the effective date of this Permit.

d. Operators of regulated small MS4s which want to be covered under this Permit as Co-Permittees shall each submit a NOI to Ecology.

e. Operators of regulated small MS4s which are relying on another entity to satisfy all of their permit obligations shall submit a NOI to Ecology.

f. Operators of small MS4s designated by Ecology pursuant to S1.B.3 of this Permit shall submit a NOI to Ecology within 120 days of receiving notification from Ecology that permit coverage is required.

3. Application Requirements

a. For NOIs submitted after the issuance date of this Permit, the applicant shall include a certification that the public notification requirements of WAC 173-226-130(5) have been satisfied. Ecology will notify applicants in writing of their status concerning coverage under this Permit within 90 days of Ecology's receipt of a complete NOI.

b. Each Permittee applying as a Co-Permittee shall submit a NOI provided on Ecology's website. The NOI shall clearly identify the areas of the MS4 for which the Co-Permittee is responsible.

c. Permittees relying on another entity or entities to satisfy one or more of their permit obligations shall notify Ecology in writing. The notification shall include a summary of the permit obligations that will be carried out by another entity. The summary shall identify the other entity or entities and shall be signed by the other entity or entities. During the term of the Permit, Permittees may terminate or amend shared responsibility arrangements by notifying Ecology, provided this does not alter implementation deadlines.

d. Secondary Permittees required to obtain coverage under this Permit, and the *Phase I Municipal Stormwater Permit* or the *Eastern Washington Phase II Municipal Stormwater Permit,* may obtain coverage by submitting a single NOI.

S2. AUTHORIZED DISCHARGES

A. This Permit authorizes the discharge of stormwater to surface waters and to groundwaters of the State from MS4s owned or operated by each Permittee covered under this Permit, in the geographic area covered pursuant to S1.A. These discharges are subject to the following limitations:

1. Discharges to groundwaters of the State through facilities regulated under the Underground Injection Control (UIC) program, Chapter 173-218 WAC, are not authorized under this Permit.

2. Discharges to groundwaters not subject to regulation under the federal Clean Water Act are authorized in this Permit only under state authorities, Chapter 90.48 RCW, the Water Pollution Control Act.

B. This Permit authorizes discharges of non-stormwater flows to surface waters and to groundwaters of the State from MS4s owned or operated by each Permittee covered under this Permit, in the geographic area covered pursuant to S1.A, only under one or more of the following conditions:

1. The discharge is authorized by a separate NPDES or State Waste Discharge permit.
2. The discharge is from emergency firefighting activities.
3. The discharge is from another illicit or non-stormwater discharge that is managed by the Permittee as provided in Special Condition S5.C.5 or S6.D.3.

These discharges are also subject to the limitations in S2.A.1 and S2.A.2, above.

C. This Permit does not relieve entities that cause illicit discharges, including spills of oil or hazardous substances, from responsibilities and liabilities under state and federal laws and regulations pertaining to those discharges.

D. Discharges from MS4s constructed after the effective date of this Permit shall receive all applicable state and local permits and use authorizations, including compliance with Chapter 43.21C RCW (the State Environmental Policy Act).

E. This Permit does not authorize discharges of stormwater to waters within Indian Country as defined in 18 U.S.C. §1151, or to waters subject to water quality standards of Indian Tribes, including portions of the Puyallup River and other waters on trust or restricted lands within the 1873 Survey Area of the Puyallup Tribe of Indians Reservation, except where authority has been specifically delegated to Ecology by the U.S. Environmental Protection Agency. The exclusion of such discharges from this Permit does not waive any rights the State may have with respect to the regulation of the discharges.

S3. RESPONSIBILITIES OF PERMITTEES

A. Each Permittee covered under this Permit is responsible for compliance with the terms of this Permit for the regulated small MS4s that they own or operate. Compliance with (1) or (2) below is required as applicable to each Permittee, whether the Permittee has applied for coverage as a Permittee, Co-Permittee, or Secondary Permittee.

1. All city, town, and county Permittees are required to comply with all conditions of this Permit, including any appendices referenced therein, except for Special Condition S6 – *Stormwater Management Program for Secondary Permittees*.
2. All Secondary Permittees are required to comply with all conditions of this Permit, including any appendices referenced therein, except for Section S5 – *Stormwater Management Program for Cities, Towns, and Counties* and S8 – *Monitoring and Assessment.*

B. Permittees may rely on another entity to satisfy one or more of the requirements of this Permit. Permittees that are relying on another entity to satisfy one or more of their permit obligations remain responsible for permit compliance if the other entity fails to implement permit conditions. Permittees may rely on another entity provided all the requirements of 40 CFR 122.35(a) are satisfied, including but not limited to:

1. The other entity, in fact, implements the Permit requirements.

2. The other entity agrees to take on responsibility for implementation of the Permit requirement(s) as indicated on the NOI.

S4. COMPLIANCE WITH STANDARDS

A. In accordance with RCW 90.48.520, the discharge of toxicants to waters of the State of Washington which would violate any water quality standard, including toxicant standards, sediment criteria, and dilution zone criteria is prohibited. The required response to such discharges is defined in Section S4.F, below.

B. This Permit does not authorize a discharge which would be a violation of Washington State Surface Water Quality Standards (Chapter 173-201A WAC), Groundwater Quality Standards (Chapter 173-200 WAC), Sediment Management Standards (Chapter 173-204 WAC), or human health-based criteria in the National Toxics Rule (40 CFR 131.45). The required response to such discharges is defined in Section S4.F, below.

C. The Permittee shall reduce the discharge of pollutants to the Maximum Extent Practicable (MEP).

D. The Permittee shall use All Known, Available, and Reasonable methods of prevention, control and Treatment (AKART) to prevent and control pollution of waters of the State of Washington.

E. In order to meet the goals of the Clean Water Act, and comply with S4.A, S4.B, S4.C, and S4.D, each Permittee shall comply with all of the applicable requirements of this Permit as identified in S3 – *Responsibilities of Permittees*.

F. A Permittee remains in compliance with S4 despite any discharges prohibited by S4.A or S4.B, when the Permittee undertakes the following response toward long-term water quality improvement:

1. A Permittee shall notify Ecology in writing within 30 days of becoming aware, based on credible site-specific information that a discharge from the MS4 owned or operated by the Permittee is causing or contributing to a known or likely violation of Water Quality Standards in the receiving water. Written notification provided under this subsection shall, at a minimum, identify the source of the site-specific information, describe the nature and extent of the known or likely violation in the receiving water, and explain the reasons why the MS4 discharge is believed to be causing or contributing to the problem. For ongoing or continuing violations, a single written notification to Ecology will fulfill this requirement.

2. In the event that Ecology determines, based on a notification provided under S4.F.1 or through any other means, that a discharge from an MS4 owned or operated by the Permittee is causing or contributing to a violation of Water Quality Standards in a receiving water, Ecology will notify the Permittee in writing that an adaptive management response, outlined in S4.F.3, below, is required, unless:

a. Ecology also determines that the violation of Water Quality Standards is already being addressed by a Total Maximum Daily Load (TMDL) or other enforceable water quality cleanup plan; or

b. Ecology concludes the MS4 contribution to the violation will be eliminated through implementation of other permit requirements.

3. Adaptive Management Response

a. Within 60 days of receiving a notification under S4.F.2, or by an alternative date established by Ecology, the Permittee shall review its Stormwater Management Program (SWMP) and submit a report to Ecology. The report shall include:

i. A description of the operational and/or structural BMPs that are currently being implemented to prevent or reduce any pollutants that are causing or contributing to the violation of Water Quality Standards, including a qualitative assessment of the effectiveness of each Best Management Practice (BMP).

ii. A description of potential additional operational and/or structural BMPs that will or may be implemented in order to apply AKART on a site-specific basis to prevent or reduce any pollutants that are causing or contributing to the violation of Water Quality Standards.

iii. A description of the potential monitoring or other assessment and evaluation efforts that will or may be implemented to monitor, assess, or evaluate the effectiveness of the additional BMPs.

iv. A schedule for implementing the additional BMPs including, as appropriate: funding, training, purchasing, construction, monitoring, and other assessment and evaluation components of implementation.

b. Ecology will, in writing, acknowledge receipt of the report within a reasonable time and notify the Permittee when it expects to complete its review of the report. Ecology will either approve the additional BMPs and implementation schedule or require the Permittee to modify the report as needed to meet AKART on a site-specific basis. If modifications are required, Ecology will specify a reasonable time frame in which the Permittee shall submit and Ecology will review the revised report.

c. The Permittee shall implement the additional BMPs, pursuant to the schedule approved by Ecology, beginning immediately upon receipt of written notification of approval.

d. The Permittee shall include with each subsequent annual report a summary of the status of implementation and the results of any monitoring, assessment or evaluation efforts conducted during the reporting period. If, based on the information provided under this subsection, Ecology determines that modification of the BMPs or implementation schedule is necessary to meet AKART on a site-specific basis, the Permittee shall make such modifications as Ecology directs. In the event there are ongoing violations of water quality standards despite the implementation of the BMP approach of this Section, the Permittee may be subject to compliance schedules to

eliminate the violation under WAC 173-201A-510(4) and WAC 173-226-180 or other enforcement orders as Ecology deems appropriate during the term of this Permit.

e. A TMDL or other enforceable water quality cleanup plan that has been approved and is being implemented to address the MS4's contribution to the Water Quality Standards violation supersedes and terminates the S4.F.3 implementation plan.

f. Provided the Permittee is implementing the approved adaptive management response under this Section, the Permittee remains in compliance with Special Condition S4, despite any on-going violations of Water Quality Standards identified under S4.A or B, above.

g. The adaptive management process provided under Section S4.F is not intended to create a shield for the Permittee from any liability it may face under 42 U.S.C. 9601 *et seq*. or Chapter 70.105D RCW.

G. Ecology may modify or revoke and reissue this General Permit in accordance with G14 – *General Permit Modification and Revocation*, if Ecology becomes aware of additional control measures, management practices, or other actions beyond what is required in this Permit that are necessary to:

1. Reduce the discharge of pollutants to the MEP,

2. Comply with the state AKART requirements, or

3. Control the discharge of toxicants to waters of the State of Washington.

S5. STORMWATER MANAGEMENT PROGRAM FOR CITIES, TOWNS, AND COUNTIES

A. Each Permittee shall develop and implement a Stormwater Management Program (SWMP). A SWMP is a set of actions and activities comprising the components listed in S5 and any additional actions necessary, to meet the requirements of applicable TMDLs pursuant to S7 – *Compliance with Total Maximum Daily Load Requirements* and S8 – *Monitoring and Assessment*. This Section applies to all cities, towns, and counties covered under this Permit (termed as "Permittee," including cities, towns, and counties that are Co-Permittees).

New Permittees subject to this Permit, as described in S1.D.1.b, shall fully meet the requirements in S5 as modified in footnotes below, or as specified in an alternate schedule as a condition of coverage by Ecology. Permittees obtaining coverage after the issuance date of this Permit shall fully meet the requirements in S5 as specified in an alternate schedule as a condition of coverage by Ecology.

1. At a minimum, the Permittee's SWMP shall be implemented throughout the geographic area subject to this Permit as described in S1.A.[1]

2. Each Permittee shall prepare written documentation of the SWMP, called the SWMP Plan. The SWMP Plan shall be organized according to the program components in S5.C or a

[1] New Permittees shall fully develop and implement the SWMP in accordance with the schedules contained in this Section no later than February 2, 2024.

format approved by Ecology, and shall be updated at least annually for submittal with the Permittee's annual reports to Ecology (see S9 – *Reporting Requirements*). The SWMP Plan shall be written to inform the public of the planned SWMP activities for the upcoming calendar year, and shall include a description of:

a. Planned activities for each of the program components included in S5.C.

b. Any additional planned actions to meet the requirements of applicable TMDLs pursuant to S7– *Compliance with Total Maximum Daily Load Requirements*.

c. Any additional planned actions to meet the requirements of S8 – *Monitoring and Assessment.*

3. The SWMP shall include an ongoing program for gathering, tracking, maintaining, and using information to evaluate SWMP development, implementation, and permit compliance and to set priorities.

a. Each Permittee shall track the cost or estimated cost of development and implementation of each component of the SWMP.[2] This information shall be provided to Ecology upon request.

b. Each Permittee shall track the number of inspections, follow-up actions as a result of inspections, official enforcement actions and types of public education activities as required by the respective program component. This information shall be included in the annual report.

4. Permittees shall continue implementation of existing stormwater management programs until they begin implementation of the updated stormwater management program in accordance with the terms of this Permit, including implementation schedules.

5. Coordination among Permittees

a. Coordination among entities covered under municipal stormwater NPDES permits may be necessary to comply with certain conditions of the SWMP. The SWMP shall include, when needed, coordination mechanisms among entities covered under a municipal stormwater NPDES permit to encourage coordinated stormwater-related policies, programs and projects within adjoining or shared areas, including:

i. Coordination mechanisms clarifying roles and responsibilities for the control of pollutants between physically interconnected MS4s covered by a municipal stormwater permit.

ii. Coordinating stormwater management activities for shared water bodies, or watersheds among Permittees to avoid conflicting plans, policies, and regulations.

b. The SWMP shall include coordination mechanisms among departments within each jurisdiction to eliminate barriers to compliance with the terms of this Permit. Permittees shall include a written description of internal coordination mechanisms in the Annual Report due no later than March 31, 2021.

[2] New Permittees shall begin implementing the requirements of S5.A.3.a, no later than August 1, 2021.

B. The SWMP shall be designed to reduce the discharge of pollutants from regulated small MS4s to the MEP, meet state AKART requirements, and protect water quality.

C. The SWMP shall include the components listed below. To the extent allowable under state or federal law, all components are mandatory for city, town, or county Permittees covered under this Permit.

1. Stormwater planning

Each Permittee shall implement a Stormwater Planning program to inform and assist in the development of policies and strategies as water quality management tools to protect receiving waters.

The minimum performance measures are:

a. By August 1, 2020, each Permittee shall convene an inter-disciplinary team to inform and assist in the development, progress, and influence of this program.

b. Coordination with long-range plan updates.

i. Each Permittee shall describe how stormwater management needs and protection/improvement of receiving water health are (or are not) informing the planning update processes and influencing policies and implementation strategies in their jurisdiction. The report shall describe the water quality and watershed protection policies, strategies, codes, and other measures intended to protect and improve local receiving water health through planning, or taking into account stormwater management needs or limitations.

(a) On or before March 31, 2021, the Permittee shall respond to the series of Stormwater Planning Annual Report questions to describe how anticipated stormwater impacts on water quality were addressed, if at all, during the 2013-2019 permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation.

(b) On or before January 1, 2023, the Permittee shall submit a report responding to the same questions included in (a), above, to describe how water quality is being addressed, if at all, during this permit term in updates to the Comprehensive Plan (or equivalent) and in other locally initiated or state-mandated, long-range land use plans that are used to accommodate growth or transportation.

c. Low impact development code-related requirements.

i. Permittees shall continue to require LID Principles and LID BMPs when updating, revising, and developing new local development-related codes, rules, standards, or other enforceable documents, as needed.

The intent shall be to make LID the preferred and commonly-used approach to site development. The local development-related codes, rules, standards, or other enforceable documents shall be designed to minimize impervious surfaces, native vegetation loss, and stormwater runoff in all types of development situations, where feasible.

(a) Annually, each Permittee shall assess and document any newly identified administrative or regulatory barriers to implementation of LID Principles or LID BMPs since local codes were updated in accordance with the 2013 Permit, and the measures developed to address the barriers. If applicable, the report shall describe mechanisms adopted to encourage or require implementation of LID principles or LID BMPs.

ii. By December 31, 2023, New Permittees shall review, revise, and make effective their local development-related codes, rules, standards, or other enforceable documents to incorporate and require LID principles and LID BMPs. New Permittees shall conduct a similar review and revision process, and consider the range of issues, outlined in the following document: Integrating LID into Local Codes: A Guidebook for Local Governments (Puget Sound Partnership, 2012).

New Permittees shall submit a summary of the results of the review and revision process with the annual report due no later than March 31, 2024. This summary shall be in the required format described in Appendix 5 and include, at a minimum, a list of the participants (job title, brief job description, and department represented), the codes, rules, standards, and other enforceable documents reviewed, and the revisions made to those documents which incorporate and require LID principles and LID BMPs. The summary shall include existing requirements for LID principles and LID BMPs in development-related codes. The summary must be organized as follows:

(a) Measures to minimize impervious surfaces.

(b) Measures to minimize loss of native vegetation.

(c) Other measures to minimize stormwater runoff.

d. Stormwater Management Action Planning[3] (SMAP). Permittees shall conduct a similar process and consider the range of issues outlined in the *Stormwater Management Action Planning Guidance* (Ecology, 2019; Publication 19-10-010). Permittees may rely on another jurisdiction to meet all or part of SMAP requirements at a watershed-scale, provided a SMAP is completed for at least one priority catchment located within the Permittee's jurisdiction.

i. *Receiving Water Assessment*. Permittees shall document and assess existing information related to their local receiving waters and contributing area conditions to identify which receiving waters are most likely to benefit from stormwater management planning.

By March 31, 2022, Permittees shall submit a watershed inventory and include a brief description of the relative conditions of the receiving waters and the contributing areas. The watershed inventory shall be submitted as a table with each receiving water name, its total watershed area, the percent of the total watershed area that is in the Permittee's jurisdiction, and the findings of the stormwater management influence assessment for each basin. Indicate which

[3] New Permittees are exempt from S5.C.1.d. for this permit term.

receiving waters will be included in the S5.C.1.d.ii prioritization process. Include a map of the delineated basins with references to the watershed inventory table.

(a) Identify which basins are expected to have a relatively low Stormwater Management Influence for SMAP. See the guidance document for definition and description of this assessment.

Basins having relatively low expected Stormwater Management Influence for SMAP do not need to be included in S5.C.1.d.ii-iii.

ii. *Receiving Water Prioritization*. Informed by the assessment of receiving water conditions in (i), above, and other local and regional information, Permittees shall develop and implement a prioritization method and process to determine which receiving waters will receive the most benefit from implementation of stormwater facility retrofits, tailored implementation of SWMP actions, and other land/development management actions (different than the existing new and redevelopment requirements). The retrofits and actions shall be designed to: 1) conserve, protect, or restore receiving waters through stormwater and land management strategies that act as water quality management tools, 2) reduce pollutant loading, and 3) address hydrologic impacts from existing development as well as planned for and expected future buildout conditions.

No later than June 30, 2022, document the prioritized and ranked list of receiving waters.

(a) The Permittee shall document the priority ranking process used to identify high priority receiving waters. The Permittee may reference existing local watershed management plan(s) as source(s) of information or rationale for the prioritization.

(b) The ranking process shall include the identification of high priority catchment area(s) for focus of the Stormwater Management Action Plan (SMAP) in (iii), below.

iii. Stormwater Management Action Plan (SMAP). No later than March 31, 2023, Permittees shall develop a SMAP for at least one high priority catchment area from (ii), above, that identifies all of the following:

(a) A description of the stormwater facility retrofits needed for the area, including the BMP types and preferred locations.

(b) Land management/development strategies and/or actions identified for water quality management.

(c) Targeted, enhanced, or customized implementation of stormwater management actions related to permit sections within S5, including:

- IDDE field screening,
- Prioritization of Source Control inspections,
- O&M inspections or enhanced maintenance, or
- Public Education and Outreach behavior change programs.

Identified actions shall support other specifically identified stormwater management strategies and actions for the basin overall, or for the catchment area in particular.

(d) If applicable, identification of changes needed to local long-range plans, to address SMAP priorities.

(e) A proposed implementation schedule and budget sources for:

- Short-term actions (*i.e.*, actions to be accomplished within six years), and
- Long-term actions (*i.e.*, actions to be accomplished within seven to 20 years).

(f) A process and schedule to provide future assessment and feedback to improve the planning process and implementation of procedures or projects.

2. Public Education and Outreach

The SWMP shall include an education and outreach program designed to:

- Build general awareness about methods to address and reduce impacts from stormwater runoff.
- Effect behavior change to reduce or eliminate behaviors and practices that cause or contribute to adverse stormwater impacts.
- Create stewardship opportunities that encourages community engagement in addressing the impacts from stormwater runoff.

Permittees may choose to meet these requirements individually or as a member of a regional group. Regional collaboration on general awareness or behavior change programs, or both, includes Permittees developing a consistent message, determining best methods for communicating the message, and when appropriate, creating strategies to effect behavior change. If a Permittee chooses to adopt one or more elements of a regional program, the Permittee should participate in the regional group and shall implement the adopted element(s) of the regional program in the local jurisdiction.

The minimum performance measures are:

a. Each Permittee shall implement an education and outreach program for the area served by the MS4. The program design shall be based on local water quality information and target audience characteristics to identify high priority target audiences, subject areas, and/or BMPs. Based on the target audience's demographic, the Permittee shall consider delivering its selected messages in language(s) other than English, as appropriate to the target audience. [4]

i. ***General awareness***. To build general awareness, Permittees shall annually select at a minimum one target audience and one subject area from either (a) or (b):

(a) *Target audiences:* General public (including overburdened communities, or school age children) or businesses (including home-based, or mobile businesses). Subject areas:

[4] New Permittees shall begin implementing the requirements of S5.C.2 no later than August 1, 2021.

- General impacts of stormwater on surface waters, including impacts from impervious surfaces.
- Low impact development (LID) principles and LID BMPs.

(b) *Target audiences:* Engineers, contractors, developers, or land use planners. Subject areas:

- Technical standards for stormwater site and erosion control plans.
- LID principles and LID BMPs.
- Stormwater treatment and flow control BMPs/facilities

(c) Permittees shall provide subject area information to the target audience on an ongoing or strategic schedule.

ii. ***Behavior change***. To affect behavior change, Permittees shall select, at a minimum, one target audience and one BMP.

(a) *Target Audiences:* Residents, landscapers, property managers/owners, developers, school age children, or businesses (including home-based or mobile businesses).

BMPs:

- Use and storage of: pesticides, fertilizers, and/or other household chemicals.
- Use and storage of: automotive chemicals, hazardous cleaning supplies, carwash soaps, and/or other hazardous materials.
- Prevention of illicit discharges.
- Yard care techniques protective of water quality.
- Carpet cleaning.
- Repair and maintenance BMPs for: vehicles, equipment, and/or home/buildings.
- Pet waste management and disposal.
- LID Principles and LID BMPs.
- Stormwater facility maintenance, including LID facilities.
- Dumpster and trash compactor maintenance.
- Litter and debris prevention.
- Sediment and erosion control.
- (Audience specific) Source control BMPs (refer to S5.C.8).
- (Audience specific) Locally-important, municipal stormwater-related subject area.

(b) No later than July 1, 2020, each Permittee shall conduct a new evaluation of the effectiveness of an ongoing behavior change campaign (required under S5.C.1.a.ii and S5.C.1.c of the 2013 Permit). Permittees shall document lessons learned and recommendations for which option to select from S5.C.2.a.ii.(c).

Permittees that select option S5.C.2.a.ii.(c)3, below, may forgo this evaluation if it will not add value to the overall behavior change program.

(c) Based on the recommendation from S5.C.2.a.ii.(b), by February 1, 2021, each Permittee shall follow social marketing practices and methods, similar to community-based social marketing, and develop a campaign that is tailored to the community, including development of a program evaluation plan. Each Permittee shall: [5]

1. Develop a strategy and schedule to more effectively implement the existing campaign; or
2. Develop a strategy and schedule to expand the existing campaign to a new target audience or BMPs; or
3. Develop a strategy and schedule for a new target audience and BMP behavior change campaign.

(d) No later than April 1, 2021, begin to implement the strategy developed in S5.C.2.a.ii.(c).[6]

(e) No later than March 31, 2024, evaluate and report on:

1. The changes in understanding and adoption of targeted behaviors resulting from the implementation of the strategy; and
2. Any planned or recommended changes to the campaign in order to be more effective; describe the strategies and process to achieve the results.

(f) Permittees shall use results of the evaluation to continue to direct effective methods and implementation of the ongoing behavior change program.

iii. Stewardship. Each Permittee shall provide and advertise stewardship opportunities and/or partner with existing organizations (including non-permittees) to encourage residents to participate in activities or events planned and organized within the community, such as: stream teams, storm drain marking, volunteer monitoring, riparian plantings, and education activities.

3. Public Involvement and Participation

Permittees shall provide ongoing opportunities for public involvement and participation through advisory councils, public hearings, watershed committees, participation in developing rate-structures or other similar activities. Each Permittee shall comply with applicable state and local public notice requirements when developing elements of the SWMP and SMAP.

The minimum performance measures are:

a. Permittees shall create opportunities for the public, including overburdened communities, to participate in the decision-making processes involving the development, implementation and update of the Permittee's SMAP and SWMP.[7]

[5] No later than August 1, 2021, new Permittees shall follow social marketing practices and methods, similar to Community-Based Social Marketing, to develop a behavior change program that is tailored to the community.

[6] No later than October 1, 2021, New Permittees shall begin to implement the strategy developed in S5.C.2.a.ii.(c).

[7] New Permittees shall develop and begin to implement requirements according to S5.C.3.a no later than August 1, 2020. New Permittees are exempt from SMAP this permit term.

b. Each Permittee shall post on their website their SWMP Plan and the annual report, required under S9.A, no later than May 31 each year. All other submittals shall be available to the public upon request. To comply with the posting requirement, a Permittee that does not maintain a website may submit the updated SWMP in electronic format to Ecology for posting on Ecology's website.

4. MS4 Mapping and Documentation

The SWMP shall include an ongoing program for mapping and documenting the MS4.[8]

The minimum performance measures are:

a. *Ongoing Mapping*: Each Permittee shall maintain mapping data for the features listed below:

i. Known MS4 outfalls and known MS4 discharge points.

ii. Receiving waters, other than groundwater.

iii. Stormwater treatment and flow control BMPs/facilities owned or operated by the Permittee.

iv. Geographic areas served by the Permittee's MS4 that do not discharge stormwater to surface waters.

v. Tributary conveyances to all known outfalls and discharge points with a 24 inch nominal diameter or larger, or an equivalent cross-sectional area for non-pipe systems. The following features or attributes (or both) shall be mapped:

(a) Tributary conveyance type, material, and size where known.

(b) Associated drainage areas.

(c) Land use.

vi. Connections between the MS4 owned or operated by the Permittee and other municipalities or public entities.

vii. All connections to the MS4 authorized or allowed by the Permittee after February 16, 2007. [9,10]

b. *New Mapping*: Each Permittee shall:

i. No later than January 1, 2020, begin to collect size and material for all known MS4 outfalls during normal course of business (e.g. during field screening, inspection, or maintenance) and update records.

ii. No later than August 1, 2023, complete mapping of all known connections from the MS4 to a privately owned stormwater system.

[8] New Permittees shall meet the requirements to map the MS4 according to S5.C.4. no later than February 2, 2024, except where otherwise noted in this Section.

[9] New Permittees shall meet the requirements of S5.C.4.a.vii after August 1, 2019, for all connections to the MS4 authorized after August 1, 2019.

[10] Permittees do not need to map the following residential connections: individual driveways, sump pumps, or roof downspouts.

c. No later than August 1, 2021, the required format for mapping is electronic (e.g. Geographic Information System, CAD drawings, or other software that can map and store points, lines, polygons, and associated attributes), with fully described mapping standards.

d. To the extent consistent with national security laws and directives, each Permittee shall make available to Ecology, upon request, available maps depicting the information required in S5.C.4.a through c, above.

e. Upon request, and to the extent appropriate, Permittees shall provide mapping information to federally recognized Indian Tribes, municipalities, and other Permittees. This Permit does not preclude Permittees from recovering reasonable costs associated with fulfilling mapping information requests by federally recognized Indian Tribes, municipalities, and other Permittees.

5. Illicit Discharge Detection and Elimination

The SWMP shall include an ongoing program designed to prevent, detect, characterize, trace, and eliminate illicit connections and illicit discharges into the MS4.[11]

The minimum performance measures are:

a. The program shall include procedures for reporting and correcting or removing illicit connections, spills and other illicit discharges when they are suspected or identified. The program shall also include procedures for addressing pollutants entering the MS4 from an interconnected, adjoining MS4.

Illicit connections and illicit discharges must be identified through, but not limited to: field screening, inspections, complaints/reports, construction inspections, maintenance inspections, source control inspections, and/or monitoring information, as appropriate.

b. Permittees shall inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.

c. Each Permittee shall implement an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges into the Permittee's MS4 to the maximum extent allowable under state and federal law.

i. Allowable Discharges: The regulatory mechanism does **not** need to prohibit the following categories of non-stormwater discharges:

(a) Diverted stream flows

(b) Rising groundwaters

(c) Uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(b)(20))

(d) Uncontaminated pumped groundwater

(e) Foundation drains

[11] New Permittees shall meet the requirements of S5.C.5 no later than August 1, 2021 except where otherwise noted in this Section.

(f) Air conditioning condensation

(g) Irrigation water from agricultural sources that is commingled with urban stormwater

(h) Springs

(i) Uncontaminated water from crawl space pumps

(j) Footing drains

(k) Flows from riparian habitats and wetlands

(l) Non-stormwater discharges authorized by another NPDES or state waste discharge permit

(m) Discharges from emergency firefighting activities in accordance with S2 Authorized Discharges

ii. Conditionally Allowable Discharges: The regulatory mechanism may allow the following categories of non-stormwater discharges only if the stated conditions are met:

(a) Discharges from potable water sources, including but not limited to water line flushing, hyperchlorinated water line flushing, fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted, if necessary, and volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4.

(b) Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities and water conservation efforts.

(c) Dechlorinated swimming pool, spa and hot tub discharges. The discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted and reoxygenized if necessary, volumetrically and velocity controlled to prevent re-suspension of sediments in the MS4. Discharges shall be thermally controlled to prevent an increase in temperature of the receiving water. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.

(d) Street and sidewalk wash water, water used to control dust, and routine external building washdown that does not use detergents. The Permittee shall reduce these discharges through, at a minimum, public education activities and/or water conservation efforts. To avoid washing pollutants into the MS4, Permittees shall minimize the amount of street wash and dust control water used.

(e) Other non-stormwater discharges. The discharges shall be in compliance with the requirements of a pollution prevention plan reviewed by the Permittee, which addresses control of such discharges.

iii. The Permittee shall further address any category of discharges in (i) or (ii), above, if the discharges are identified as significant sources of pollutants to waters of the State.

iv. The ordinance or other regulatory mechanism shall include escalating enforcement procedures and actions.

d. Each Permittee shall implement an ongoing program designed to detect and identify non-stormwater discharges and illicit connections into the Permittee's MS4.[12] The program shall include the following components:

i. Procedures for conducting investigations of the Permittee's MS4, including field screening and methods for identifying potential sources. These procedures may also include source control inspections.

The Permittee shall implement a field screening methodology appropriate to the characteristics of the MS4 and water quality concerns. Screening for illicit connections may be conducted using *Illicit Connection and Illicit Discharge Field Screening and Source Tracing Guidance Manual* (Herrera Environmental Consultants, Inc.; May 2013), or another methodology of comparable or improved effectiveness. The Permittee shall document the field screening methodology in the Annual Report.

(a) All Permittees shall complete field screening for an average of 12% of the MS4 each year.[13] Permittees shall annually track total percentage of the MS4 screened beginning August 1, 2019.

ii. A publicly listed and publicized hotline or other telephone number for public reporting of spills and other illicit discharges.

iii. An ongoing training program for all municipal field staff, who, as part of their normal job responsibilities, might come into contact with or otherwise observe an illicit discharge and/or illicit connection to the MS4, on the identification of an illicit discharge and/or connection, and on the proper procedures for reporting and responding to the illicit discharge and/or connection. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of the trainings provided and the staff trained.[14]

e. Each Permittee shall implement an ongoing program designed to address illicit discharges, including spills and illicit connections, into the Permittee's MS4.[15] The program shall include:

i. Procedures for characterizing the nature of, and potential public or environmental threat posed by, any illicit discharges found by or reported to the Permittee. Procedures shall address the evaluation of whether the discharge must be immediately contained and steps to be taken for containment of the discharge.

[12] New Permittees shall fully implement the requirements of S5.C.5.d no later than August 1, 2023.

[13] New Permittees shall complete S5.C.5.d.i requirements for field screening covering at least 12% of the MS4 within the Permittee's coverage area no later than December 31, 2023, and on average 12% each year thereafter.

[14] New Permittees shall develop and begin implementing the ongoing training program described in S5.C.5.d.iii no later than February 2, 2021.

[15] New Permittees shall fully develop and implement the requirements of S5.C.5.e no later than August 1, 2023.

ii. Procedures for tracing the source of an illicit discharge; including visual inspections, and when necessary, opening manholes, using mobile cameras, collecting and analyzing water samples, and/or other detailed inspection procedures.

iii. Procedures for eliminating the discharge, including notification of appropriate authorities (including owners or operators of interconnected MS4s); notification of the property owner; technical assistance; follow-up inspections; and use of the compliance strategy developed pursuant to S5.C.5.c.iv, including escalating enforcement and legal actions if the discharge is not eliminated.

iv. Compliance with the provisions in (i), (ii), and (iii), above, shall be achieved by meeting the following timelines:

(a) Immediately respond to all illicit discharges, including spills, which are determined to constitute a threat to human health, welfare, or the environment, consistent with General Condition G3.

(b) Investigate (or refer to the appropriate agency with the authority to act) within 7 days, on average, any complaints, reports, or monitoring information that indicates a potential illicit discharge.

(c) Initiate an investigation within 21 days of any report or discovery of a suspected illicit connection to determine the source of the connection, the nature and volume of discharge through the connection, and the party responsible for the connection.

(d) Upon confirmation of an illicit connection, use the compliance strategy in a documented effort to eliminate the illicit connection within 6 months. All known illicit connections to the MS4 shall be eliminated.

f. Permittees shall train staff who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges, including spills, and illicit connections, to conduct these activities. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements or staffing. Permittees shall document and maintain records of the training provided and the staff trained.[16]

g. Recordkeeping: Each Permittee shall track and maintain records of the activities conducted to meet the requirements of this Section. In the Annual Report, each Permittee shall submit data for the illicit discharges, spills and illicit connections including those that were found by, reported to, or investigated by the Permittee during the previous calendar year. The data shall include the information specified in Appendix 12 and WQWebIDDE. Each Permittee may either use their own system or WQWebIDDE for recording this data. Final submittals shall follow the instructions, timelines, and format as described in Appendix 12.

[16] New Permittees shall meet the requirements of S5.C.5.f no later than February 2, 2021.

6. Controlling Runoff from New Development, Redevelopment, and Construction Sites

Each Permittee shall implement and enforce a program to reduce pollutants in stormwater runoff to a regulated small MS4 from new development, redevelopment and construction site activities. The program shall apply to private and public development, including transportation projects.[17]

The minimum performance measures are:

a. Implement an ordinance or other enforceable mechanism that addresses runoff from new development, redevelopment, and construction site projects.

Each Permittee shall adopt and make effective a local program, no later than June 30, 2022, that meets the requirements of S5.C.6.b(i) through (iii), below, and shall apply to all applications[18] submitted:

i. On or after July 1, 2022.

ii. Prior to January 1, 2017, that have not started construction[19] by January 1, 2022.[20]

iii. Prior to July 1, 2022, that have not started construction by July 1, 2027.

b. The ordinance or other enforceable mechanism shall include, at a minimum:

i. The Minimum Requirements, thresholds, and definitions in Appendix 1, or the 2013 Appendix 1 amended to include the changes identified in Appendix 10, or Phase I program approved by Ecology and amended to include Appendix 10, for new development, redevelopment, and construction sites. Adjustment and variance criteria equivalent to those in Appendix 1 shall be included. More stringent requirements may be used, and/or certain requirements may be tailored to local circumstances through the use of Ecology-approved basin plans or other similar water quality and quantity planning efforts. Such local requirements and thresholds shall provide equal protection of receiving waters and equal levels of pollutant control to those provided in Appendix 1.

ii. The local requirements shall include the following requirements, limitations, and criteria that, when used to implement the minimum requirements in Appendix 1 (or program approved by Ecology under the 2019 Phase I Permit) will protect

[17] For continuing Permittees, this means continuing to implement existing programs developed under previous permits until updates are made to meet the schedules defined. *New Permittees shall meet the requirements of S5.C.6 no later than December 31, 2022, except where otherwise specified in this Section.*

[18] In this context, "application" means, at a minimum a complete project description, site plan, and, if applicable, SEPA checklist. Permittees may establish additional elements of a completed application.

[19] In this context "started construction" means the site work associated with, and directly related to the approved project has begun. For example: grading the project site to final grade or utility installation. Simply clearing the project site does not constitute the start of construction. Permittees may establish additional requirements related to the start of construction.

[20] For Permittees in **Lewis and Cowlitz counties**: Prior to July 1, 2017, that have not started construction by June 30, 2022. **For Lynden, Snoqualmie**: Prior to January 1, 2018, that have not started construction by January 1, 2023. **For Aberdeen**: Prior to July 1, 2018, that have not started construction by June 30, 2023. **Shelton and Clallam County** shall adopt and make effective a local program that meets the requirements of S5.C.6.b(i) through (iii) no later than December 31, 2022. The local program shall apply to all applications submitted on or after January 1, 2023, and shall apply to applications submitted prior to January 1, 2023, which have not started construction by January 1, 2028.

water quality, reduce the discharge of pollutants to the MEP, and satisfy the State requirement under Chapter 90.48 RCW to apply AKART prior to discharge:

(a) Site planning requirements

(b) BMP selection criteria

(c) BMP design criteria

(d) BMP infeasibility criteria

(e) LID competing needs criteria

(f) BMP limitations

Permittees shall document how the criteria and requirements will protect water quality, reduce the discharge of pollutants to the MEP, and satisfy State AKART requirements.

Permittees who choose to use the requirements, limitations, and criteria, above, in the *Stormwater Management Manual for Western Washington*, or a Phase I program approved by Ecology, may cite this choice as their sole documentation to meet this requirement.

iii. The legal authority, through the approval process for new development and redevelopment, to inspect and enforce maintenance standards for private stormwater facilities approved under the provisions of this Section that discharge to the Permittee's MS4.

c. The program shall include a permitting process with site plan review, inspection and enforcement capability to meet the standards listed in (i) through (iv) below, for both private and public projects, using qualified personnel (as defined in *Definitions and Acronyms*). At a minimum, this program shall be applied to all sites that meet the minimum thresholds adopted pursuant to S5.C.6.b.i, above.

i. Review of all stormwater site plans for proposed development activities.

ii. Inspect, prior to clearing and construction, all permitted development sites that have a high potential for sediment transport as determined through plan review based on definitions and requirements in Appendix 7 – *Determining Construction Site Sediment Damage Potential*. As an alternative to evaluating each site according to Appendix 7, Permittees may choose to inspect all construction sites that meet the minimum thresholds adopted pursuant to S5.C.6.b.i, above.

iii. Inspect all permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. Enforce as necessary based on the inspection.

iv. Each Permittee shall manage maintenance activities to inspect all stormwater treatment and flow control BMPs/facilities, and catch basins, in new residential developments every six months, until 90% of the lots are constructed (or when construction has stopped and the site is fully stabilized), to identify maintenance needs and enforce compliance with maintenance standards as needed.

v. Inspect all permitted development sites upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent

stormwater facilities. Verify that a maintenance plan is completed and responsibility for maintenance is assigned for stormwater treatment and flow control BMPs/facilities. Enforce as necessary based on the inspection.

vi. Compliance with the inspection requirements in (ii) through (v), above, shall be determined by the presence and records of an established inspection program designed to inspect all sites. Compliance during this permit term shall be determined by achieving at least 80% of required inspections. The inspections may be combined with other inspections provided they are performed using qualified personnel.

vii. The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.

viii. An enforcement strategy shall be implemented to respond to issues of non-compliance.

d. The program shall make available, as applicable, the link to the electronic *Construction Stormwater General Permit* Notice of Intent (NOI) form for construction activity and, as applicable, a link to the electronic *Industrial Stormwater General Permit* NOI form for industrial activity to representatives of proposed new development and redevelopment. Permittees shall continue to enforce local ordinances controlling runoff from sites that are also covered by stormwater permits issued by Ecology.[21]

e. Each Permittee shall ensure that all staff whose primary job duties are implementing the program to control stormwater runoff from new development, redevelopment, and construction sites, including permitting, plan review, construction site inspections, and enforcement, are trained to conduct these activities. Follow-up training must be provided as needed to address changes in procedures, techniques or staffing. Permittees shall document and maintain records of the training provided and the staff trained.[22]

7. Operations and Maintenance

Each Permittee shall implement and document a program to regulate maintenance activities and to conduct maintenance activities by the Permittee to prevent or reduce stormwater impacts.[23]

The minimum performance measures are:

a. Each Permittee shall implement maintenance standards that are as protective, or more protective, of facility function than those specified in the *Stormwater Management Manual for Western Washington* or a Phase I program approved by Ecology. For facilities which do not have maintenance standards, the Permittee shall

[21] New Permittees shall meet the requirements of S5.C.6.d beginning no later than August 1, 2019.

[22] New Permittees shall meet the requirements of S5.C.6.e no later than December 31, 2022.

[23] New Permittees shall develop and implement the requirements of S5.C.7 no later than December 31, 2022 except where otherwise noted in this Section.

develop a maintenance standard. No later than June 30, 2022, Permittees shall update their maintenance standards as necessary to meet the requirements of this Section.

i. The purpose of the maintenance standard is to determine if maintenance is required. The maintenance standard is not a measure of the facility's required condition at all times between inspections. Exceeding the maintenance standard between inspections and/or maintenance is not a permit violation.

ii. Unless there are circumstances beyond the Permittee's control, when an inspection identifies an exceedance of the maintenance standard, maintenance shall be performed:

- Within 1 year for typical maintenance of facilities, except catch basins.
- Within 6 months for catch basins.
- Within 2 years for maintenance that requires capital construction of less than $25,000.

Circumstances beyond the Permittee's control include denial or delay of access by property owners, denial or delay of necessary permit approvals, and unexpected reallocations of maintenance staff to perform emergency work. For each exceedance of the required timeframe, the Permittee shall document the circumstances and how they were beyond their control.

b. Maintenance of stormwater facilities regulated by the Permittee

i. The program shall include provisions to verify adequate long-term O&M of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to S.5.C.6.c and shall be maintained in accordance with S5.C.7.a.

The provisions shall include**:**

(a) Implementation of an ordinance or other enforceable mechanism that:

- Clearly identifies the party responsible for maintenance in accordance with maintenance standards established under S5.C.7.a.
- Requires inspection of facilities in accordance with the requirements in (b), below.
- Establishes enforcement procedures.

(b) Annual inspections of all stormwater treatment and flow control BMPs/facilities that discharge to the MS4 and were permitted by the Permittee according to S5.C.6.c, including those permitted in accordance with requirements adopted pursuant to the 2007-2019 Ecology municipal stormwater permits, unless there are maintenance records to justify a different frequency.

Permittees may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and

maintenance experience and shall be certified in accordance with G19 – *Certification and Signature*.

ii. Compliance with the inspection requirements in (b), above, shall be determined by the presence and records of an established inspection program designed to inspect all facilities, and achieving at least 80% of required inspections.

iii. The program shall include a procedure for keeping records of inspections and enforcement actions by staff, including inspection reports, warning letters, notices of violations, and other enforcement records. Records of maintenance inspections and maintenance activities shall be maintained.

c. Maintenance of stormwater facilities owned or operated by the Permittee.

i. Each Permittee shall implement a program to annually inspect all municipally owned or operated stormwater treatment and flow control BMPs/facilities, and taking appropriate maintenance actions in accordance with the adopted maintenance standards.

Permittees may reduce the inspection frequency based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records, the Permittee may substitute written statements to document a specific less frequent inspection schedule. Written statements shall be based on actual inspection and maintenance experience and shall be certified in accordance with G19 – *Certification and Signature.*

ii. Each Permittee shall spot check potentially damaged stormwater treatment and flow control BMPs/facilities after major storm events (24 hour storm event with a 10 year or greater recurrence interval). If spot checks indicate widespread damage/maintenance needs, inspect all stormwater treatment and flow control BMPs/facilities that may be affected. Conduct repairs or take appropriate maintenance action in accordance with maintenance standards established above, based on the results of the inspections.

iii. Each Permittee shall inspect all catch basins and inlets owned or operated by the Permittee every two years.[24] Clean catch basins if the inspection indicates cleaning is needed to comply with maintenance standards established in the *Stormwater Management Manual for Western Washington*. Decant water shall be disposed of in accordance with Appendix 6 – *Street Waste Disposal*.

The following alternatives to the standard approach of inspecting all catch basins every two years may be applied to all or portions of the system:

(a) The catch basin inspection schedule of every two years may be changed as appropriate to meet the maintenance standards based on maintenance records of double the length of time of the proposed inspection frequency. In the absence of maintenance records for catch basins, the Permittee may substitute written statements to document a specific, less frequent inspection schedule. Written statements shall be based on actual inspection

[24] New Permittees shall inspect and, if needed, clean all catch basins and inlets owned or operated by the Permittee in accordance with the requirements of S5.C.7.c once during the permit term, to be completed no later than February 2, 2024.

and maintenance experiences and shall be certified in accordance with G19 – *Certification and Signature*.

(b) Inspections every two years may be conducted on a "circuit basis" whereby 25% of catch basins and inlets within each circuit are inspected to identify maintenance needs. Include an inspection of the catch basin immediately upstream of any MS4 outfall, discharge point, or connections to public or private storm systems, if applicable. Clean all catch basins within a given circuit for which the inspection indicates cleaning is needed to comply with maintenance standards established under S5.C.7.a, above.

(c) The Permittee may clean all pipes, ditches, and catch basins and inlets within a circuit once during the permit term. Circuits selected for this alternative must drain to a single point.

iv. Compliance with the inspection requirements in S5.C.7.c.i-iii, above, shall be determined by the presence of an established inspection program achieving at least 95% of required inspections.

d. Implement practices, policies, and procedures to reduce stormwater impacts associated with runoff from all lands owned or maintained by the Permittee, and road maintenance activities under the functional control of the Permittee. No later than December 31, 2022, document the practices, policies, and procedures. Lands owned or maintained by the Permittee include, but are not limited to: streets, parking lots, roads, highways, buildings, parks, open space, road right-of-ways, maintenance yards, and stormwater treatment and flow control BMPs/facilities.

The following activities shall be addressed**:**

i. Pipe cleaning

ii. Cleaning of culverts that convey stormwater in ditch systems

iii. Ditch maintenance

iv. Street cleaning

v. Road repair and resurfacing, including pavement grinding

vi. Snow and ice control

vii. Utility installation

viii. Pavement striping maintenance

ix. Maintaining roadside areas, including vegetation management

x. Dust control

xi. Application of fertilizers, pesticides, and herbicides according to the instructions for their use, including reducing nutrients and pesticides using alternatives that minimize environmental impacts

xii. Sediment and erosion control

xiii. Landscape maintenance and vegetation disposal

xiv. Trash and pet waste management

xv. Building exterior cleaning and maintenance

e. Implement an ongoing training program for employees of the Permittee whose primary construction, operations, or maintenance job functions may impact stormwater quality. The training program shall address the importance of protecting water quality, operation and maintenance standards, inspection procedures, relevant SWPPPs, selecting appropriate BMPs, ways to perform their job activities to prevent or minimize impacts to water quality, and procedures for reporting water quality concerns. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staffing. Permittees shall document and maintain records of training provided. The staff training records to be kept include dates, activities or course descriptions, and names and positions of staff in attendance.

f. Implement a Stormwater Pollution Prevention Plan (SWPPP) for all heavy equipment maintenance or storage yards, and material storage facilities owned or operated by the Permittee in areas subject to this Permit that are not required to have coverage under the *Industrial Stormwater General Permit* or another NPDES permit that authorizes stormwater discharges associated with the activity. As necessary, update SWPPPs no later than December 31, 2022, to include the following information. At a minimum, the SWPPP shall include:

i. A detailed description of the operational and structural BMPs in use at the facility and a schedule for implementation of additional BMPs when needed. BMPs selected must be consistent with the *Stormwater Management Manual for Western Washington*, or a Phase I program approved by Ecology. The SWPPP must be updated as needed to maintain relevancy with the facility.

ii. At minimum, annual inspections of the facility, including visual observations of discharges, to evaluate the effectiveness of the BMPs, identify maintenance needs, and determine if additional or different BMPs are needed. The results of these inspections must be documented in an inspection report or check list.

iii. An inventory of the materials and equipment stored on-site, and the activities conducted at the facility which may be exposed to precipitation or runoff and could result in stormwater pollution.

iv. A site map showing the facility's stormwater drainage, discharge points, and areas of potential pollutant exposure.

v. A plan for preventing and responding to spills at the facility which could result in an illicit discharge.

g. Maintain records of the activities conducted to meet the requirements of this Section.

8. Source Control Program for Existing Development

a. The Permittee shall implement a program to prevent and reduce pollutants in runoff from areas that discharge to the MS4. The program shall include:

i. Application of operational source control BMPs, and if necessary, structural source control BMPs or treatment BMPs/facilities, or both, to pollution generating sources associated with existing land uses and activities.

ii. Inspections of pollutant generating sources at publicly and privately owned institutional, commercial and industrial sites to enforce implementation of required BMPs to control pollution discharging into the MS4.

iii. Application and enforcement of local ordinances at sites, identified pursuant to S5.C.8.b.ii, including sites with discharges authorized by a separate NPDES permit. Permittees that are in compliance with the terms of this Permit will not be held liable by Ecology for water quality standard violations or receiving water impacts caused by industries and other Permittees covered, or which should be covered under an NPDES permit issued by Ecology.

iv. Practices to reduce polluted runoff from the application of pesticides, herbicides, and fertilizers from the sites identified in the inventory.

b. **Minimum performance measures:**

i. No later than August 1, 2022, Permittees shall adopt and make effective an ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities (see Appendix 8 to identify pollutant generating sources).

The requirements of this subsection are met by using the source control BMPs in the SWMMWW, or a Phase I Program approved by Ecology. In cases where the manual(s) lack guidance for a specific source of pollutants, the Permittee shall work with the owner/operator to implement or adapt BMPs based on the best professional judgement of the Permittee.

Applicable operational source control BMPs shall be required for all pollutant generating sources. Structural source control BMPs, or treatment BMPs/facilities, or both, shall be required for pollutant generating sources if operational source control BMPs do not prevent illicit discharges or violations of surface water, groundwater, or sediment management standards because of inadequate stormwater controls. Implementation of source control requirements may be done through education and technical assistance programs, provided that formal enforcement authority is available to the Permittee and is used as determined necessary by the Permittee, in accordance with S5.C.8.b.iv, below.

ii. No later than August 1, 2022, the Permittees shall establish an inventory that identifies publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4. The inventory shall include:

(a) Businesses and/or sites identified based on the presence of activities that are pollutant generating (refer to Appendix 8).

(b) Other pollutant generating sources, based on complaint response, such as: home-based businesses and multi-family sites.

iii. No later than January 1, 2023, Permittees shall implement an inspection program for sites identified pursuant to S5.C.8.b.ii, above.

(a) All identified sites with a business address shall be provided information about activities that may generate pollutants and the source control

requirements applicable to those activities. This information shall be provided by mail, telephone, electronic communications, or in person. This information may be provided all at one time or spread out over the permit term to allow for tailoring and distribution of the information during site inspections.

(b) The Permittee shall annually complete the number of inspections equal to 20% of the businesses and/or sites listed in their source control inventory to assess BMP effectiveness and compliance with source control requirements. The Permittee may count follow-up compliance inspections at the same site toward the 20% inspection rate. The Permittee may select which sites to inspect each year and is not required to inspect 100% of sites over a 5-year period. Sites may be prioritized for inspection based on their land use category, potential for pollution generation, proximity to receiving waters, or to address an identified pollution problem within a specific geographic area or sub-basin.

(c) Each Permittee shall inspect 100% of sites identified through credible complaints.

(d) Permittees may count inspections conducted based on complaints, or when the property owner denies entry, to the 20% inspection rate.

iv. No later than January 1, 2023, each Permittee shall implement a progressive enforcement policy that requires sites to comply with stormwater requirements within a reasonable time period as specified below:

(a) If the Permittee determines, through inspections or otherwise, that a site has failed to adequately implement required BMPs, the Permittee shall take appropriate follow-up action(s), which may include phone calls, reminder letters, emails, or follow-up inspections.

(b) When a Permittee determines that a site has failed to adequately implement BMPs after a follow-up inspection(s), the Permittee shall take enforcement action as established through authority in its municipal codes or ordinances, or through the judicial system.

(c) Each Permittee shall maintain records, including documentation of each site visit, inspection reports, warning letters, notices of violations, and other enforcement records, demonstrating an effort to bring sites into compliance. Each Permittee shall also maintain records of sites that are not inspected because the property owner denies entry.

(d) A Permittee may refer non-emergency violations of local ordinances to Ecology, provided, the Permittee also makes a documented effort of progressive enforcement. At a minimum, a Permittee's enforcement effort shall include documentation of inspections and warning letters or notices of violation.

v. Permittees shall train staff who are responsible for implementing the source control program to conduct these activities. The ongoing training program shall cover the legal authority for source control, source control BMPs and their proper application, inspection protocols, lessons learned, typical cases, and enforcement

procedures. Follow-up training shall be provided as needed to address changes in procedures, techniques, requirements, or staff. Permittees shall document and maintain records of the training provided and the staff trained.

S6. STORMWATER MANAGEMENT PROGRAM FOR SECONDARY PERMITTEES

A. This Section applies to all Secondary Permittees and all New Secondary Permittees, whether coverage under this Permit is obtained individually or as a Co-Permittee with a city, town, county, or another Secondary Permittee.

New Secondary Permittees subject to this Permit shall fully meet the requirements of this Section as modified in the footnotes in S6.D below, or as established as a condition of coverage by Ecology.

1. To the extent allowable under state, federal or local law, all components are mandatory for each Secondary Permittee covered under this Permit, whether covered as an individual Permittee or as a Co-Permittee.

2. Each Secondary Permittee shall develop and implement a Stormwater Management Program (SWMP). A SWMP is a set of actions and activities comprising the components listed in S6 and any additional actions necessary to meet the requirements of applicable TMDLs pursuant to S7 – *Compliance with Total Maximum Daily Load Requirements*. The SWMP shall be designed to reduce the discharge of pollutants from regulated small MS4s to the MEP and protect water quality.

3. Unless an alternate implementation schedule is established by Ecology as a condition of permit coverage, the SWMP shall be developed and implemented in accordance with the schedules contained in this Section and shall be fully developed and implemented no later than four and one-half years from the initial permit coverage date. Secondary Permittees that are already implementing some or all of the required SWMP components shall continue implementation of those components.

4. Secondary Permittees may implement parts of their SWMP in accordance with the schedule for cities, towns, and counties in S5, provided they have signed a memorandum of understanding or other agreement to jointly implement the activity or activities with one or more jurisdictions listed in S1.D.2.a or S1.D.2.b, and submitted a copy of the agreement to Ecology.

5. Each Secondary Permittee shall prepare written documentation of the SWMP, called the SWMP Plan. The SWMP Plan shall include a description of program activities for the upcoming calendar year.

B. Coordination

Secondary Permittees shall coordinate stormwater-related policies, programs and projects within a watershed and interconnected MS4s. Where relevant and appropriate, the SWMP shall coordinate among departments of the Secondary Permittee to ensure compliance with the terms of this Permit.

C. Legal Authority

To the extent allowable under state law and federal law, each Secondary Permittee shall be able to demonstrate that they can operate pursuant to legal authority which authorizes or enables the Secondary Permittee to control discharges to and from MS4s owned or operated by the Secondary Permittee.

This legal authority may be a combination of statutes, ordinances, permits, contracts, orders, interagency agreements, or similar instruments.

D. Stormwater Management Program for Secondary Permittees

The SWMP for Secondary Permittees shall include the following components:

1. **Public Education and Outreach**
   Each Secondary Permittee shall implement the following stormwater education strategies:

   a. Storm drain inlets owned or operated by the Secondary Permittee that are located in maintenance yards, in parking lots, along sidewalks, and at pedestrian access points shall be clearly labeled with a message similar to "Dump no waste – Drains to waterbody."[25]

      As identified during visual inspection and regular maintenance of storm drain inlets per the requirements of S6.D.3.d and S6.D.6.a.i below, or as otherwise reported to the Secondary Permittee, any inlet having a label that is no longer clearly visible and/or easily readable shall be re-labeled within 90 days.

   b. Each year beginning no later than three years from the initial date of permit coverage, public ports, colleges, and universities shall distribute educational information to tenants and residents on the impact of stormwater discharges on receiving waters, and steps that can be taken to reduce pollutants in stormwater runoff. Distribution may be by hard copy or electronic means. Appropriate topics may include:

      i. How stormwater runoff affects local water bodies.

      ii. Proper use and application of pesticides and fertilizers.

      iii. Benefits of using well-adapted vegetation.

      iv. Alternative equipment washing practices, including cars and trucks that minimize pollutants in stormwater.

      v. Benefits of proper vehicle maintenance and alternative transportation choices; proper handling and disposal of vehicle wastes, including the location of hazardous waste collection facilities in the area.

      vi. Hazards associated with illicit connections and illicit discharges.

      vii. Benefits of litter control of pet waste.

[25] New Secondary Permittees shall label all inlets as described in S6.D.1.a no later than four years from the initial date of permit coverage.

2. Public Involvement and Participation

Each year, no later than May 31, each Secondary Permittee shall:

a. Make the annual report available on the Permittee's website.

b. Make available on the Permittee's website, the latest updated version of the SWMP Plan.

c. A Secondary Permittee that does not maintain a website may submit the updated SWMP Plan and annual report in electronic format to Ecology for posting on Ecology's website.

3. Illicit Discharge Detection and Elimination

Each Secondary Permittee shall:

a. From the initial date of permit coverage, comply with all relevant ordinances, rules, and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern non-stormwater discharges.

b. Implement appropriate policies prohibiting illicit discharges,[26] and an enforcement plan to ensure compliance with illicit discharge policies.[27] These policies shall address, at a minimum: illicit connections, non-stormwater discharges, including spills of hazardous materials, and improper disposal of pet waste and litter.

i. Allowable discharges: The policies do not need to prohibit the following categories of non-stormwater discharges:

(a) Diverted stream flows

(b) Rising groundwaters

(c) Uncontaminated groundwater infiltration (as defined at 40 CFR 35.2005(b)(20))

(d) Uncontaminated pumped groundwater

(e) Foundation drains.

(f) Air conditioning condensation

(g) Irrigation water from agricultural sources that is commingled with urban stormwater

(h) Springs

(i) Uncontaminated water from crawl space pumps

(j) Footing drains

(k) Flows from riparian habitats and wetlands

(l) Discharges from emergency firefighting activities in accordance with S2 – *Authorized Discharges*

(m) Non-stormwater discharges authorized by another NPDES or state waste discharge permit

[26] New Secondary Permittees shall develop and implement appropriate policies prohibiting illicit discharges, and identify possible enforcement mechanisms as described in S6.D.3.b no later than one year from the initial date of permit coverage.

[27] New Secondary Permittees shall develop and implement an enforcement plan as described in S6.D.3.b no later than 18 months from the initial date of permit coverage.

ii. Conditionally allowable discharges: The policies may allow the following categories of non-stormwater discharges only if the stated conditions are met and such discharges are allowed by local codes:

(a) Discharges from potable water sources, including but not limited to water line flushing, hyperchlorinated water line flushing,

(b) Fire hydrant system flushing, and pipeline hydrostatic test water. Planned discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4.

(c) Discharges from lawn watering and other irrigation runoff. These discharges shall be minimized through, at a minimum, public education activities and water conservation efforts conducted by the Secondary Permittee and/or the local jurisdiction.

(d) Dechlorinated swimming pool, spa and hot tub discharges. The discharges shall be dechlorinated to a total residual chlorine concentration of 0.1 ppm or less, pH-adjusted and reoxygenated if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4. Discharges shall be thermally controlled to prevent an increase in temperature of the receiving water. Swimming pool cleaning wastewater and filter backwash shall not be discharged to the MS4.

(e) Street and sidewalk wash water, water used to control dust, and routine external building washdown that does not use detergents. The Secondary Permittee shall reduce these discharges through, at a minimum, public education activities and/or water conservation efforts conducted by the Secondary Permittee and/or the local jurisdiction. To avoid washing pollutants into the MS4, the Secondary Permittee shall minimize the amount of street wash and dust control water used.

(f) Other non-stormwater discharges shall be in compliance with the requirements of a pollution prevention plan reviewed by the Permittee which addresses control of such discharges.

iii. The Secondary Permittee shall address any category of discharges in (i) or (ii), above, if the discharge is identified as a significant source of pollutants to waters of the State.

c. Maintain a storm sewer system map showing the locations of all known MS4 outfalls and discharge points, labeling the receiving waters (other than groundwater) and delineating the areas contributing runoff to each outfall and discharge point. Make the map (or completed portions of the map) available on request to Ecology and to the extent appropriate, to other Permittees. The preferred format for mapping is an electronic format with fully described mapping standards. [28]

d. Conduct field inspections and visually inspect for illicit discharges at all known MS4 outfalls and discharge points. Visually inspect at least one third (on average) of all known outfalls and discharge points each year beginning no later than two years from

[28] New Secondary Permittees shall meet the requirements of S6.D.3.c no later than four and one-half years from the initial date of permit coverage.

the initial date of permit coverage. Implement procedures to identify and remove any illicit discharges. Keep records of inspections and follow-up activities.

e. Implement a spill response plan that includes coordination with a qualified spill responder.[29]

f. No later than two years from initial date of permit coverage, provide staff training or coordinate with existing training efforts to educate staff on proper BMPs for preventing illicit discharges, including spills. Train all Secondary Permittee staff who, as part of their normal job responsibilities, have a role in preventing such illicit discharges.

4. Construction Site Stormwater Runoff Control

From the initial date of permit coverage, each Secondary Permittee shall:

a. Comply with all relevant ordinances, rules, and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern construction phase stormwater pollution prevention measures.

b. Ensure that all construction projects under the functional control of the Secondary Permittee which require a construction stormwater permit obtain coverage under the *NPDES Construction Stormwater General Permit* or an individual NPDES permit prior to discharging construction related stormwater.

c. Coordinate with the local jurisdiction regarding projects owned or operated by other entities which discharge into the Secondary Permittee's MS4, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules, and regulations of the local jurisdiction(s).

d. Provide training or coordinate with existing training efforts to educate relevant staff in erosion and sediment control BMPs and requirements, or hire trained contractors to perform the work.

e. Coordinate as requested with Ecology or the local jurisdiction to provide access for inspection of construction sites or other land disturbances which are under the functional control of the Secondary Permittee during land disturbing activities and/or construction period.

5. Post-Construction Stormwater Management for New Development and Redevelopment

From the initial date of permit coverage, each Secondary Permittee shall:

a. Comply with all relevant ordinances, rules and regulations of the local jurisdiction(s) in which the Secondary Permittee is located that govern post-construction stormwater pollution prevention measures.

b. Coordinate with the local jurisdiction regarding projects owned or operated by other entities which discharge into the Secondary Permittee's MS4, to assist the local jurisdiction with achieving compliance with all relevant ordinances, rules and regulations of the local jurisdiction(s).

[29] New Secondary Permittees shall develop and implement a spill response plan as described in S6.D.3.e no later than four and one-half years from the initial date of permit coverage.

6. Pollution Prevention and Good Housekeeping for Municipal Operations
Each Secondary Permittee shall:

a. Implement a municipal operation and maintenance (O&M) plan to minimize stormwater pollution from activities conducted by the Secondary Permittee. The O&M Plan shall include appropriate pollution prevention and good housekeeping procedures for all of the following operations, activities, and/or types of facilities that are present within the Secondary Permittee's boundaries and under the functional control of the Secondary Permittee.[30]

i. *Stormwater collection and conveyance systems*, including catch basins, stormwater pipes, open channels, culverts, and stormwater treatment and flow control BMPs/facilities. The O&M Plan shall address, at a minimum: scheduled inspections and maintenance activities, including cleaning and proper disposal of waste removed from the system. Secondary Permittees shall properly maintain stormwater collection and conveyance systems owned or operated by the Secondary Permittee and annually inspect and maintain all stormwater facilities to ensure facility function.

Secondary Permittees shall establish maintenance standards that are as protective or more protective of facility function than those specified in *Stormwater Management Manual for Western Washington*. Secondary Permittees shall review their maintenance standards to ensure they are consistent with the requirements of this Section.

Secondary Permittees shall conduct spot checks of potentially damaged permanent stormwater treatment and flow control BMPs/facilities following major storm events (24-hour storm event with a 10-year or greater recurrence interval).

ii. *Roads, highways, and parking lots*. The O&M Plan shall address, but is not limited to: deicing, anti-icing, and snow removal practices; snow disposal areas; material (e.g., salt, sand, or other chemical) storage areas; all-season BMPs to reduce road and parking lot debris and other pollutants from entering the MS4.

iii. *Vehicle fleets*. The O&M Plan shall address, but is not limited to: storage, washing, and maintenance of Secondary Permittee vehicle fleets; and fueling facilities. Secondary Permittees shall conduct all vehicle and equipment washing and maintenance in a self-contained covered building or in designated wash and/or maintenance areas.

iv. *External building maintenance*. The O&M Plan shall address, building exterior cleaning and maintenance including cleaning, washing, painting; and maintenance and management of dumpsters; and other maintenance activities.

v. *Parks and open space*. The O&M Plan shall address, but is not limited to: proper application of fertilizer, pesticides, and herbicides; sediment and erosion control; BMPs for landscape maintenance and vegetation disposal; and trash and pet waste management.

[30] New Secondary Permittees shall develop and implement the operation and maintenance plan described in S6.D.6.a no later than three years from initial date of permit coverage.

vi. *Material storage facilities and heavy equipment maintenance or storage yards*. Secondary Permittees shall develop and implement a Stormwater Pollution Prevention Plan to protect water quality at each of these facilities owned or operated by the Secondary Permittee and not covered under the *Industrial Stormwater General Permit* or under another NPDES permit that authorizes stormwater discharges associated with the activity.

vii. *Other facilities* that would reasonably be expected to discharge contaminated runoff. The O&M Plan shall address proper stormwater pollution prevention practices for each facility.

b. From the initial date of permit coverage, Secondary Permittees shall also have permit coverage for all facilities operated by the Secondary Permittee that are required to be covered under the *Industrial Stormwater General Permit* or another NPDES permit that authorizes discharges associated with the activity.

c. The O&M Plan shall include sufficient documentation and records as necessary to demonstrate compliance with the O&M Plan requirements in S6.D.6.a(i) through (vii), above.

d. No later than three years from the initial date of permit coverage, Secondary Permittees shall implement a program designed to train all employees whose primary construction, operations, or maintenance job functions may impact stormwater quality. The training shall address:

i. The importance of protecting water quality.

ii. The requirements of this Permit.

iii. Operation and maintenance requirements.

iv. Inspection procedures.

v. Ways to perform their job activities to prevent or minimize impacts to water quality.

vi. Procedures for reporting water quality concerns, including potential illicit discharges (including spills).

S7. COMPLIANCE WITH TOTAL MAXIMUM DAILY LOAD REQUIREMENTS

The following requirements apply if an applicable TMDL is approved for stormwater discharges from MS4s owned or operated by the Permittee. Applicable TMDLs are TMDLs which have been approved by EPA on or before the issuance date of this Permit or prior to the date that Ecology issues coverage under this Permit, whichever is later.

A. For applicable TMDLs listed in Appendix 2, affected Permittees shall comply with the specific requirements identified in Appendix 2. Each Permittee shall keep records of all actions required by this Permit that are relevant to applicable TMDLs within their jurisdiction. The status of the TMDL implementation shall be included as part of the annual report submitted to Ecology. Each annual report shall include a summary of relevant SWMP and Appendix 2 activities conducted in the TMDL area to address the applicable TMDL parameter(s).

B. For applicable TMDLs not listed in Appendix 2, compliance with this Permit shall constitute compliance with those TMDLs.

C. For TMDLs that are approved by EPA after this Permit is issued, Ecology may establish TMDL related permit requirements through future permit modification if Ecology determines implementation of actions, monitoring, or reporting necessary to demonstrate reasonable further progress toward achieving TMDL waste load allocations, and other targets, are not occurring and shall be implemented during the term of this Permit or when this Permit is reissued. Permittees are encouraged to participate in development of TMDLs within their jurisdiction and to begin implementation.

S8. MONITORING AND ASSESSMENT

A. Regional Status and Trends Monitoring

1. All Permittees that chose S8.B Status and Trends Monitoring Option #1 in the *Phase II Western Washington Municipal Stormwater Permit,* August 1, 2013 – July 31, 2018 (extended to July 31, 2019), shall make a one-time payment into the collective fund to implement regional small streams and marine nearshore areas status and trends monitoring in Puget Sound. This payment is due on or before December 1, 2019. Submit payment according to Section S8.D, below.

2. All City and County Permittees covered under the *Phase II Western Washington Municipal Stormwater Permit,* August 1, 2013 – July 31, 2018 (extended to July 31, 2019), except the Cities of Aberdeen and Centralia, shall notify Ecology in writing which of the following two options for regional status and trends monitoring (S8.A.2.a or S8.A.2.b) the Permittee chooses to carry out during this permit term. The written notification with G19 signature is due to Ecology no later than December 1, 2019.

a. Make annual payments into a collective fund to implement regional receiving water status and trends monitoring of either: small streams and marine nearshore areas in Puget Sound; or, urban streams in Clark and Cowlitz Counties in the Lower Columbia River basin, depending on the Permittee's location. The annual payments into the collective fund are due on or before August 15 each year beginning in 2020. Submit payments according to Section S8.D, below.

Or

b. Conduct stormwater discharge monitoring per the requirements in S8.C.

Either option will fully satisfy the Permittee's obligations under this Section (S8.A.2). Each Permittee shall select a single option for this permit term.

B. Stormwater Management Program (SWMP) Effectiveness and Source Identification Studies

1. All Permittees that chose S8.C Effectiveness Studies Option #1 in the *Phase II Western Washington Municipal Stormwater Permit,* August 1, 2013 – July 31, 2018 (extended to July 31, 2019), shall make a one-time payment into the collective fund to implement effectiveness studies and source identification studies. The payment is due on or before December 1, 2019. Submit payment according to Section S8.D, below.

2. All City and County Permittees covered under the *Phase II Western Washington Municipal Stormwater Permit,* August 1, 2013 – July 31, 2018 (extended to July 31, 2019), shall notify Ecology in writing which of the following two options (S8.B.2.a or S8.B.2.b) for effectiveness and source identification studies the Permittee chooses to carry out during this permit term. The written notification with G19 signature is due to Ecology no later than December 1, 2019.

   a. Make annual payments into a collective fund to implement effectiveness and source identification studies. The annual payments into the collective fund are due on or before August 15 each year beginning in 2020. Submit payments according to Section S8.D, below.

      Or

   b. Conduct stormwater discharge monitoring per the requirements in S8.C.

   Either option will fully satisfy the Permittee's obligations under this Section (S8.B.2). Each Permittee shall select a single option for this permit term.

3. All Permittees shall provide information as requested for effectiveness and source identification studies that are under contract with Ecology as active Stormwater Action Monitoring (SAM) projects. These requests will be limited to records of SWMP activities and associated data tracked and/or maintained in accordance with S5 – *Stormwater Management Program for Cities, Towns, and Counties* and/or S9 – *Reporting Requirements*. A maximum of three requests during the permit term from the SAM Coordinator will be transmitted to the Permittee's permit coordinator via Ecology's regional permit manager. The Permittee shall have 90 days to provide the requested information.

C. Stormwater discharge monitoring.

1. This Section applies only to Permittees who choose to conduct stormwater discharge monitoring per S8.A.2.b and/or S8.B.2.b in lieu of participation in the regional status and trends monitoring and/or effectiveness and source identification studies. These Permittees shall conduct monitoring in accordance with Appendix 9 and an Ecology-approved Quality Assurance Project Plan (QAPP) as follows:

   a. Permittees who choose the option to conduct stormwater discharge monitoring for either S8.A.2 or S8.B.2 shall monitor three independent discharge locations.

      Permittees who choose the option to conduct stormwater discharge monitoring for both S8.A.2 and S8.B.2 shall conduct this monitoring at a total of six locations; at least four locations shall be independent (one location may be nested in another basin).

   b. No later than February 1, 2020, each Permittee shall submit to Ecology a draft stormwater discharge monitoring QAPP for review and approval. The QAPP shall be prepared in accordance with the requirements in Appendix 9. The final QAPP shall be submitted to Ecology for approval as soon as possible following finalization, and before August 15, 2020 or within 60 days of receiving Ecology's comments on the draft QAPP (whichever is later).

   c. Flow monitoring shall begin no later than October 1, 2020 or within 30 days of receiving Ecology's approval of the final QAPP (whichever is later). Stormwater discharge monitoring shall be fully implemented no later than October 1, 2021.

d. Data and analyses shall be reported annually in accordance with the Ecology-approved QAPP. Each Permittee shall enter into the Department's Environmental Information Management (EIM) database all water and solids concentration data collected pursuant to Appendix 9.

D. Payments into the collective funds.

1. Each Permittee's S8.A and S8.B payment amounts are listed in Appendix 11 and in the invoices that will be sent to the Permittee approximately three months in advance of each payment due date.

2. Mail payments according to the instructions in the invoice, or via United States Postal Service to:

Department of Ecology Cashiering Unit
P.O. Box 47611
Olympia, WA 98405-7611

S9. REPORTING REQUIREMENTS

A. No later than March 31 of each year beginning in 2020, each Permittee shall submit an annual report. The reporting period for the annual report will be the previous calendar year unless otherwise specified.

Permittees shall submit annual reports electronically using Ecology's Water Quality Permitting Portal (WQWebPortal) available on Ecology's website.

Permittees unable to submit electronically through Ecology's WQWebPortal shall contact Ecology to request a waiver and obtain instructions on how to submit an annual report in an alternative format.

B. Each Permittee is required to keep all records related to this Permit and the SWMP for at least five years.

C. Each Permittee shall make all records related to this Permit and the Permittee's SWMP available to the public at reasonable times during business hours. The Permittee will provide a copy of the most recent annual report to any individual or entity, upon request.

1. A reasonable charge may be assessed by the Permittee for making photocopies of records.

2. The Permittee may require reasonable advance notice of intent to review records related to this Permit.

D. The annual report for cities, towns, and counties

Each annual report shall include the following:

1. A copy of the Permittee's current SWMP Plan, as required by S5.A.2.

2. Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this Permit during the reporting period.

3. Attachments to the annual report form including summaries, descriptions, reports, and other information as required, or as applicable, to meet the requirements of this Permit during the reporting period, or as a required submittal. Refer to Appendix 3 for annual report questions.[31]
4. If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this Permit.
5. Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
6. A notification of any annexations, incorporations or jurisdictional boundary changes resulting in an increase or decrease in the Permittee's geographic area of permit coverage during the reporting period.

E. Annual report for Secondary Permittees

Each annual report shall include the following:

1. Submittal of the annual report form as provided by Ecology pursuant to S9.A, describing the status of implementation of the requirements of this Permit during the reporting period.
2. Attachments to the annual report form including summaries, descriptions, reports, and other information as required, or as applicable, to meet the requirements of this Permit during the reporting period. Refer to Appendix 4 for annual report questions.
3. If applicable, notice that the MS4 is relying on another governmental entity to satisfy any of the obligations under this Permit.
4. Certification and signature pursuant to G19.D, and notification of any changes to authorization pursuant to G19.C.
5. A notification of any jurisdictional boundary changes resulting in an increase or decrease in the Secondary Permittee's geographic area of permit coverage during the reporting period.

[31] New Permittees refer to Appendix 5 for annual report questions.

GENERAL CONDITIONS

G1. DISCHARGE VIOLATIONS

All discharges and activities authorized by this Permit shall be consistent with the terms and conditions of this Permit.

G2. PROPER OPERATION AND MAINTENANCE

The Permittee shall at all times properly operate and maintain all facilities and systems of collection, treatment, and control (and related appurtenances) which are installed or used by the Permittee for pollution control to achieve compliance with the terms and conditions of this Permit.

G3. NOTIFICATION OF DISCHARGE, INCLUDING SPILLS

If a Permittee has knowledge of a discharge, including spills, into or from a MS4 which could constitute a threat to human health, welfare, or the environment, the Permittee shall:

A. Take appropriate action to correct or minimize the threat to human health, welfare and/or the environment.

B. Notify the Ecology regional office and other appropriate spill response authorities immediately but in no case later than within 24 hours of obtaining that knowledge.

C. Immediately report spills or other discharges which might cause bacterial contamination of marine waters, such as discharges resulting from broken sewer lines and failing onsite septic systems, to the Ecology regional office and to the Department of Health, Shellfish Program.

D. Immediately report spills or discharges of oils or hazardous substances to the Ecology regional office and to the Washington Emergency Management Division at 1-800-258-5990.

G4. BYPASS PROHIBITED

The intentional bypass of stormwater from all or any portion of a stormwater treatment BMP whenever the design capacity of the treatment BMP is not exceeded, is prohibited unless the following conditions are met:

A. Bypass is: (1) unavoidable to prevent loss of life, personal injury, or severe property damage; or (2) necessary to perform construction or maintenance-related activities essential to meet the requirements of the Clean Water Act (CWA); and

B. There are no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated stormwater, or maintenance during normal dry periods.

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass.

G5. RIGHT OF ENTRY

The Permittee shall allow an authorized representative of Ecology, upon the presentation of credentials and such other documents as may be required by law at reasonable times:

A. To enter upon the Permittee's premises where a discharge is located or where any records shall be kept under the terms and conditions of this Permit.

B. To have access to, and copy at reasonable cost and at reasonable times, any records that shall be kept under the terms of the Permit.

C. To inspect at reasonable times any monitoring equipment or method of monitoring required in the Permit.

D. To inspect at reasonable times any collection, treatment, pollution management, or discharge facilities.

E. To sample at reasonable times any discharge of pollutants.

G6. DUTY TO MITIGATE

The Permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this Permit which has a reasonable likelihood of adversely affecting human health or the environment.

G7. PROPERTY RIGHTS

This Permit does not convey any property rights of any sort, or any exclusive privilege.

G8. COMPLIANCE WITH OTHER LAWS AND STATUTES

Nothing in the Permit shall be construed as excusing the Permittee from compliance with any other applicable federal, state, or local statutes, ordinances, or regulations.

G9. MONITORING

A. Representative Sampling

Samples and measurements taken to meet the requirements of this Permit shall be representative of the volume and nature of the monitored discharge, including representative sampling of any unusual discharge or discharge condition, including bypasses, upsets, and maintenance-related conditions affecting effluent quality.

B. Records Retention

The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, and records of all data used to complete the application for this Permit, for a period of at least five years. This period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the Permittee or when requested by the Ecology. On request, monitoring data and analysis shall be provided to Ecology.

C. Recording of Results

For each measurement or sample taken, the Permittee shall record the following information: (1) the date, exact place and time of sampling; (2) the individual who

performed the sampling or measurement; (3) the dates the analyses were performed; (4) who performed the analyses; (5) the analytical techniques or methods used; and (6) the results of all analyses.

D. Test Procedures

All sampling and analytical methods used to meet the monitoring requirements in this Permit shall conform to the Guidelines Establishing Test Procedures for the Analysis of Pollutants contained in 40 CFR Part 136, unless otherwise specified in this Permit or approved in writing by Ecology.

E. Flow Measurement

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted industry standard for that type of device. Frequency of calibration shall be in conformance with manufacturer's recommendations or at a minimum frequency of at least one calibration per year. Calibration records should be maintained for a minimum of three years.

F. Lab Accreditation

All monitoring data, except for flow, temperature, conductivity, pH, total residual chlorine, and other exceptions approved by Ecology, shall be prepared by a laboratory registered or accredited under the provisions of, Accreditation of Environmental Laboratories, Chapter 173-50 WAC. Soils and hazardous waste data are exempted from this requirement pending accreditation of laboratories for analysis of these media by Ecology. Quick methods of field detection of pollutants including nutrients, surfactants, salinity, and other parameters are exempted from this requirement when the purpose of the sampling is identification and removal of a suspected illicit discharge.

G. Additional Monitoring

Ecology may establish specific monitoring requirements in addition to those contained in this Permit by administrative order or permit modification.

G10. REMOVED SUBSTANCES

With the exception of decant from street waste vehicles, the Permittee shall not allow collected screenings, grit, solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of stormwater to be resuspended or reintroduced to the MS4 or to waters of the State. Decant from street waste vehicles resulting from cleaning stormwater facilities may be reintroduced only when other practical means are not available and only in accordance with the Street Waste Disposal Guidelines in Appendix 6. Solids generated from maintenance of the MS4 may be reclaimed, recycled, or reused when allowed by local codes and ordinances. Soils that are identified as contaminated pursuant to Chapter 173-350 WAC shall be disposed at a qualified solid waste disposal facility (see Appendix 6).

G11. SEVERABILITY

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit shall not be affected thereby.

G12. REVOCATION OF COVERAGE

The director may terminate coverage under this General Permit in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC. Cases where coverage may be terminated include, but are not limited to the following:

A. Violation of any term or condition of this general permit;

B. Obtaining coverage under this general permit by misrepresentation or failure to disclose fully all relevant facts;

C. A change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;

D. A determination that the permitted activity endangers human health or the environment, or contributes significantly to water quality standards violations;

E. Failure or refusal of the Permittee to allow entry as required in Chapter 90.48.090 RCW;

F. Nonpayment of permit fees assessed pursuant to Chapter 90.48.465 RCW;

Revocation of coverage under this general permit may be initiated by Ecology or requested by any interested person.

G13. TRANSFER OF COVERAGE

The director may require any discharger authorized by this General Permit to apply for and obtain an individual permit in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC.

G14. GENERAL PERMIT MODIFICATION AND REVOCATION

This General Permit may be modified, revoked and reissued, or terminated in accordance with the provisions of WAC 173-226-230. Grounds for modification, revocation and reissuance, or termination include, but are not limited to the following:

A. A change occurs in the technology or practices for control or abatement of pollutants applicable to the category of dischargers covered under this General Permit;

B. Effluent limitation guidelines or standards are promulgated pursuant to the CWA or Chapter 90.48 RCW, for the category of dischargers covered under this General Permit;

C. A water quality management plan containing requirements applicable to the category of dischargers covered under this General Permit is approved; or

D. Information is obtained which indicates that cumulative effects on the environment from dischargers covered under this General Permit are unacceptable.

E. Changes in state law that reference this Permit.

G15. REPORTING A CAUSE FOR MODIFICATION OR REVOCATION

A Permittee who knows or has reason to believe that any activity has occurred or will occur which would constitute cause for modification or revocation and reissuance under General Condition G12, G14, or 40 CFR 122.62 must report such plans, or such information, to Ecology so that a decision can be made on whether action to modify, or revoke and reissue this Permit will be

required. Ecology may then require submission of a new or amended application. Submission of such application does not relieve the Permittee of the duty to comply with this Permit until it is modified or reissued.

G16. APPEALS

A. The terms and conditions of this General Permit, as they apply to the appropriate class of dischargers, are subject to appeal within thirty days of issuance of this General Permit, in accordance with Chapter 43.21B RCW, and Chapter 173-226 WAC.

B. The terms and conditions of this General Permit, as they apply to an individual discharger, are appealable in accordance with Chapter 43.21B RCW within thirty days of the effective date of coverage of that discharger. Consideration of an appeal of General Permit coverage of an individual discharger is limited to the General Permit's applicability or nonapplicability to that individual discharger.

C. The appeal of General Permit coverage of an individual discharger does not affect any other dischargers covered under this General Permit. If the terms and conditions of this General Permit are found to be inapplicable to any individual discharger(s), the matter shall be remanded to Ecology for consideration of issuance of an individual permit or permits.

D. Modifications of this Permit are appealable in accordance with Chapter 43.21B RCW and Chapter 173-226 WAC.

G17. PENALTIES

40 CFR 122.41(a)(2) and (3), 40 CFR 122.41(j)(5), and 40 CFR 122.41(k)(2) are hereby incorporated into this Permit by reference.

G18. DUTY TO REAPPLY

The Permittee shall apply for permit renewal at least 180 days prior to the specified expiration date of this Permit.

G19. Certification and Signature

All formal submittals to Ecology shall be signed and certified.

A. All permit applications shall be signed by either a principal executive officer or ranking elected official.

B. All formal submittals required by this Permit shall be signed by a person described, above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described, above, and submitted to Ecology, and

2. The authorization specifies either an individual or a position having responsibility for the overall development and implementation of the stormwater management program. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

C. Changes to authorization. If an authorization under condition G19.B.2 is no longer accurate because a different individual or position has responsibility for the overall development and implementation of the stormwater management program, a new authorization satisfying the requirements of condition G19.B.2 must be submitted to Ecology prior to or together with any reports, information, or applications to be signed by an authorized representative.

D. Certification. Any person signing a formal submittal under this Permit shall make the following 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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for willful violations."

G20. Non-compliance notification

In the event a Permittee is unable to comply with any of the terms and conditions of this Permit, the Permittee must:

A. Notify Ecology of the failure to comply with the permit terms and conditions in writing within 30 days of becoming aware that the non-compliance has occurred. The written notification must include all of the following:

1. A description of the non-compliance, including dates.
2. Beginning and end dates of the non-compliance, and if the compliance has not been corrected, the anticipated date of correction.
3. Steps taken or planned to reduce, eliminate, or prevent reoccurrence of the non-compliance.

B. Take appropriate action to stop or correct the condition of non-compliance.

G21. UPSETS

Permittees must meet the conditions of 40 CFR 122.41(n) regarding "Upsets." The conditions are as follows:

A. ***Definition.*** "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

B. ***Effect of an upset.*** An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph (C) of this condition are met. Any determination made during administrative

review of claims that noncompliance was caused by upset, and before an action for noncompliance, will not constitute final administrative action subject to judicial review.

C. ***Conditions necessary for demonstration of upset.*** A Permittee who wishes to establish the affirmative defense of upset must demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the Permittee can identify the cause(s) of the upset;
2. The permitted facility was at the time being properly operated; and
3. The Permittee submitted notice of the upset as required in 40 CFR 122.41(l)(6)(ii)(B) (24-hour notice of noncompliance).
4. The Permittee complied with any remedial measures required under 40 CFR 122.41(d) (Duty to Mitigate).

D. ***Burden of proof.*** In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

DEFINITIONS AND ACRONYMS

This Section includes definitions for terms used in the body of the Permit and in all the appendices except Appendix 1. Terms defined in Appendix 1 are necessary to implement requirements related to Appendix 1.

40 CFR means Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

AKART means All Known, Available, and Reasonable methods of prevention, control and Treatment. See also State Water Pollution Control Act, Chapter 90.48.010 RCW and Chapter 90.48.520 RCW.

All Known, Available and Reasonable Methods of Prevention, Control and Treatment (AKART) refers to the State Water Pollution Control Act, Chapter 90.48.010 RCW and Chapter 90.48.520 RCW.

Applicable TMDL means a TMDL which has been approved by EPA on or before the issuance date of this Permit, or prior to the date that Ecology issues coverage under this Permit, whichever is later.

Beneficial Uses means uses of waters of the State, which include but are not limited to use for domestic, stock watering, industrial, commercial, agricultural, irrigation, mining, fish and wildlife maintenance and enhancement, recreation, generation of electric power and preservation of environmental and aesthetic values, and all other uses compatible with the enjoyment of the public waters of the State.

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

BMP means Best Management Practice.

Bypass means the diversion of stormwater from any portion of a stormwater treatment facility.

Circuit means a portion of a MS4 discharging to a single point or serving a discrete area determined by traffic volumes, land use, topography or the configuration of the MS4.

Component or **Program Component** means an element of the Stormwater Management Program listed in S5 - *Stormwater Management Program for Cities, Towns, and Counties*, or S6 – S*tormwater Management Program for Secondary Permittees*, or S7 – *Compliance with Total Maximum Daily Load Requirements*, or S8 – *Monitoring and Assessment*, of this Permit.

Community-based social marketing is a social marketing methodology. It employs a systematic approach intended to change the behavior of communities to reduce their impact on the environment. Realizing that providing information is usually not sufficient to initiate behavior change, community-based social marketing uses tools and findings from social psychology to discover the perceived barriers to behavior change and ways of overcoming these barriers.

Conveyance System means that portion of the municipal separate storm sewer system designed or used for conveying stormwater.

Co-Permittee means an owner or operator of an MS4 which is in a cooperative agreement with at least one other applicant for coverage under this Permit. A Co-Permittee is an owner or operator of a regulated MS4 located within or in proximity to another regulated MS4. A Co-Permittee is only responsible for permit conditions relating to discharges from the MS4 the Co-Permittee owns or operates. See also 40 CFR 122.26(b)(1).

CWA means Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. (6-483 and Pub. L. 97-117, 33 U.S.C. 1251 *et seq*.).

Director means the Director of the Washington State Department of Ecology, or an authorized representative.

Discharge Point means the location where a discharge leaves the Permittee's MS4 through the Permittee's MS4 facilities/BMPs designed to infiltrate.

Entity means a governmental body, or a public or private organization.

EPA means the U.S. Environmental Protection Agency.

Fully Stabilized means the establishment of a permanent vegetative cover, or equivalent permanent stabilization measures (such as riprap, gabions or geotextiles) which prevents erosion.

General Permit means a permit which covers multiple dischargers of a point source category within a designated geographical area, in lieu of individual permits being issued to each discharger.

Groundwater means water in a saturated zone or stratum beneath the surface of the land or below a surface water body. Refer to Chapter 173-200 WAC.

Hazardous Substance means any liquid, solid, gas, or sludge, including any material, substance, product, commodity, or waste, regardless of quantity, that exhibits any of the physical, chemical, or biological properties described in WAC 173-303-090 or WAC 173-303-100.

Heavy Equipment Maintenance or Storage Yard means an uncovered area where any heavy equipment, such as mowing equipment, excavators, dump trucks, backhoes, or bulldozers are washed or maintained, or where at least five pieces of heavy equipment are stored on a long-term basis.

Highway means a main public road connecting towns and cities.

Hydraulically Near means runoff from the site discharges to the sensitive feature without significant natural attenuation of flows that allows for suspended solids removal. See Appendix 7 Determining Construction Site Sediment Damage Potential for a more detailed definition.

Hyperchlorinated means water that contains more than 10 mg/Liter chlorine.

Illicit Connection means any infrastructure connection to the MS4 that is not intended, permitted or used for collecting and conveying stormwater or non-stormwater discharges allowed as specified in this Permit (S5.C.5 and S6.D.3). Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the MS4.

Illicit Discharge means any discharge to a MS4 that is not composed entirely of stormwater or of non-stormwater discharges allowed as specified in this Permit (S5.C.5 and S6.D.3).

Impervious Surface means a non-vegetated surface area that either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development. A non-vegetated surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development. Common impervious surfaces include, but are not limited to, roof tops, walkways, patios, driveways, parking lots or stormwater areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater.

Land Disturbing Activity means any activity that results in a change in the existing soil cover (both vegetative and non-vegetative) and/or the existing soil topography. Land disturbing activities include, but are not limited to clearing, grading, filling and excavation. Compaction that is associated with stabilization of structures and road construction shall also be considered land disturbing activity. Vegetation maintenance practices, including landscape maintenance and gardening, are not considered land disturbing activity. Stormwater facility maintenance is not considered land disturbing activity if conducted according to established standards and procedures.

LID means Low Impact Development.

LID BMP means Low Impact Development Best Management Practices.

LID Principles means land use management strategies that emphasize conservation, use of on-site natural features, and site planning to minimize impervious surfaces, native vegetation loss, and stormwater runoff.

Low Impact Development (LID) means a stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.

Low Impact Development Best Management Practices (LID BMP) means distributed stormwater management practices, integrated into a project design, that emphasize pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation and transpiration. LID BMPs include, but are not limited to, bioretention, rain gardens, permeable pavements, roof downspout controls, dispersion, soil quality and depth, vegetated roofs, minimum excavation foundations, and water re-use.

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

Maximum Extent Practicable refers to paragraph 402(p)(3)(B)(iii) of the federal Clean Water Act which reads as follows: Permits for discharges from municipal storm sewers shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques, and system, design, and engineering methods, and other such provisions as the Administrator or the State determines appropriate for the control of such pollutants.

MEP means Maximum Extent Practicable.

MS4 means Municipal Separate Storm Sewer System.

Municipal Separate Storm Sewer System means a conveyance, or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade 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) having jurisdiction over disposal of wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of Washington State.

(ii) Designed or used for collecting or conveying stormwater.

(iii) Which is not a combined sewer;

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.; and

(v) Which is defined as "large" or "medium" or "small" or otherwise designated by Ecology pursuant to 40 CFR 122.26.

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

Native Vegetation means vegetation comprised of plant species, other than noxious weeds, that are indigenous to the coastal region of the Pacific Northwest and which reasonably could have been expected to naturally occur on the site. Examples include trees such as Douglas Fir, western hemlock, western red cedar, alder, big-leaf maple; shrubs such as willow, elderberry, salmonberry, and salal; and herbaceous plants such as sword fern, foam flower, and fireweed.

New Development means land disturbing activities, including Class IV General Forest Practices that are conversions from timber land to other uses; structural development, including construction or installation of a building or other structure; creation of hard surfaces; and subdivision, short subdivision and binding site plans, as defined and applied in Chapter 58.17 RCW. Projects meeting the definition of redevelopment shall not be considered new development. Refer to Appendix 1 for a definition of hard surfaces.

New Permittee means a city, town, or county that is subject to the *Western Washington Municipal Stormwater General Permit* and was not subject to the permit prior to July 1, 2019.

New Secondary Permittee means a Secondary Permittee that is covered under a municipal stormwater general permit and was not covered by the permit prior to July 1, 2019.

NOI means Notice of Intent.

Notice of Intent (NOI) means the application for, or a request for coverage under, a General Permit pursuant to WAC 173-226-200.

Notice of Intent for Construction Activity means the application form for coverage under the *Construction Stormwater General Permit.*

Notice of Intent for Industrial Activity means the application form for coverage under the *Industrial Stormwater General Permit.*

NPDES means National Pollutant Discharge Elimination System.

Outfall means a point source as defined by 40 CFR 122.2 at the point where a discharge leaves the Permittee's MS4 and enters a surface receiving waterbody or surface receiving waters. Outfall does not include pipes, tunnels, or other conveyances which connect segments of the same stream or other surface waters and are used to convey primarily surface waters (i.e., culverts).

Overburdened Community means minority, low-income, tribal, or indigenous populations or geographic locations in Washington State that potentially experience disproportionate environmental harms and risks. This disproportionality can be as a result of greater vulnerability to environmental hazards, lack of opportunity for public participation, or other factors. Increased vulnerability may be attributable to an accumulation of negative or lack of positive environmental, health, economic, or social conditions within these populations or places. The term describes situations where multiple factors, including both environmental and socio-economic stressors, may act cumulatively to affect health and the environment and contribute to persistent environmental health disparities.

Permittee unless otherwise noted, the term "Permittee" includes city, town, or county Permittee, Co-Permittee, New Permittee, Secondary Permittee, and New Secondary Permittee.

Physically Interconnected means that one MS4 is connected to another storm sewer system in such a way that it allows for direct discharges to the second system. For example, the roads with drainage systems and municipal streets of one entity are physically connected directly to a storm sewer system belonging to another entity.

Project site means that portion of a property, properties, or right-of-ways subject to land disturbing activities, new hard surfaces, or replaced hard surfaces. Refer to Appendix 1 for a definition of hard surfaces.

QAPP means Quality Assurance Project Plan.

Qualified Personnel means someone who has had professional training in the aspects of stormwater management for which they are responsible and are under the functional control of the Permittee. Qualified Personnel may be staff members, contractors, or volunteers.

Quality Assurance Project Plan means a document that describes the objectives of an environmental study and the procedures to be followed to achieve those objectives.

RCW means the Revised Code of Washington State.

Receiving Waterbody or **Receiving Waters** means naturally and/or reconstructed naturally occurring surface water bodies, such as creeks, streams, rivers, lakes, wetlands, estuaries, and marine waters, or groundwater, to which a MS4 discharges.

Redevelopment means, on a site that is already substantially developed (i.e., has 35% or more of existing hard surface coverage), the creation or addition of hard surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including construction, installation or expansion of a building or other structure; replacement of hard surface that is not part of a routine maintenance activity; and land disturbing activities. Refer to Appendix 1 for a definition of hard surfaces.

Regulated Small Municipal Separate Storm Sewer System means a Municipal Separate Storm Sewer System which is automatically designated for inclusion in the Phase II stormwater permitting program by

its location within an Urbanized Area, or by designation by Ecology and is not eligible for a waiver or exemption under S1.C.

Runoff is water that travels across the land surface and discharges to water bodies either directly or through a collection and conveyance system. See also "***Stormwater***."

SAM means Stormwater Action Monitoring

Secondary Permittee is an operator of a regulated small MS4 which is not a city, town or county. Secondary Permittees include special purpose districts and other public entities that meet the criteria in S1.B.

Sediment/Erosion-Sensitive Feature means an area subject to significant degradation due to the effect of construction runoff, or areas requiring special protection to prevent erosion. See Appendix 7 Determining Construction Site Sediment Damage Potential for a more detailed definition.

Shared Water Bodies means water bodies, including downstream segments, lakes and estuaries that receive discharges from more than one Permittee.

Significant Contributor means a discharge that contributes a loading of pollutants considered to be sufficient to cause or exacerbate the deterioration of receiving water quality or instream habitat conditions.

Small Municipal Separate Storm Sewer System means an MS4 that is not defined as "large" or "medium" pursuant to 40 CFR 122.26(b)(4) & (7) or designated under 40 CFR 122.26 (a)(1)(v).

Source Control BMP means a structure or operation that is intended to prevent pollutants from coming into contact with stormwater through physical separation of areas or careful management of activities that are sources of pollutants. The *SWMMWW* separates source control BMPs into two types. Structural Source Control BMPs are physical, structural, or mechanical devices, or facilities that are intended to prevent pollutants from entering stormwater. Operational BMPs are non-structural practices that prevent or reduce pollutants from entering stormwater.

Stormwater means runoff during and following precipitation and snowmelt events, including surface runoff, drainage or interflow.

Stormwater Action Monitoring (SAM) is the regional stormwater monitoring program for Western Washington. This means, for all of Western Washington, a stormwater-focused monitoring and assessment program consisting of these components: status and trends monitoring in small streams and marine nearshore areas, stormwater management program effectiveness studies, and source identification projects. The priorities and scope for SAM are set by a formal stakeholder group that selects the studies and oversees the program's administration.

Stormwater Associated with Industrial and Construction Activity means the discharge from any conveyance which is used for collecting and conveying stormwater, which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant, or associated with clearing, grading and/or excavation, and is required to have an NPDES permit in accordance with 40 CFR 122.26.

Stormwater facility retrofits means both: projects that retrofit existing treatment and/or flow control facilities; and new flow control or treatment facilities or BMPs that will address impacts from existing development.

Stormwater Management Program (SWMP) means a set of actions and activities designed to reduce the discharge of pollutants from the MS4 to the MEP and to protect water quality, and comprising the components listed in S5 (for cities, towns, and counties) or S6 (for Secondary Permittees) of this Permit and any additional actions necessary to meet the requirements of applicable TMDLs pursuant to S7 – *Compliance with TMDL Requirements,* and S8– *Monitoring and Assessment*.

Stormwater Treatment and Flow Control BMPs/Facilities means detention facilities, permanent treatment BMPs/facilities; and bioretention, vegetated roofs, and permeable pavements that help meet Appendix 1 Minimum Requirements #6 (treatment), #7 (flow control), or both.

Surface Waters includes lakes, rivers, ponds, streams, inland waters, salt waters, and all other surface waters and water courses within the jurisdiction of the State of Washington.

SWMMWW or **Stormwater Management Manual for Western Washington** means *Stormwater Management Manual for Western Washington (2019).*

SWMP means Stormwater Management Program.

TMDL means Total Maximum Daily Load.

Total Maximum Daily Load (TMDL) means a water cleanup plan. A TMDL is a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The calculation must include a margin of safety to ensure that the water body can be used for the purposes the state has designated. The calculation must also account for seasonable variation in water quality. Water quality standards are set by states, territories, and tribes. They identify the uses for each water body, for example, drinking water supply, contact recreation (swimming), and aquatic life support (fishing), and the scientific criteria to support that use. The Clean Water Act, Section 303, establishes the water quality standards and TMDL programs.

Tributary Conveyance means pipes, ditches, catch basins, and inlets owned or operated by the Permittee and designed or used for collecting and conveying stormwater.

UGA means Urban Growth Area.

Urban Growth Area (UGA) means those areas designated by a county pursuant to RCW 36.70A.110.

Urbanized Area is a federally-designated land area comprising one or more places and the adjacent densely settled surrounding area that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile. Urbanized Areas are designated by the U.S. Census Bureau based on the most recent decennial census.

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

Water Quality Standards means Surface Water Quality Standards, Chapter 173-201A WAC, Groundwater Quality Standards, Chapter 173-200 WAC, and Sediment Management Standards, Chapter 173-204 WAC.

Waters of the State includes those waters as defined as "waters of the United States" in 40 CFR Subpart 122.2 within the geographic boundaries of Washington State and "waters of the State" as defined in

Chapter 90.48 RCW which includes lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and water courses within the jurisdiction of the State of Washington.

Waters of the United States refers to the definition in 40 CFR 122.2.