

City of Port Angeles

2022 Annual Report

NPDES Phase II Municipal Stormwater Permit



Permit #: WAR045028
Permit Cycle: 2019-2024



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: 3/31/2023

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 for 2023_Final_compi_2_0 3292023140518
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
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
19	S5.C.1.d	Developed a Stormwater Management Action Plan (SMAP) for at least one high priority area? (S.5.C.1.d.iii – Required by March 31, 2023)	Yes
19a	S5.C.1.d	Attach SMAP(s)	CoPA SMAP_Final_032723_reduced_19a_03292023140715
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.	West Sound Stormwater Outreach Group (WSSOG) <input type="checkbox"/> 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.	2022 Public Outreach Tracking_21_03292023 154020
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.	List of Stewardship Opportunit_26a_032920 23140950
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. The City also created a webpage for SMAP on the City's website that is linked to an ArcGIS Online map available for public review and comment. In addition, City staff are available to the public for direct communication regarding all-things 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_2022_reduced_30a_03292023141704
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.	Provided staff training. 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. Revived the Pollution Prevention Assistance (PPA) Program in 2022 that will once again provide source control and IDDE education to 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. See the "2022 Screening Summary and Map Update.pdf" attachment for more details.

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.)	14.8
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 within the right of way. Each year, one basin is selected and screened using the methodology described above. See the "2022 Screening Summary and Map Update.pdf" attachment for more details and a map of the screening basins.
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.)	48.3
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 (https://www.cityofpa.us/262/Reporting Spills), advertised at public outreach events, listed on public outreach materials, and displayed in 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.	2022 IDDE Tracking XML Format_42_032920231 42939
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

44	S5.C.6.	Revised 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. (Required no later than June 30, 2022)	Not Applicable Comment: Requirements for development that meet or exceed the Ecology's minimum requirements are already in effect from existing ordinances. See PAMC 13.63.
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.	138
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)?	No
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.	46
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
57	S5.C.7.	Updated maintenance standards specified in Stormwater Management Manual for Western Washington per S5.C.7.a? (Required no later than June 30, 2022)	Not Applicable Comment: COPA had previously adopted the SWMMWW in ordinance to include maintenance standards. No update was necessary to meet this requirement.
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.	193
63c	S5.C.7.	Number of facilities for which maintenance was performed during the reporting period.	138
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?	2681
66b	S5.C.7.	Number of catch basins inspected during the reporting period?	1496
66c	S5.C.7.	Number of catch basins cleaned during the reporting period?	1495
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
69	S5.C.7.	Documented 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 – Required by December 31, 2022)	Yes
69a	S5.C.7.	Cite documentation in Comments.	"COPA SW Policies and Procedures_V3_3.26.2023.pdf" - see attached document
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
72	S5.C.7.	Updated, if needed, SWPPPs according to S5.C.7.f no later than December 31, 2022.	Yes

73	S5.C.8	Adopted ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities per S.5.C.8.b.i. (Required by August 1, 2022)	Yes
73a	S5.C.8	Cite ordinance. (Required by August 1, 2022)	Ordinance 3694, PAMC 13.63 Web address - https://library.municode.com/wa/port_angeles/codes/code_of_ordinances
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.	SC_Summary of Actions 2022_77_03292023153516
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.	SC Business Insp. List_2022_78_03292023153517
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)	Yes
89	G3	Took appropriate action to correct or minimize the threat to human health, welfare, and/or the environment per G3.A.	Yes

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)	Yes
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)	S4F Status_ongoing efforts_Str_92_03292023154230
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

3/29/2023 4:23:30 PM

Signature

Date

Washington Department of Ecology

Electronic Submission Cover Letter



WQWebSubmittal - Submittal Submission Id: 1867089 - 3/29/2023 4:23:32 PM

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 Wednesday March 29 2023
WAR045028_03292023040711	1056_001_03292023040711.pdf
WAR045028_03292023040412	2022 Annual Private Facility Inspections_032920230
WAR045028_03292023040431	2022 COPA Stormwater Facilities Annual Inspections
WAR045028_03292023040105	2022 IDDE Tracking Spreadsheet_03292023040105.pdf
WAR045028_42_03292023142914	2022 IDDE Tracking XML Format_42_03292023142914
WAR045028_42_03292023142939	2022 IDDE Tracking XML Format_42_03292023142939
WAR045028_03292023040353	2022 Inspection Documentation Tracking List_032920
Overburdened Communities Assessment_PA_2022	2022 Overburdened Communities Assessment
WAR045028_03292023034846	2022 PSSH Handouts Order_COPA_8.25.2022_0329202303
WAR045028_21_03292023140931	2022 Public Outreach Tracking_21_03292023140931
WAR045028_21_03292023154020	2022 Public Outreach Tracking_21_03292023154020
WAR045028_03292023040848	2022 SAM Invoice_approved_03292023040848.pdf
WAR045028_03292023040137	2022 Screening Summary and Map Update_032920230401
WAR045028_03292023034915	2022 Stormwater Outreach_CC Fair_03292023034915.pdf
WAR045028_03292023040519	2104049_03292023040519.pdf
WAR045028_03292023040721	2216_001_03292023040721.pdf
WAR045028_03292023040730	2791_001_03292023040730.pdf
WAR045028_03292023040016	2794_001_03292023040016.pdf
WAR045028_03292023040156	Basin 1 Screening_markup 10.4.2022_03292023040156.
WAR045028_03292023040548	Business Inventory List Instructions Memo_draft_08
WAR045028_03292023040738	CESCL_COPA_03292023040738.pdf
WAR045028_03292023040603	City of Port Angeles - Business Source Control_102
WAR045028_30a_03292023141704	COPA Outfalls_2022_reduced_30a_03292023141704
WAR045028_19a_03292023140715	CoPA SMAP_Final_032723_reduced_19a_03292023140715

WAR045028_03292023040442	COPA SW Policies and Procedures_V3_3.26.2023_03292
WAR045028_03292023040924	Copy of Record CityofPortAngeles Tuesday December
WAR045028_03292023040213	Creekwalk Map_Oct 2022_markup_03292023040213.pdf
WAR045028_03292023034932	Earth Day at the Pier_2022_03292023034932.pdf
WAR045028_03292023040747	Employee Training Summary for Howard Carlseen_0329
WAR045028_03292023034943	FB Posts_PSSH 2022_03292023034943.pdf
WAR045028_03292023040939	FINAL_S4.F.1 Notification_Nov. 1 2022 SSO into MS4
WAR045028_26a_03292023140950	List of Stewardship Opportunit_26a_03292023140950
WAR045028_03292023040801	Matthew Moore - CESCL - 2022-11-04_03292023040801.
WAR045028_03292023040618	Ordinance No. 3694_03292023040618.pdf
WAR045028_03292023040037	Port Angeles Watershed_03292023040037.pdf
WAR045028_03292023034952	Port_Angeles_Demographic_Infographic_Profile_2022_
WAR045028_03292023035930	PSA-2022-53 2022 ILA CoPA-Streamkeepers - fully ex
WAR045028_92_03292023153902	S4F Status_ongoing efforts_Str_92_03292023153902
WAR045028_92_03292023154230	S4F Status_ongoing efforts_Str_92_03292023154230
WAR045028_03292023040839	S8 Notification Letter_11.8.2019_03292023040839.pd
WAR045028_03292023040907	SAM2021AnnualReport_03292023040907.pdf
WAR045028_78_03292023153517	SC Business Insp. List_2022_78_03292023153517
WAR045028_03292023040815	SC Insp. Training_Herrera_03292023040815.pdf
WAR045028_03292023040641	SC Program Letter FINAL_03292023040641.pdf
WAR045028_77_03292023153516	SC_Summary of Actions 2022_77_03292023153516
WAR045028_03292023040654	Source Control Brochure_03292023040654.pdf
WAR045028_03292023040047	Stormwater Utility map_03292023040047.pdf
WAR045028_03292023035947	Streamkeepers _ Clallam County, WA_03292023035947.
WAR045028_03292023035003	SW Rains Flier 2022_final_03292023035003.pdf
WAR045028_2_03292023140518	SWMP Plan for 2023_Final_compi_2_03292023140518
WSSOG Activities Report_2022	WSSOG ACTIVITIES REPORT 2022 FINAL w APP
WSSOG Activities Report_2022	WSSOG ACTIVITIES REPORT 2022 FINAL w APP

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



n1MYaUaenjyMRYXrMPiDyuCP8AjsyZ7rHLSx1bnO0oOg80d/Ig2bVcoeoXrnGslqU05XvqYv3TCLRIhC2btTuka3ykQXRnCfeLZbu9uqVQs=

2022 Annual Report Questions

Last Updated: 3.27.2023

This worksheet is provided for your internal use only. Annual Report questions must be answered through the online submittal in WQWebPortal. DO NOT attempt to submit this spreadsheet, electronically or otherwise, to meet your annual reporting requirement.

Category	#	Question	COPA Response / Status	Notes
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	
General Obligations	2	Attach updated annual Stormwater Management Program Plan (SWMP Plan). (S5.A.2)	Yes - Ready to upload	JB comments received 3.24. Requested edits performed.
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	
General Obligations	4	Coordinated among departments within the jurisdiction to eliminate barriers to permit compliance. (S5.A.5.b)	Yes	
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 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	
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	
Stormwater Planning	16a	If yes, describe the barrier(s) and the measures taken to address them. (S5.C.1.c.i(a))	NA	
Stormwater Planning	19	Developed a Stormwater Management Action Plan (SMAP) for at least one high priority area? (S.5.C.1.d.iii – Required by March 31, 2023)	Yes	
Stormwater Planning	19a	Attach SMAP(s)	Ready to upload	Final SMAP received from OCI 3.27.2023
Public Education	20	Did you choose to adopt one or more elements of a regional program? (S5.C.2)	Yes	
Public Education	20a	If yes, list the elements, and the regional program.	West Sound Stormwater Outreach Group (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.	
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	2022 E&O Tracking Sheet
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	
Public Education	26a	Attach a list of stewardship opportunities provided.	Ready to Upload	2022 Stewardship List
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.	
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 - Ready to upload	*Jess will be out of the office starting Thurs. 3/30!! Get pdfs to her by Wed.
Public Involvement	28a	List the website address in Comments field.	https://www.cityofpa.us/255/Stormwater-Utility	
MS4 Mapping	29	Maintained a map of the MS4 including the requirements listed in S5.C.4.a.i-vii?	Yes	
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	
MS4 Mapping	30a	Attach a spreadsheet that lists the known outfalls' size and material(s).	Yes - Ready to Upload	2022 Outfall Map & Tracking Sheet
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	<i>No later than August 1, 2023, complete mapping of all known connections from the MS4 to a privately owned stormwater system.</i> Examples would be MS4 into POPA conveyance and outfall across Port Log Yard
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	

Category	#	Question	COPA Response / Status	Notes
IDDE	33a	Actions taken to inform public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste.	Provided staff training. 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. Revived the Pollution Prevention Assistance (PPA) Program in 2022 that will once again provide source control and IDDE education to local businesses.	
IDDE	34	Implemented an ordinance or other regulatory mechanism to effectively prohibit non-stormwater, illicit discharges as described in S5.C.5.c.	Yes	
IDDE	35	Implemented procedures for conducting illicit discharge investigations in accordance with S5.C.5.d.i.	Yes	
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 the "2022 Screening Summary and Map Update.pdf" attachment for more details.	
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.)	14.8%	
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 above. See the "2022 Screening Summary and Map Update.pdf" attachment for more details and a map of the screening basins.	
IDDE	37	Percentage of total MS4 screened from permit effective date through the end of the reporting year. (S5.C.5.d.i.)	48.3%	
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 (https://www.cityofpa.us/262/Reporting-Spills), advertised at public outreach events, listed on public outreach materials, and displayed in City Hall.	
IDDE	39	Implemented an ongoing illicit discharge training program for all municipal field staff per S5.C.5.d.iii.	Yes	
IDDE	40	Implemented an ongoing program to characterize, trace, and eliminate illicit discharges into the MS4 per S5.C.5.e.	Yes	
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	
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.	Almost Ready to Upload - need to convert spreadsheet to XML	2022 IDDE Tracking Spreadsheet (Upload zipped XML File)
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	
Runoff Controls	44	Revised 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. (Required no later than June 30, 2022)	NA	Requirements already in effect from existing ordinance
Runoff Controls	44a	Cite code reference in Comments field.	PAMC 13.63	
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	
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	
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	
Runoff Controls	47a	Number of site plans reviewed during the reporting period.	138	

Category	#	Question	COPA Response / Status	Notes
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	
Runoff Controls	48a	If no, inspected, prior to clearing and construction, all construction sites meeting the minimum thresholds (S5.C.6.c.ii)?	NA	
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	
Runoff Controls	49a	Number of construction sites inspected per S5.C.6.c.iii.	46	
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	
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	
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	
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	
Runoff Controls	53	Achieved at least 80% of scheduled construction-related inspections. (S5.C.6.c.vi)	Yes	97%
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	
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	
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	
O & M	57	Updated maintenance standards specified in Stormwater Management Manual for Western Washington per S5.C.7.a? (Required no later than June 30, 2022)	NA	COPA already adopted SWMMWW maint. standards. See PAMC 13.63
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	
O & M	58a	Note what kinds of facilities are covered by this alternative standard. (S5.C.7.a)	NA	
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	
O & M	59a	Attach documentation of maintenance time frame exceedances that were beyond the Permittee's control.	NA	
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	
O & M	61	Annually inspected stormwater treatment and flow control BMPs/facilities regulated by the Permittee per S5.C.7.b.i(b)	Yes	
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)	NA	
O & M	62	Achieved at least 80% of scheduled inspections to verify adequate long-term O&M. (S5.C.7.b.ii)	Yes	100%
O & M	63	Annually inspected all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	Yes	
O & M	63a	Number of known municipally owned or operated stormwater treatment and flow control BMPs/facilities. (S5.C.7.c.i)	193	
O & M	63b	Number of facilities inspected during the reporting period.	193	
O & M	63c	Number of facilities for which maintenance was performed during the reporting period.	139	
O & M	64	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.7.c.i.	NA	
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	
O & M	66	Inspected municipally owned or operated catch basins and inlets every two years or used an alternative approach? Cleaned as needed? (S5.C.7.c.iii)	Yes	
O & M	66a	Number of known catch basins?	2682	
O & M	66b	Number of catch basins inspected during the reporting period?	1496	

Category	#	Question	COPA Response / Status	Notes
O & M	66c	Number of catch basins cleaned during the reporting period?	1496	
O & M	67	Attach documentation of alternative catch basin cleaning approach, if used. (S5.C.7.c.iii.(a)-(c))	NA	
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	
O & M	69	Documented 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 – Required by December 31, 2022)	Yes	
O & M	69a	Cite documentation in Comments.	See attached "COPA SW Policies and Procedures_V3_3.26.2023.pdf"	Ready to upload
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	
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	
O & M	72	Updated, if needed, SWPPPs according to S5.C.7.f no later than December 31, 2022.	Yes	
Source Control	73	Adopted ordinance(s), or other enforceable documents, requiring the application of source control BMPs for pollutant generating sources associated with existing land uses and activities per S.5.C.8.b.i. (Required by August 1, 2022)	Yes	
Source Control	73a	Cite ordinance. (Required by August 1, 2022)	Ordinance 3694, PAMC 13.63	
Source Control	74	Established an inventory per S5.C.8.b.ii. (Required by August 1, 2022.)	Yes	
Source Control	74a	Number of total sites identified for the inventory.	190	
Source Control	75	Implemented an inspection program S5.C.8.b.iii (Required by January 1, 2023).	Yes	
Source Control	76	Implemented a progressive enforcement policy per S5.C.8.b.iv (Required by January 1, 2023).	Yes	
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	SC_Summary of Actions 2022.pdf
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	SC Business Insp. List_2022.pdf
Source Control	79	Implemented an ongoing source control training program per S5.C.8.b.v?	Yes	
TMDL	80	Complied with the Total Maximum Daily Load (TMDL)-specific requirements identified in Appendix 2. (S7.A)	NA	
TMDL	80a	List any requirements that were not met.	NA	
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)	NA	
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	
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	
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.)	NA	
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)	Yes	
General Obligations 2	89	Took appropriate action to correct or minimize the threat to human health, welfare, and/or the environment per G3.A.	Yes	
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)	Yes	
General Obligations 2	91	If requested, submitted an Adaptive Management Response report in accordance with S4.F.3.a.	NA	
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)	Yes - ready to upload	S4F Status_ongoing efforts_StreamKeepers2022.pdf
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)	NA	
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	
General Obligations 2	94a	List permit conditions described in non-compliance notification(s).	NA	

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 22, 2023



As required by the

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

Permit Number: WAR045028
Permit Cycle: 2019-2024

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- 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) 417-4701 (City Stormwater Engineer)

Email: stormwater@cityofpa.us
illicitdischarge@cityofpa.us **Report a Spill**

Website: <https://www.cityofpa.us/376/Stormwater-Management-Program>

Digital Copy: SELECT >> [Stormwater Management Program planning document \(PDF\)](#).

Web Form: SELECT >> [Stormwater Plan Survey](#)

1) STORMWATER PLANNING

The City is in the process of implementing 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 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 include 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.

2) 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 will continue to be in 2023.

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.

3) 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.

4) 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 anytime 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 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.

5) 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.

303(d) listed waterbodies

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

Creeks with high salmon recovery potential

- Ennis / White Creek system

Proposed highest priority waterbodies for visual inspection:

- 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 6 was screened in 2021 achieving 100% of the City being screened since 2014. Basin 7, the Lauridsen Boulevard Basin, is scheduled for screening in 2023.

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.

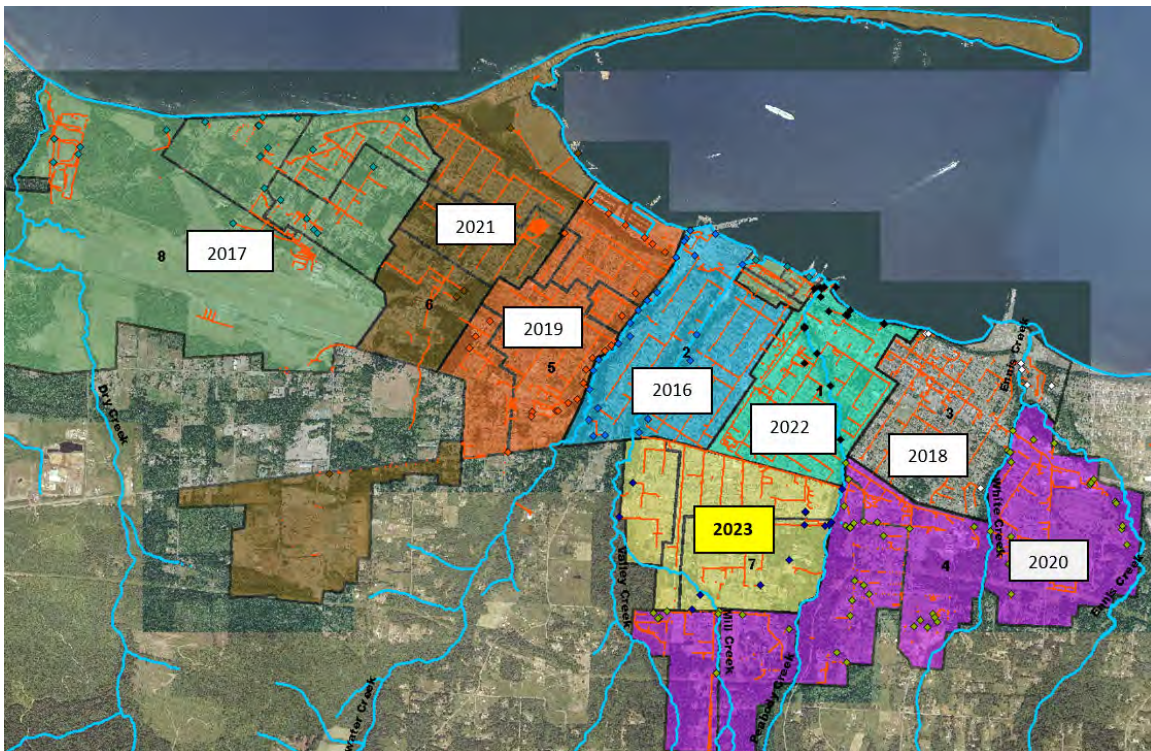


Figure 1. IDDE Screening Strategy: Screening basin boundary map and schedule.

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.

6) 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.

7) 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 not a measure of the facility's required condition at all times 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.

8) 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 2023 and to seek public input.

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**

2023 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	Vince McIntyre	Developers, contractors, home owners, landscapers, general public	vmcintyre@cityofpa.us	Pollution Prevention: landscaping, automotive care, pet waste, Natural Yard Care
Earth Day (April)	City Pier, Port Angeles	Matthew Moore, Vince McIntyre, TBD	General public	vmcintyre@cityofpa.us	Focusing on updates to the SWMP, the SMAP, and other programatic updates.
Clallam County Fair (August)	Fairgrounds, Port Angeles	Matthew Moore, Vince McIntyre, TBD	General public	vmcintyre@cityofpa.us	Focusing on pet waste awareness, natural yardcare, & programatic updates.
Utility Bill Mailer (October)	NA	Matthew Moore, Vince McIntyre	General Public	vmcintyre@cityofpa.us	LID, Pollution Prevention Hotline, programatic updates.
Pollution Prevention Assistance Partnership (Ongoing)	Site visits within the City	Howard Carlseen, Vince McIntyre	Local Businesses	vmcintyre@cityofpa.us	IDDE, Pollution Prevention, Source Control
Local Cinemas (Sept.)	Deer Park Theatre, Port Angeles	Vince McIntyre	General public	vmcintyre@cityofpa.us	Pollution Prevention
Internet Adverts (Sept.)	Port Angeles	Vince McIntyre	General Public	vmcintyre@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	Vince McIntyre	Landscapers, Home Gardeners	vmcintyre@cityofpa.us	Natural Yard Care - free webinars taught by WSU Master Gardeners w/ local coupons at Airport Garden Center
Storm Drain Art Project (On hold - Need Staff)	Francis St. Park	Vince McIntyre	General Public, Local artists	vmcintyre@cityofpa.us	Visual connection between stormwater inlets and the receiving waterbody.

**SWMP APPENDIX C : ILLICIT DISCHARGE DETECTION AND
ELIMINATION (IDDE) RESPONSE POLICY**



PUBLIC WORKS & UTILITIES DEPARTMENT POLICY AND PROCEDURES

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: 912-0260
3. Assistant Stormwater Engineer Office: 417-4720
4. Stormwater Engineer Office: 417-4811 Cell: 460-3456
5. Source Control Coordinator Office: 417-4693 Cell: 808-6930
6. Deputy Director of Public Works Office 417-4803 Cell: 808-3089

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
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- 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, fluoride, 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.

Small non-hazardous spills

- Use a rag, damp cloth, or absorbent materials for general cleanup of liquids
- Use brooms or 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

Large non-hazardous spills

- 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. For 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.

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 Form 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. Within 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	<u>1-800-258-5990</u>	_____		
National Response Center- Immediate	<u>1-800-424-8802</u>	_____		
Ecology Regional Office-SW- 24 Hrs	<u>360-407-6300</u>	_____		
City of PA Stormwater Eng.- 24 Hrs	<u>360-460-3456</u>	_____		

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

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**

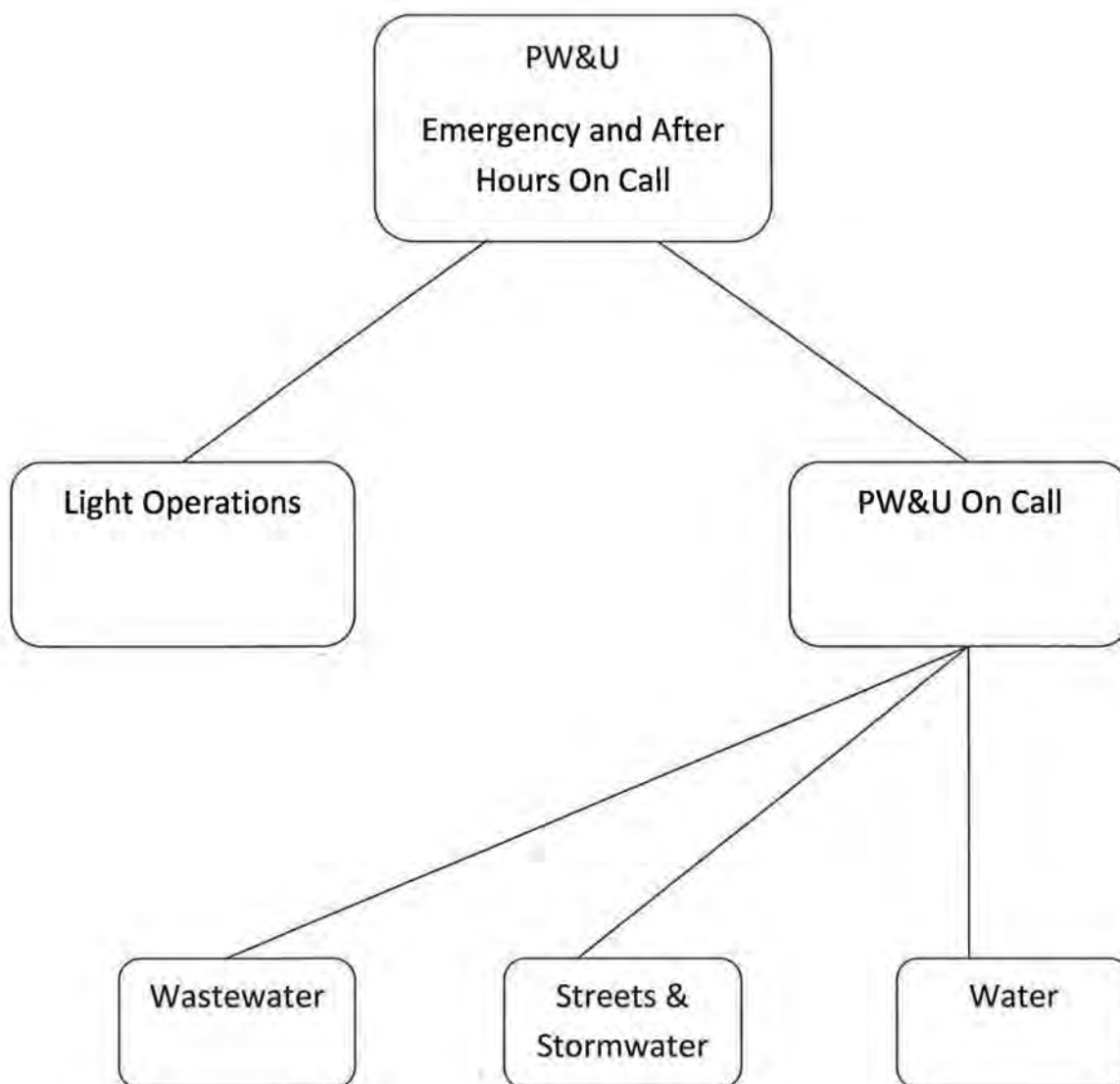
FOR POLLUTION INCIDENTS

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) Eric Wheatley 2) Mike Brockopp 3) Guy Wehr 4) Street/Stormwater On-Call	Work: 360-417-4825 Cell: 360- 912-0260 Work: 360-565-3854 Cell: 360-461-5174 Work: 360-417-4827 Cell: 360-460-9676 Cell: 360-477-1260
Stormwater Engineer	Jonathan Boehme	Work: 417-4811 Cell: 460-3456
Wastewater Collection	1) Jeff D. Young 2) Jay Divelbiss	Work: 360-417-4845 Cell: 360-461-1044 Work: 360-417-4845 Cell: 360-460-3976
Wastewater Treatment Plant	1) Jeff D. Young 2) Gary Richmond 3) WWTP on-call	Work: 360-417-4845 Cell: 360-461-1044 Work: 360-417-4845 Cell: 360-808-4757 Cell: 360461-0111
Deputy Director of Operations	Mike Puntenney	Work: 360-417-4803 Cell: 360-808-3089
Fire Department	1) Coral Wheeler	Work: 360-417-4650 Dispatch: 360-417-4797

Agency	Contact Person	Phone Nos.
WS Department of Ecology Water Quality, SW Regional Office. <i>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.</i>	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



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):			
<input type="checkbox"/> Industrial	<input type="checkbox"/> Open Space		
<input type="checkbox"/> Ultra-Urban Residential	<input type="checkbox"/> Institutional		
<input type="checkbox"/> Suburban Residential	<input type="checkbox"/> Other: _____		
<input type="checkbox"/> Commercial	<input type="checkbox"/> 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	
<input type="checkbox"/> Closed Pipe	<input type="checkbox"/> RCP <input type="checkbox"/> CMP <input type="checkbox"/> PVC <input type="checkbox"/> HDPE <input type="checkbox"/> Steel <input type="checkbox"/> Other: _____	<input type="checkbox"/> Circular <input type="checkbox"/> Elliptical <input type="checkbox"/> Box <input type="checkbox"/> Other: _____	<input type="checkbox"/> Single <input type="checkbox"/> Double <input type="checkbox"/> Triple <input type="checkbox"/> Other: _____	Diameter/Dimensions: _____ Depth: _____ Top Width: _____ Bottom Width: _____	In Water: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully With Sediment: <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> Fully
<input type="checkbox"/> Open drainage	<input type="checkbox"/> Concrete <input type="checkbox"/> Earthen <input type="checkbox"/> Rip-rap <input type="checkbox"/> Other: _____	<input type="checkbox"/> Trapezoid <input type="checkbox"/> Parabolic <input type="checkbox"/> Other: _____			
<input type="checkbox"/> In-Stream	(applicable when collecting samples)				
Flow Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <i>If No, Skip to Section 5</i>				
Flow Description (If Present)	<input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> 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	
<input type="checkbox"/> Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
<input type="checkbox"/> 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	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint	<input type="checkbox"/> 2 – Easily detected	<input type="checkbox"/> 3 – Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> Yellow <input type="checkbox"/> Green <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Faint colors in sample bottle	<input type="checkbox"/> 2 – Clearly visible in sample bottle	<input type="checkbox"/> 3 – Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See Severity	<input type="checkbox"/> 1 – Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables – Does Not Include Trash!	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 – Few/slight; origin not obvious	<input type="checkbox"/> 2 – Some; indications of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 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	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other:	

Section 6: Overall Spill or Illicit Discharge Characterization

<input type="checkbox"/> Unlikely	<input type="checkbox"/> Potential (presence of two or more indicators)	<input type="checkbox"/> Suspect (one of more indicators with a severity of 3)	<input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. Collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> 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
<input type="checkbox"/> Flow #1	Volume		Liter
	Time to fill		Sec
<input type="checkbox"/> Flow #2	Flow depth		In
	Flow width	___' ___"	Ft, In
	Measured length	___' ___"	Ft, In
	Time of travel		S
Temperature			°F
pH			pH Units
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







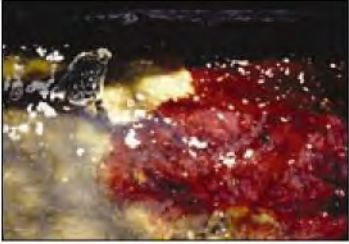






 <p>Color: Brown; Severity: 2 Turbidity Severity: 2</p>	 <p>Color: Blue-green; Severity: 3 Turbidity Severity: 2</p>	 <p>Highly Turbid Discharge Color: Brown; Severity: 3 Turbidity Severity: 3</p>
 <p>Sewage Discharge Color: 3 Turbidity: 3</p>	 <p>Paint Color: White; Severity: 3 Turbidity: 3</p>	 <p>Industrial Discharge Color: Green; Severity: 3 Turbidity Severity: 3</p>
 <p>Blood Color: Red; Severity: 3 Turbidity Severity: None</p>	 <p>Failing Septic System: Turbidity Severity: 3</p>	 <p>Turbidity in Downstream Plume Turbidity Severity: 2 (also confirm with sample bottle)</p>
 <p>High Turbidity in Pool Turbidity Severity: 2 (Confirm with sample bottle)</p>	 <p>Iron Floc Color: Reddish Orange; Severity: 3 (Often associated with a natural source)</p>	 <p>Slight Turbidity Turbidity: 1 (Difficult to interpret this observation; May be natural or an illicit discharge)</p>
<p>Construction Site Discharge Turbidity Severity: 3</p>		<p>Discharge of Rinse from Floor Sanding (Found during wet weather) Turbidity Severity: 3</p>

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.

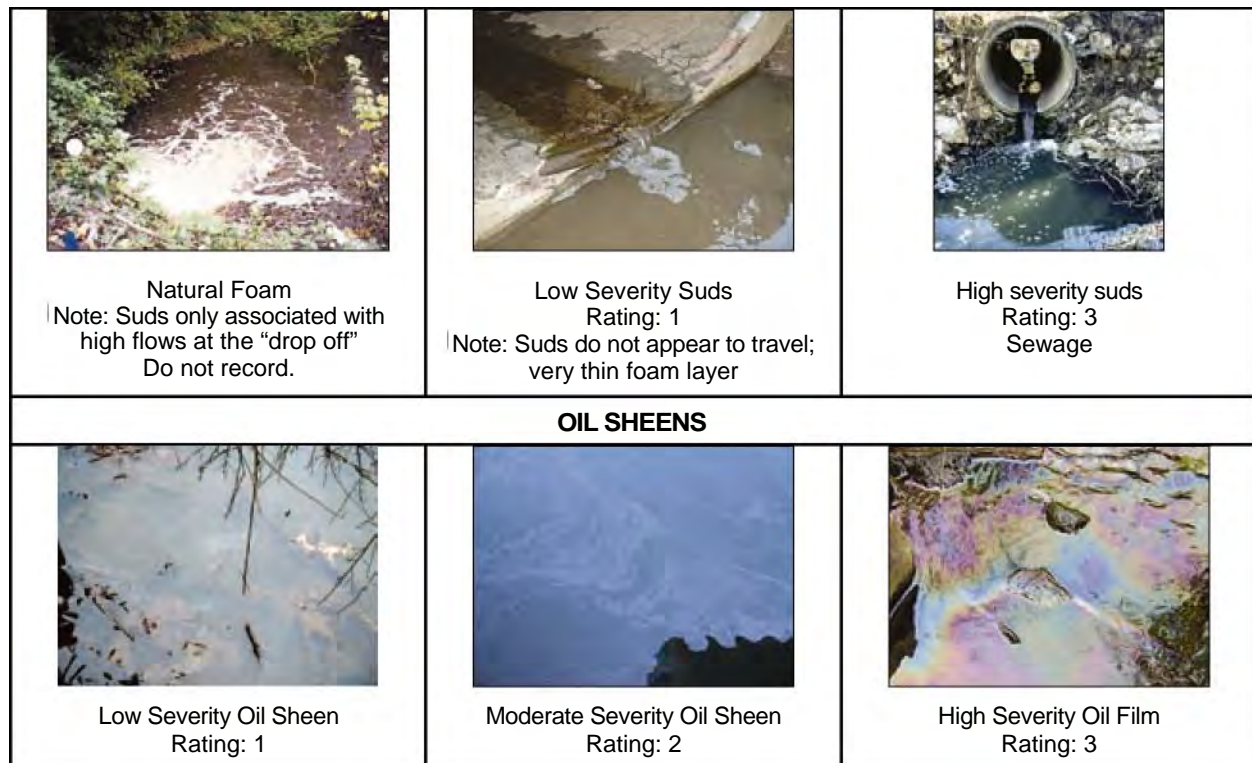


Figure 8.4.5: Determining the Severity of Floatables

SUDS



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.

 <p>Bacterial growth at this outfall indicates nutrient enrichment and a likely sewage source.</p>	 <p>This bright red bacterial growth often indicates high manganese and iron concentrations. Surprisingly, it is not typically associated with illicit discharges.</p>	 <p>Sporalitis filamentous bacteria, also known as "sewage fungus" can be used to track down sanitary sewer leaks.</p>
 <p>Algal mats on lakes indicate eutrophication. Several sources can cause this problem. Investigate potential illicit sources.</p>	 <p>Illicit discharges or excessive nutrient application can lead to extreme algal growth on stream beds.</p>	 <p>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.</p>
 <p>This brownish algae indicates an elevated nutrient level.</p>		

Figure 8.4.7: Interpreting Benthic and Other Biotic Indicators

 <p>Reddish staining on the rocks below this outfall indicate high iron concentrations.</p>	 <p>Toilet paper directly below the storm drain outlet.</p>	 <p>Watershed Protection??</p>
 <p>Trash is not an indicator of illicit discharges, but should be noted.</p>	 <p>Staining at the base of the outfall may indicate a persistent, intermittent discharge.</p>	 <p>Excessive vegetation may indicate enriched flows associated with sewage.</p>
 <p>Brownish stain of unclear origin. May be from degradation of the brick infrastructure.</p>	 <p>Cracked rock below the outfall may indicate an intermittent discharge.</p>	 <p>Poor pool quality. Consider sampling from the pool to determine origin.</p>

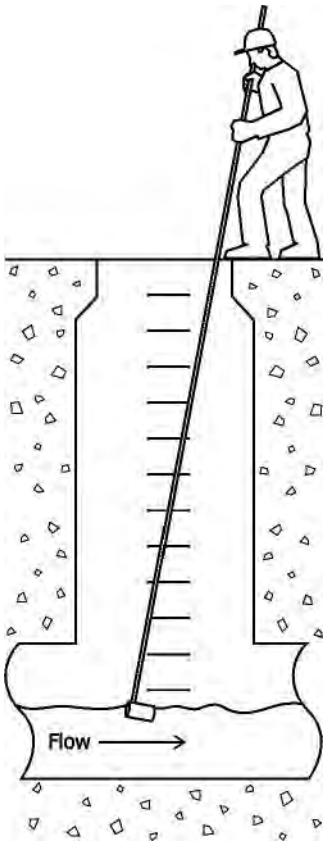
Figure 8.4.8

Typical Findings at Both Flowing and Non-Flowing Outfalls

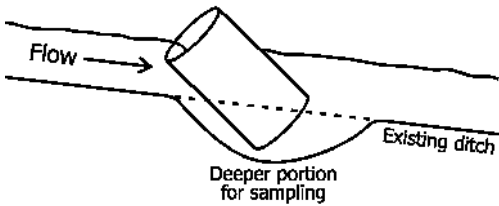
Appendix 8.5 – Stormwater Sampling Checklist

General Sampling Techniques

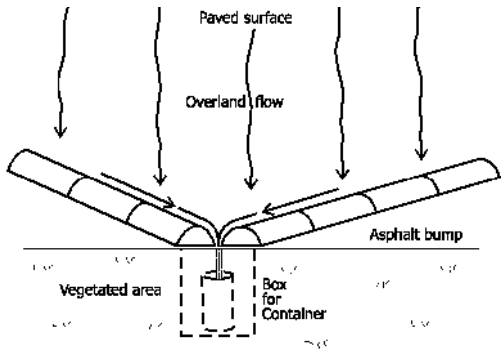
- If possible, notify the wastewater lab ahead of an illicit discharge investigation, a stream survey or a priority outfall survey so they will be aware that timely testing may be required.
- Collect two sample bottles for each sample site from the lab. Lab note: for fecal coliform samples: Bacteria 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.



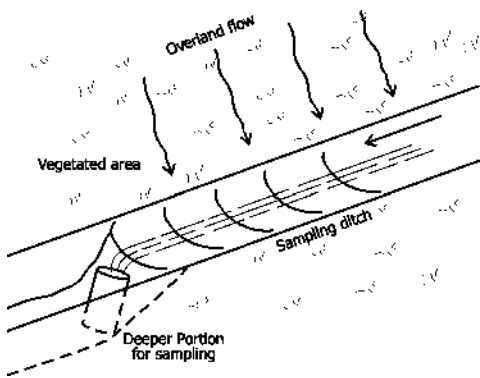
When sampling from a manhole, use a pole to safely sample from above ground. Avoid touching the sides of the manhole or pipes with the bottle to prevent contamination. Place the opening of the bottle upstream so that the flow enters the bottle directly.



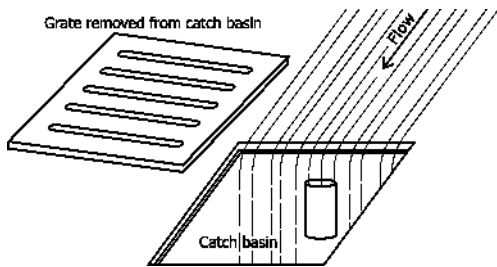
Deepening an existing ditch can allow samples to be collected directly into bottles in some cases. Be careful not to stir up solids from the sides or bottom of the ditch



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.

Appendix 8.6 – IDDE Incident Closure Form

 IDDE INCIDENT CLOSURE FORM		
Initial investigation date: Cityworks WO#:	Title:	Investigators:
<input type="checkbox"/> No investigation made:	Reason:	
<input type="checkbox"/> Referred to different department/agency:	Department/Agency:	
<input type="checkbox"/> Investigated: No action necessary		
<input type="checkbox"/> Investigated: Requires action	<input type="checkbox"/> Report to Ecology ERTS #	
<input type="checkbox"/> Enforcement Required?	<input type="checkbox"/> Referred to Stormwater Engineering for Enforcement	
Description of Event:		
Description or Actions Taken:		
Conclusion/Findings:		
Date of Case Closed:		

X _____
Deputy Director of Public Works & Utilities



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: Updates to the Comprehensive Plan

Version: 1

Due Date: 1/1/2023

Comments: Attached is the City's report satisfying Section S5.C.1.b(i)(b) of the Phase II Permit.

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

12/27/2022 2:23:09 PM

Signature

Date

ROBIN KIRSCHBAUM, INC.

water { planning
engineering



NPDES PHASE II MUNICIPAL STORMWATER PERMIT SUPPORT: STORMWATER PLANNING

COORDINATION WITH LONG-RANGE PLAN

UPDATES

2019 – 2024 PERMIT PERIOD



NOVEMBER 2022



CITY OF PORT ANGELES

NPDES PHASE II MUNICIPAL STORMWATER PERMIT
SUPPORT: STORMWATER PLANNING

Date: November 10, 2022
To: Ann Bryant / Osborn Consulting, Inc.
Vince McIntyre / City of Port Angeles
From: Robin Kirschbaum, Inc.
Subject: Task 2.2: Coordination with Long-Range Plan Updates (2019 – 2024 Permit Period)

Cover photos downloaded from the City of Port Angeles’ website on February 8, 2021.

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1.3 Organization of this Memorandum1
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Table 1. Documents Reviewed for Response to Annual Report Questions2

LIST OF APPENDICES

Appendix A – Responses to Stormwater Planning Annual Report Questions

1 INTRODUCTION

1.1 Project Description

The Washington State Department of Ecology (Ecology) reissued the Western Washington Phase II Municipal Stormwater Permit (Permit) on July 1, 2019, with an effective date August 1, 2019 and expiration date July 31, 2024. Special Condition (S) 5.C.1.b.i of the Permit requires the City of Port Angeles (City) to respond to a series of Stormwater Planning Annual Report questions to describe how anticipated stormwater impacts on water quality were addressed, if at all, during the previous 2013 to 2019 and current 2019 to 2024 Permit terms in updates to the City's long-term plans. The list of questions is provided in Appendix 3 of the Permit.

Responses to the questions for the previous 2013 to 2019 Permit term were submitted to Ecology in March 2021 to meet Section S5.C.1.b.i (a). Ecology did not have any questions or comments for the City based on the question responses. Section S5.C.1.b.i (b) of the Permit requires the City to address the same Stormwater Planning Annual Report questions relating to the current 2019 to 2024 Permit term, due to Ecology on or before January 1, 2023.

The City retained a Consulting team of Osborn Consulting, Inc. and Robin Kirschbaum, Inc. (RKI) to review the City's Comprehensive Plan, Capital Facilities Plan, Transportation Improvement Plan, and other long-term planning documents and assist with responses to the Stormwater Planning Annual Report questions.

1.2 Purpose of this Memorandum

Pursuant to S5.C.1.b.i (b) of the Permit, the purpose of this memorandum is to assist the City with responses to the Stormwater Planning Annual Report questions describing how anticipated stormwater impacts on water quality were addressed, if at all, during the 2019 – 2024 Permit term. Specifically, this memorandum provides responses to Questions #6 through #13, found in Appendix 3 of the Permit under the section titled "Coordination with Long-Range Plan Updates".

1.3 Organization of this Memorandum

The remainder of this memorandum is organized as follows:

- Section 2: Documents Reviewed
- Section 3: Stormwater Planning Annual Report Questions
- Section 4: References
- Appendix A: Responses to Stormwater Planning Annual Report Questions

The responses provided in Appendix A are intended to be ready for the City's use in submitting responses to Ecology per the requirements of S5.C.1.b.i (b) of the Permit.

2 DOCUMENTS REVIEWED

The documents reviewed for this task are summarized in Table 1.

Table 1. Documents Reviewed for Response to Annual Report Questions

Document Name	Year Last Updated
City of Port Angeles Urban Services Standards and Guidelines	2017
The Comprehensive Plan for the City of Port Angeles	2016
City of Port Angeles Comprehensive Plan 2019 Amendment	2019
Clallam County Code Title 31.04: Port Angeles Regional Plan	2021
City of Port Angeles Comprehensive Plan 2022 Amendment: Addition of City of Port Angeles Climate Resiliency Plan	2022
City of Port Angeles 2023 – 2028 Capital Facilities Plan and Transportation Improvement Plan	2022
City of Port Angeles Stormwater Management Program Plan	2022
Port Angeles Municipal Code Update to Chapter 13	2022
City of Port Angeles 2021 – 2022 Strategic Plan	2022
City of Port Angeles Stormwater Management Action Plan (SMAP) – In Progress	2022
GreenLink Port Angeles Phase I Summary Report	2022

3 STORMWATER PLANNING ANNUAL REPORT QUESTIONS

This section presents Stormwater Planning Annual Report Questions #6 through #13 as provided in Appendix 3 of the Permit. See Appendix A of this memorandum for responses for the City's use in responding to the questions as required by the Permit.

Question 6

List the relevant land use planning efforts that have taken place in your jurisdiction (land use plans that are used to accommodate growth, stormwater management, or transportation).

Question 7

List of stormwater capital projects (currently in or slated for future design and construction) that resulted from this planning.

Question 8

Describe of [sic] watershed protection measures associated with stormwater management and land use planning actions that resulted from this planning.

Question 9

Were land acquisitions identified (or are planning ahead for) that are useful for stormwater facilities to: accommodate growth or to better serve an existing developed area? If yes, for what purpose?

Question 10

Identified corrective actions, in addition to the minimum requirements of the Municipal Stormwater Permits to control or treat municipal stormwater discharges that pollute waters of the State (e.g., Limits to impervious cover added to any zoning districts, regional facility planning, minimization of vegetation loss, etc.)? If yes, briefly describe and list relevant plan or code sections, if applicable.

Question 11

Updates to goals and policies related to investment in stormwater management facilities/Best Management Practices (BMPs)? (yes/no) If yes, briefly describe.

Question 12

Does the long-range plan identify the location and existing capacity of the stormwater facilities owned or operated by the Permittee and show which of those stormwater facilities have unused capacity?

12a. Do these stormwater facility locations impact where housing, or other types of development, are projected to be located or influence the acquisition of land? (If yes, how?)

12b. Does the long-range plan identify a lack of facilities and the potential impacts of existing or new development to those areas and receiving waters?

12c. Any new proposed locations and capacities of stormwater facilities needed for the timeframe of the plan?

Question 13

Based on the projected population densities and distribution of growth over the planning period, describe how stormwater runoff impacts are forecasted. Does stormwater management information (including water quality) direct where growth is directed?

4 REFERENCES

Clallam County, 2021. "Clallam County Code Title 31.04: Port Angeles Regional Plan." Passed January 19.

City of Port Angeles (Port Angeles), 2016. "The Comprehensive Plan for the City of Port Angeles.", Approved June 21.

City of Port Angeles (Port Angeles), 2017. "City of Port Angeles, Department of Public Works and Utilities: Urban Services Standards and Guidelines." January.

City of Port Angeles (Port Angeles), 2019. "The Comprehensive Plan for the City of Port Angeles." Approved June 21, 2016. Amended 2019.

City of Port Angeles (Port Angeles), 2022. "Ordinances No. 3693 and No. 3694" Adopted July 5, 2022.

City of Port Angeles (Port Angeles), 2022. "The City of Port Angeles, Washington: 2023 – 2028 Capital Facilities Plan and Transportation Improvement Plan." June 21.

City of Port Angeles (Port Angeles), 2022. "The City of Port Angeles, Stormwater Management Program Plan." Revised March 21.

City of Port Angeles (Port Angeles), 2022. "Climate Resiliency Plan." June.

City of Port Angeles (Port Angeles), 2022. "The City of Port Angeles Municipal Code: Chapters 13.62 and 13.63." June 27.

Futurewise, 2022. "GreenLink Port Angeles: Phase 1 Summary Report." February.

McIntyre, Vince. "Stormwater Management Action Plan." *CityofPA*, <https://www.cityofpa.us/1140/Stormwater-Management-Action-Plan>. Accessed September 16, 2022.

State of Washington Department of Ecology (Ecology), 2019. "Western Washington Phase II Municipal Stormwater Permit." Issued July 1.

Wierzbicki, Christopher, 2019. "Memorandum: GreenLink Port Angeles." Developed by futurewise for Port Angeles City Council. May 21.

APPENDIX A: RESPONSES TO STORMWATER PLANNING ANNUAL REPORT QUESTIONS

The below text provides responses to the Stormwater Planning Annual Report Questions #6 through #13 (see Section 3 of the main body of the memorandum) for the City's use in responding to Ecology as required by the Permit.

Question 6

Response

GREENLINK PORT ANGELES

In 2018, the City and Futurewise initiated GreenLink Port Angeles, which is a two-phase, watershed-scale green infrastructure and land use planning effort. Phase I occurred during the 2013 – 2019 Permit term and Phase II of the project occurs during the 2019 – 2024 Permit term . Phase II involves:

- Maintain ongoing engagement with the GreenLink Advisory Committee (GLAC).
- Expand the outreach strategy to include other interested tribes.
- Continue community engagement efforts with particular emphasis on outreach to affected property owners and businesses for the daylighting project and the broader community for creation of the Valley Creek Master Plan.
- Determine components of the Valley Creek Master Plan.
- Complete the feasibility assessment to include an evaluation of routing alternatives and logical project segments.
- Develop the scope of work and secure an engineering contract to begin plan set development, and if time allows, permitting.
- Evaluate the need for consultants to work on elements of the Valley Creek Master Plan and if needed develop that scope of work and secure a contract.
- Research funding opportunities for project implementation.

Additional land use planning efforts are described both in the City's Comprehensive Plan (last updated in 2016 and amended in 2017 and 2019) and in the City's Capital Facilities Plan and Transportation Improvement Plan (updated an on annual basis). The Capital Facilities Plan (CFP) includes a schedule for preparation and adoption of all City service and facilities plans, coordinated with the Comprehensive Plan.

CLIMATE RESILIENCY PLAN

In 2022, the City published its Climate Resiliency Plan as part of the Comprehensive Plan and is designed to build upon existing sustainability programs and efforts. This plan includes efforts related to land use, accommodating growth, stormwater management, and transportation. The following are highlights from the plan:

- Place a priority on sustainable land use and building practices, resilience of our natural systems, and a focus on reducing the City’s carbon footprint to measure our independence, self-reliance, and quality of life.
- Directing measurable action to support system-wide waste and energy/water use reductions, sustainable land use, transportation and economic development, and social and environmental health and equity that celebrates our community’s diversity.
- Recognizing the importance of contributing to sustainability through public projects that connect trails and transit, commercial development that provides jobs and services to neighborhoods, and innovative Low Impact Development (LID) stormwater and building practices.

STORMWATER MANAGEMENT ACTION PLAN (SMAP)

The City and OCI began working on the Stormwater Management Action Plan (SMAP) in February of 2021. Phase 1 (Receiving water conditions assessment) was complete March 2022, Phase II (Receiving water prioritization) was complete June 2022. Phase III (SMAP for a priority catchment area; Valley Creek basin) is underway and will be complete March 2023. <https://www.cityofpa.us/1140/Stormwater-Management-Action-Plan>

Question 7

Response

The following list summarizes stormwater capital projects that resulted from planning as described in Question 6, as well as projects that are slated for future design and construction.

COMPLETED PROJECTS

1. TR1215 City Hall LID Parking Lot Retrofit: Design completed in 2021. Construction Funding secured and scheduled for 2023. See CFP page for more details. This project will use LID techniques to manage stormwater and also restore parking surface. WA Department of Ecology (DOE) has offered the City a \$102,000 project design grant with no match requirements. The remaining amount needed will be funded from the General Fund. An grant for project construction will be applied for from DOE.
2. 10th Street Reconstruction: Completed in 2019, this project reconstructed approximately 1,200 lineal feet of curb, gutter, sidewalk, bike lanes, drainage, and new asphalt along 10th Street.
3. GreenLink Port Angeles, Phase I: Completed in 2020, Phase I of GreenLink Port Angeles developed a list of implementable green infrastructure projects and/or policies that will improve Port Angeles water quality, habitat, and community assets within the Port Angeles watershed.
4. DR0119 “N” Street Outfall Improvement: Completed in 2022, this upgrade buttressed the dropoff with quarry spalls, tightlined the outfall down to the toe of the bluff, installed an engineered diffuser/dispersion tee, anchored the tee and, where necessary, installed armoring and/or plantings to minimize further erosion. This project also installed an upstream structure to capture solids to prevent clogging of the downstream dispersion tee and facilitate future inspection and maintenance of the outfall.

ACTIVE PROJECTS

1. TR0715 16th Street LID Retrofit Project: This project will use LID techniques to manage stormwater and also restore the street surfacing between "C" and "L" Streets. Department of Ecology (ECY) has offered the City a grant with no match requirements for project design. Design is being finalized in 2022. Construction is currently slated for 2024 or 2025, pending grant funding.
2. DR0213 "H" Street Stormwater Outfall: Planned for construction in 2023, the City will identify an alternate alignment for stormwater currently conveyed through an undersized, failing storm pipe between Marine Drive and a saltwater outfall to reduce flooding in the Crown Park neighborhood.
3. DR0120 Decant Facility at Transfer Station – Water Soils Decant Bays: Design and construct a decant facility to handle street sweepings, stormwater catch basin debris, wastewater soils, and water soils. This facility helps to prevent pollutants such as suspended sediment, heavy metals, nutrients, and trash from entering Port Angeles Harbor and the Salish Sea, the larger facility footprint will enable the City to process an additional 2,500 cubic yards of decant material per year.
4. DR0804 Lincoln Park/Big Boy Pond Study: This project will conduct hydrologic analysis of the overall drainage basin, update accountability and determine ownership/responsibility of stormwater infrastructure, evaluate conveyance and pump capacity, make remedial recommendations to eliminate flooding, and prepare design documents necessary for bid and construction. Funding for construction will be dependent upon the results of this study.
5. DR0322 Park Avenue Outfall to Peabody Creek: This project entails design and construction of a new stormwater outfall to replace the failed existing outfall. A design consultant will be selected to evaluate the drainage basin, size the pipe and dispersion structure, select stormwater anchors and structures necessary for connection with the existing 24" concrete main, intercept other nearby stormwater discharge points and tightline them into the new dispersion structure, put together a full construction plan set, specs., estimate, manual, and apply for permitting. Construction will entail performing the design work, satisfying the environmental permitting requirements for work within the stream corridor, and re-stabilizing disturbed areas.
6. DR0215 Francis Street Outfall Repair: The existing stormwater outfall at Francis St. is almost entirely submerged under beach sediments and should be upgraded to restore flow capacity and to meet current Washington Dept. of Fish and Wildlife standards. Rather than a pipe extending into the tidelands, current standards require energy dissipation, which will be located on the rip-rap bank. The restoration of outfall capacity is needed to allow upstream connections and development without causing localized flooding.
7. WT0319 Ground Water Resiliency Program: Spanning 2022 to 2025, this program will develop water system resiliency by using ground water to meet peak day water demands. The program will begin with an analysis to locate the future locations for ground water wells based on locations of existing reservoirs, hydrology and water quality. Pilot test wells will be installed to measure actual yields and water characteristics. Based on this study water rights will be negotiated and construction of a production well will commence.

FUTURE DESIGN AND CONSTRUCTION

The below listed projects are from the latest Capital Facilities Plan (CFP) (2022). Phase 3 of the ongoing SMAP work and Phase II of the ongoing Greenlink PA work will undoubtedly result in additional projects being added to the next update of the CFP.

1. WW0120 Pump station #3 force main replacement: The Pump Station #3 force main is over 50 years old, is hydraulically limited during wet weather flows, and presents a vulnerability risk in the conveyance system between the west side service area and CoPA Pump Station #4. Open Trench Construction methods will be used to install a second force main that provides redundancy that may be beneficial in an emergency situation. The existing force main could be rehabilitated in the future using "in situ methods such as CIPP. Project Team will attempt to coordinate/since this construction effort with the Stormwater Utility H Street Outfall - DR0213. This project is currently slated for construction in 2023.
2. DR0222 Chase Street Stormwater Improvements: This project will extend the 24 inch Lincoln Street storm main from 7th Street to 8th Street and intercept the existing storm conveyance on Lincoln Street between 8th St. and Lauridsen Blvd., thereby redirecting the flow from the Chase St. conveyance and into the N. Lincoln St. conveyance. A consultant will be selected to initiate the design and prepare the construction plans, specifications, estimate, project manual, and apply for environmental permitting in 2028.
3. DR0304 Stormwater at Laurel St. & US 101: Design and construct stormwater system improvements through the intersection of Lincoln and Lauridsen with Highway 101, as well as other areas of flooding along Lauridsen and Highway 101.
4. DR0115 Liberty Street Stormwater Improvements: Existing stormlines near Liberty Street are undersized. This project will increase the capacity of stormwater drainage at Liberty Street. Project extent is limited to conveyance from Liberty Street to Washington Street. An additional \$1.224 million is currently unfunded to address restrictions further north to the outfall.
5. DR0122 18th St. Culvert & Outfall Improvement: This project will increase the inlet and conveyance capacity of the stormwater culvert crossing 18th Street near the Ocean View Cemetery to reduce frequent maintenance and reduce the risk of flooding and damage to the roadway. Additionally, the CMP conveyance pipe and outfall will be upgraded to meet current standard for erosion control. The outfall will be extended down the bluff and towards the shoreline and an engineered dispersion tee will be installed to reduce the threat of bluff destabilization. Currently scheduled for 2028, a design consultant will be selected to evaluate the contributing area, size the new infrastructure, secure environmental permitting, and develop the construction plans, specifications, estimate, and project manual.
6. DR0219 Outfall to Creek Improvement Program: Stormwater runoff within City limits is primarily collected and consolidated into stormwater mains that discharge at engineered outfalls, however, in numerous locations along City creeks, minor stormwater flows from developed hard-surface areas that naturally slope towards the creeks are collected and discharge via outfalls at the top of the steep ravines. Over time this has resulted in localized erosion and contributed to decreased water quality in fish-bearing creeks. This project is designed to be spread out over time and reoccurring until all outfalls have been appropriately upgraded to meet current stormwater management standards. The first phase of this project would be to evaluate the outfalls, prioritize them for improvement, and schedule them for upgrade. The upgrade process would consist of tightlining the existing outfall to the toe of the ravine,

anchoring the pipe with surface staking and/or deadman, stabilizing the outlet with quarry spalls and, where necessary, installing erosion control measures such as blankets, seeding, and plantings.

7. DR0112 Valley Creek Culvert & Outfall: Replace the lower reach of the seven foot round culvert from south of the industrial waterline to the outfall. The existing culvert outfall is too low, at almost 4 feet lower than the upstream section. Approximately 130 feet will be replaced.
8. GG0916 Valley Creek Restoration Phase III: In 2010, the City began developing a design for Phase III of the Valley Creek restoration. The restoration design improves a channelized and culverted portion of Valley Creek, located adjacent to and under Valley Street between 2nd St. and 9th St. The improvements include 1,500 feet of remeandered channel at the southern end of the project stream reach, removal of the steepest section of culvert between 5th St. and 6th St and replacing it with 400 feet of meandering stream, installation of a new 135 foot long arch culvert segment to improve passage conditions at the culvert inlet, and installation of baffles to improve fishway passage in the remaining 1,750 foot long culvert. The design was completed in 2011 and includes detailed drawings, a project manual with specifications, cost estimates, and complete local and state permit application forms. The project is now construction ready.

The project includes fish passage improvements in the culvert and at the culvert inlet, connection with a constructed wetland (built in conjunction with the 8th Street bridge replacement project), a wider riparian zone with new vegetation, increased stream length due to the new meander, and improved geomorphology due to installation of large woody debris and rock. These changes will also result in reduced maintenance costs associated with flooding, erosion and debris removal from the culvert trash rack. In 2016, the Fish Passage Barrier Removal Board staff vetted the design and confirmed that there are no total fish passage barriers downstream; specifically, an irregular section of the long culvert under Marine Drive is back watered at high tide.

Completion of this project segment will result in a fish passable stream from the Valley Creek estuary south to the Highway 101 culvert (Valley Creek Restoration Phase I) and beyond. Valley Creek Restoration Phase II improved instream and riparian habitat between the Highway 101 culvert and the Valley Creek Restoration Phase III reach. The Valley Creek watershed was ranked as the 14th priority watershed and the system priority is listed as Medium. Valley Creek is located in Water Resource Inventory Area (WRIA) 18. This includes design and permitting updates, construction, construction management, and riparian plantings.

9. TR0715 16th Street LID (C to L Streets): Planned for construction in 2024, this project will use LID techniques to manage stormwater and restore street surfacing between C and L streets.
10. TR0416 1st/2nd/Valley/Oak Green Alley: Planned for construction in 2023, this project involves repairing pavement and stormwater connections. Pavement has failed in the alley and inadequate stormwater connections contribute to wet weather combined sewer overflow events.
11. TR1215 City Hall East Parking Lot LID: Planned for construction in 2023, this project will use LID techniques to manage stormwater runoff and restore the parking surface, which will help reduce pollutant loading to Peabody Creek.
12. DR0117 Peabody Street Water Quality Project: Installation of water quality devices along Peabody Street. This project is contingent upon being awarded grant funding from Washington State Department of

Ecology. This project is part of a larger ongoing effort to improve downstream water quality in the Peabody Creek drainage basin, currently slated for design in 2024 and construction in 2025, pending funding.

13. DR0404 Stormwater at Canyon Edge and Ahlvers: Planned for construction in 2024, the City will install new stormwater conveyance to route high flows to new outfall upstream of existing Mill Creek outfall.
14. WW0715 Oak Street Sewer Separation: Planned for design in 2025 and construction in 2026, the City will reduce and/or eliminate surface flow entering the wastewater system at prioritized locations. This project will separate out stormwater from wastewater in the existing CSO system by extending the Front Street stormwater system, up Oak Street, east on the alley between Oak and Laurel Streets.
15. WW0815 Laurel Street Sewer Separation: Planned for design in 2025 and construction in 2026, the City will reduce and/or eliminate surface flow entering the wastewater system at prioritized locations. This project will separate out stormwater from wastewater in the existing CSO system from First Street to prevent stormwater from entering the wastewater system.
16. 2025, 2026 and 2027 Neighborhood Sewer Rehabilitation: Planned for construction in 2025, 2026 and 2027, the City will repair damaged gravity sewer lines to prevent or reduce groundwater infiltration. Infiltration adds to the stormwater flows causing potential CSO events.

Question 8

Response

Watershed protection measures associated with stormwater management and land use planning actions that resulted from planning as described in Question 6 are as follows:

1. In 2019, the City developed an inventory of wetland delineations completed as part of land use permitting (Comprehensive Plan, Chapter 11.8).
2. The City's Stormwater Management Program Plan (2022) describes 8 programs actively being implemented by the City to manage stormwater, protect receiving waters, and provide education. Each of these contribute to overall watershed protection:
 1. Stormwater Planning: The City is in the process of implementing 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.
 2. 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.
3. **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.
 4. **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 City of Port Angeles SWMP – Latest Revision, March 2022 Page 16 of 35
 - 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.

5. **Illicit Discharge Detection and Elimination:** 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).
6. **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.
7. **Operation 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.
8. **Source Control for Existing Development:** The City is in the process of developing a Source Control Program that is designed to prevent and reduce pollutants in runoff from areas 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 can be built upon.

3. GreenLink Port Angeles is a watershed-scale planning process for developing an integrated network of multi-benefit GSI projects. Modeled after a successful pilot in Bellingham, WA, a holistic, data driven approach was used to create a prioritized list of GSI projects and programmatic recommendations that maximize the value of management investments by providing overlapping improvements to water quality, habitat, and other community assets like walkability. The City, along with other stakeholders, worked with a GreenLink Advisory Committee (GLAC) to provide expertise, local knowledge, and guidance through the process. A Phase I summary was published in February 2022, highlights related to watershed protection include:
 - Using government sources, the City compiled more than 75 spatial datasets of relevant watershed health metrics and other material related to project feasibility to create a “Lay of the Land ”
 - A cumulative watershed function map was then created by combining individual map layers related to community assets and water quality, resulting in the “stacking” of the georeferenced grids. Habitat characteristics were considered separately to avoid constraints like critical habitat that could impact permitting.
 - A small team of stormwater engineers and planners visited potential project locations in the Ennis Creek, Peabody Creek, Valley Creek and Tumwater Creek watersheds in Port Angeles to further assess the opportunities identified by the desktop analysis and to gather the information needed to develop a first draft of the list of potential GSI projects. This step informed the development of site specific GSI interventions and led to the identification of additional project opportunities.

Question 9

Response

The following project in the City's long-range planning identify or are planning ahead for land acquisitions that are or may be useful for stormwater facilities:

1. TR0421 Valley Street Culvert Crossing: The project will start with an alternative analysis to determine the preferred method to address the failing bridge, alternatives to consider include bridge replacement, and property acquisition and bridge removal. The bridge provides sole access to properties and residences on the east side of Valley Creek. Should the bridge be eliminated, projects like Valley Creek Restoration Phase III, Valley creek culvert & outfall, and other improvements to the Valley creek basin may be better realized. Eliminating the bridge would also allow the City to better protect Valley Street from stream erosion. These efforts are expected to be complimentary to outcomes from the SMAP Phase III as the selected priority basin is Valley Creek.

Question 10

Response

PORT ANGELES COMPREHENSIVE PLAN (2019 AMENDMENT)

The following policies are identified in the Port Angeles Comprehensive Plan (2019 Amendment) to control or treat municipal stormwater discharges that pollute waters of the State:

1. Encourage residential development to preserve and capitalize on existing unique natural, historic, archaeological, and/or cultural features including promotion of native and drought tolerant vegetation and scenic views (Policy 3B.06)
2. Discourage intensive recreational uses and construction of impervious surfaces in sensitive open spaces (Policy 3J.03)
3. Protect water quality and prevent erosion through the retention of existing vegetation (Policy 7B.09)
4. Establish and implement an urban tree management program...to mitigate the negative effects of impervious surfaces and vehicular traffic such as...stormwater runoff (Policy 7B.16)
5. Maintain and restore riparian vegetation in shoreline areas and on tributary streams, which affect shoreline resources wherever possible (Policy 7D.02)
6. Revise existing urban development standards in low density residential areas to include low impact development standards (Policy 8D.01)

Question 11

Response

In 2022, the City updated its Municipal Code relating to stormwater programmatic improvements (Chapter 13.63). These programs are intended to ensure proper installation and long-term performance of BMPs. The following changes were made:

- A Stormwater Program Charge was added: The Source Control Program for Existing Development now has a program charge of \$140.00 per year and the Operations and Maintenance (O&M) Program for Private Stormwater Facilities has a program charge of \$225.00 per year.
- A Source Control Program for Existing Development was added to serve the community and future generations by working to protect human and environmental health from contaminated stormwater runoff. The purpose of the program is to prevent and reduce pollutants in runoff from businesses and operations occurring within City limits.

Additionally, the City has adopted Ecology's stormwater facility and BMP standards and has updated their operational policies and procedures to match the minimum standards described in the 2019 Stormwater Management Manual for Western Washington.

Question 12

Response

12:

The Comprehensive Plan describes that the downtown portion of the City has combined sewers and the rest of the City has varying degrees of partially separated sewers. The existing separated storm sewers are generally 6- and 8-inch-diameter pipes running primarily in the north/south "short block" orientation. These storm sewer pipes collect stormwater from catch basins that are at the east/west "long block" intersections. The Comprehensive Plan describes its complete sewer system as 119 miles of sanitary and combined sewer pipe ranging from 4 to 36 inches in diameter with two marine outfalls. Location, size, slope, materials, and other

relevant information about City-owned stormwater infrastructure are recorded and consolidated on the City's asset management system, ArcGIS. This information has been made publicly available via ArcGIS online.

12a:

Aside from stormwater conveyance pipes and outfalls, in general, the City does not have any regional stormwater facilities. There are some treatment facilities (bioretention cells, Aquaswirls®, Ecostorm Plus®, that are tied into the conveyance system and serve larger areas of right-of-way but they were installed as a function of a particular project, such as a roadway improvement project, and not a standalone project.

Stormwater facility locations do not typically impact where housing or other types of development are projected to be located or where land is to be acquired. However, when evaluating proposed development, the City considers stormwater conveyance capacity, as described in Chapter 5 of the City's Urban Services Standards and Guidelines. Large projects in capacity constrained basins may be required to install onsite stormwater detention and flow control facilities to mitigate added runoff. The added cost of these requirements may indirectly influence development.

12b:

The Comprehensive Plan and other long-range plans do not explicitly identify a lack of facilities and the associated potential impact to existing or new development. Typically, development in the City is not based on where existing stormwater facilities are located. However, if development is proposed in an area with no stormwater facilities, where applicable, a stormwater facility expansion will be proposed to serve the proposed developed area.

12c:

The City's 2021 – 2026 Capital Facilities Plan identifies several prioritized locations in the City that are planned to undergo conversion from a combined sewer system to a separate sewer system (i.e., separating stormwater from wastewater). The conversion will provide for the City's goal to reduce combined sewer overflows to one event per outfall location per year. These areas include:

- Oak Street at Front Street
- Laurel Street and First Street
- 1st and 2nd Street Alley
- Shane Park

The Capital Facilities Plan also identifies Lincoln Park and Big Boy Pond at Steven's Middle School, located in the Lincoln Park neighborhood of the City, as an integral stormwater detention and flow control facility, which experiences necessary seasonal flooding to prevent residential flooding around Big Boy Pond. However, current conditions allow for flooding on the site's fairground areas and areas west of the school. Current planning efforts are underway to evaluate conveyance capacity and upgrades to the site to reduce flooding in these surrounding areas. Additionally, an effort to city-wide upgrade and improve stormwater outfalls is reflected in the CFP. Some are specific prioritized projects while others are a general reoccurring annual effort to bring existing historical stormwater outfalls up to date with current engineering standards that implement techniques to reduce erosion and better-protect downstream water quality.

Question 13

Response

According to 2020 census data, the population of the City of Port Angeles was 19,960 in 2020. This represents a 4.8% increase compared to 2010 with a population of 19,038. With the estimated population of 20,134 in 2021, the projected growth rate was 0.9%. If the 2020 projected growth rate were accurate and steady through 2030, population growth this decade would be roughly twice the rate of the previous decade (9% compared to 4.8%).

In planning for this growth, the Port Angeles Urban Growth Areas were established to meet the area required to contain the projected 20-year population growth of the urban area plus those neighborhoods that were already urban in nature. The established Urban Growth Areas include the Eastern Urban Growth Area, located east of the City limits, and the Western Urban Growth Area, located west and south of the City limits. It is expected the City will annex all of the Urban Growth Areas in the next 20 years.

The Urban Growth Areas are encouraged to develop land utilizing City development standards, which includes encouraging development to apply LID techniques and BMPs, where feasible (Clallam County Code, Chapter 31.04: Port Angeles Regional Plan).

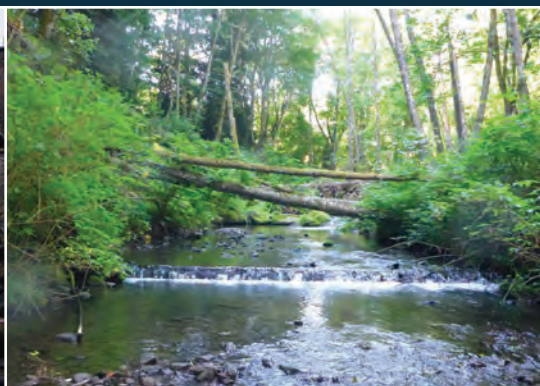
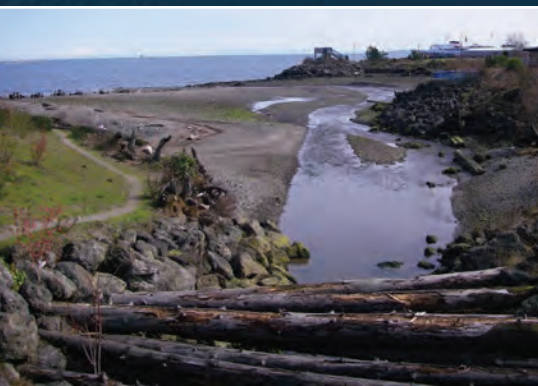
Additionally, under the City's current Stormwater Management Program Plan, which applies minimum stormwater management standards to new and re-development projects, developers experience more restrictive stormwater flow control standards in basins tributary to freshwater bodies as opposed to exempt waterbodies, such as the Strait or the Port Angeles Harbor. Likely, new residential subdivisions and growth will occur in these areas and will continue to outpace development in freshwater basins due to available vacant land and the additional costs to meet flow control standards.

Additionally, current development standards require significant projects to provide stormwater treatment and flow control to a level greater than the project's calculated impact. In addition, significant roadway and parking lot restoration projects require the addition of stormwater treatment facilities at the time of permitting. Thus, overtime, continued application of these development standards have the potential to actually reduce adverse stormwater impacts being realized in the multiple creeks that traverse through the City, despite modest anticipated population growth and continued development.

MARCH 2023



2023 Stormwater Management Action Plan - Valley Creek Basin



OSBORN
CONSULTING
INCORPORATED

2023 STORMWATER MANAGEMENT ACTION PLAN PHASE III: VALLEY CREEK BASIN

CITY OF PORT ANGELES

Prepared for:

**Washington State Department of Ecology
SW Regional Office – Water Quality Program
Western Washington Phase II Municipal Stormwater Permit S5.C.1.d.iii
Water Quality Combined Financial Assistance Agreement No. WQC-2022-PoAnPW-00164**

Prepared by:



City of Port Angeles



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March 2023

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- Appendix B: Receiving Water Prioritization Memo
- Appendix C: Stormwater Management Action Fact Sheets

LIST OF ABBREVIATIONS AND ACRONYMS

BCitR	Building Cities in the Rain
BMP	best management practice
CFP	Capital Facilities Plan
the City	City of Port Angeles
Ecology	Washington State Department of Ecology
FEMA	Federal Emergency Management Agency
FTE	full time employee
GIS	Geographic Information Systems
HMA	Hazard Mitigation Assistance
MS4	municipal separate storm sewer system
OCI	Osborn Consulting, Inc.
PAMC	Port Angeles Municipal Code
Permit	Washington Phase II Municipal Stormwater Permit
PPA	Pollution Prevention Assistance
SMA	stormwater management action
SMAP	Stormwater Management Action Plan/Planning
SMAP Guidance	Stormwater Management Action Planning Guidance
SWMMWW	Stormwater Management Manual for Western Washington
SWPCPG	Stormwater Permit Coordination and Planning Group
WDFW	Washington Department of Fish and Wildlife
WQC	Water Quality Combined Funding Program

1 INTRODUCTION

Over the past several decades, urbanization has altered the natural environment including habitat structure, flow regime, and the water quality of downstream waterbodies (Booth 2005). To accommodate growth and development while taking measures to minimize or preventing water quality degradation, the Washington State Department of Ecology (Ecology) Western Washington Phase II Municipal Stormwater Permit (Permit) has required all Phase II permittees, including the City of Port Angeles (the City), to develop a Stormwater Management Action Plan (SMAP) for one high-priority basin within the permittee's jurisdiction (Ecology 2019a). The City applied for and received a Water Quality Grant from Ecology (Agreement No. WQC-2022-PoAnPW-00164) to assist with covering the cost of developing the required SMAP process.

The SMAP process is a three phased planning approach that emphasizes the protection of designated waters and improvements to receiving water quality and its habitat through strategic retrofits, land management strategies, and stormwater program enhancements. Phase I of the SMAP process, the Receiving Water Conditions Assessment (**Appendix A**), delineated the City's basins and identified the receiving waters, gathered data to assess the receiving water conditions, and evaluated the stormwater management influence. Phase II of the SMAP process, the Receiving Water Prioritization (**Appendix B**), developed and implemented a prioritization method to determine which receiving water will gain the most benefit from strategic retrofits and land management actions. Because of its restoration potential and apparent opportunities for strategic retrofits, projects, and partnerships, the Valley Creek basin was selected as the high priority catchment area at the end of Phase II and is the focus of this third and final phase of the SMAP; development of a basin specific Stormwater Management Action Plan.

The purpose of Phase III of the SMAP process is to leverage and coordinate local planning efforts in the Valley Creek basin to accommodate future growth, while protecting natural resources and functions of the basin and its receiving waters. Phase III of the SMAP process requires the City to identify strategic projects, partnerships, and strategies to protect and conserve water quality and habitat with identified timelines and funding sources. This technical report summarizes the opportunities identified and proposed stormwater management actions (SMAs) and strategies for the Valley Creek basin. This document will be used to initiate further planning, support the creation of additional Capital Facilities Plan (CFP) projects, and to assist in obtaining funding for design, construction, and implementation of the SMAs.

Section 2 of this report provides background information about the overall effort and introduces work completed in the previous phases. The work performed for Phase III, the Valley Creek basin analysis, begins in **Section 3**.

2 SUMMARY OF PRIOR WORK

As mentioned above, this planning effort consisted of three phases that began by considering runoff direction and characteristics City-wide and finished by narrowing in on a single drainage basin and highlighting specific stormwater management opportunities that have the highest potential for downstream water quality improvement. Phase I and Phase II were completed in the first half of 2022. The Phase I analysis resulted in a Receiving Water Conditions Assessment report that is included in **Appendix A**. The Phase II analysis resulted in a Receiving Water Prioritization report that is included in **Appendix B**. These phases of the project are further discussed in the subsections below.

2.1 PHASE I: RECEIVING WATER CONDITIONS ASSESSMENT

During the Receiving Water Conditions Assessment phase, basins within the City limits were delineated and receiving waters were assessed using readily available and relevant watershed data that was used to

evaluate their existing conditions, designated use and desired water quality conditions, and potential influence of focused stormwater management. A total of 15 basins were identified and assessed; six freshwater basins (purple) and nine saltwater basins (green). The location of the basins is depicted on **Figure 2-1**.

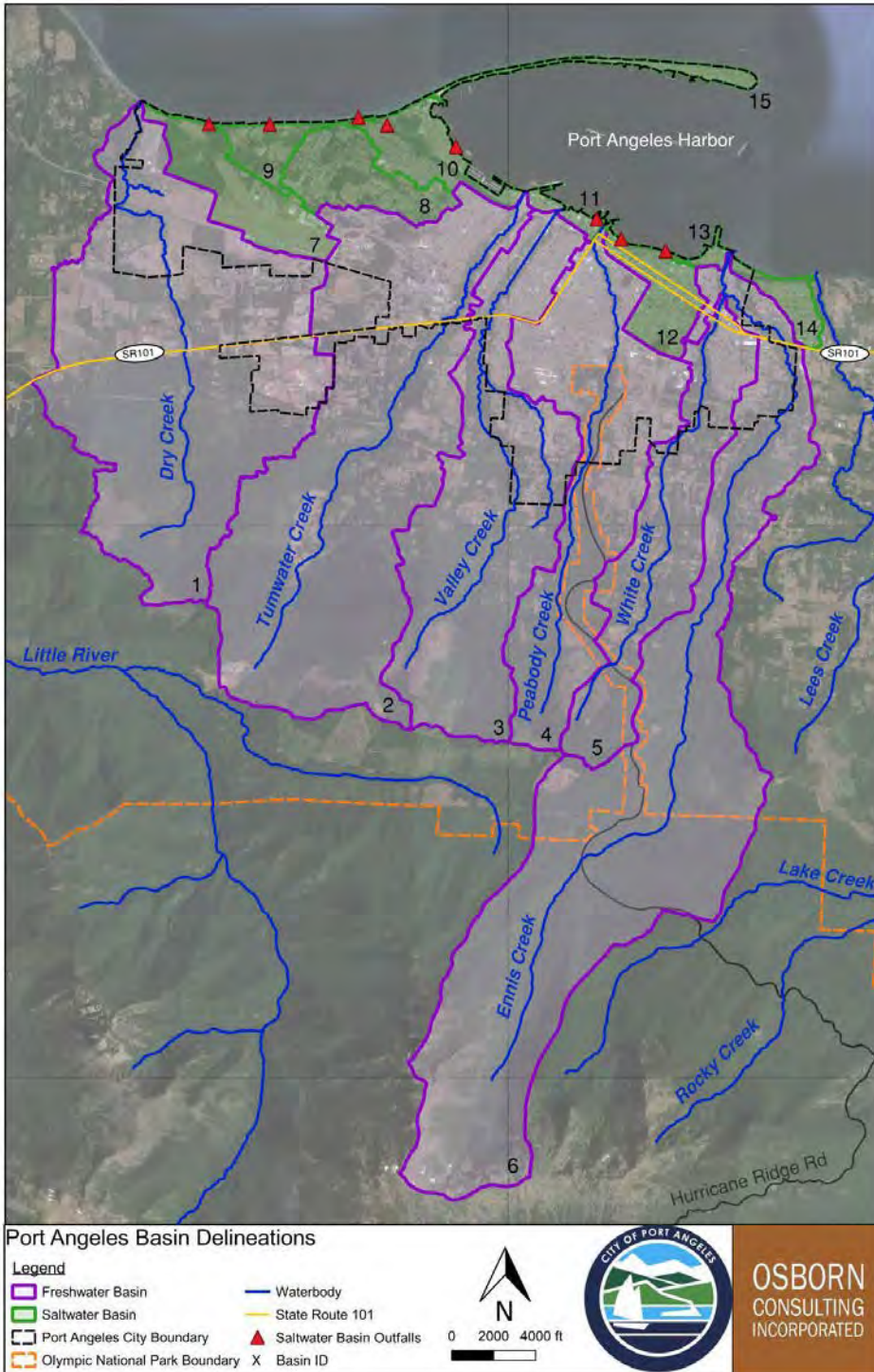


Figure 2-1. Map of Port Angeles Basins

The potential influence of stormwater management on each basin was assessed during Phase I, which included evaluations of the relative hydrologic impacts and potential pollutant loading impacts from stormwater management. Results of this assessment are detailed in the Receiving Water Conditions Assessment (**Appendix A**).

Preliminary degradation and importance assessments were also made for each basin. **Table 2-1** shows the preliminary metrics used for assessment.

Table 2-1. Preliminary Receiving Water Conditions Indicators

Preliminary Degradation Indicators	Preliminary Importance Indicators
<ul style="list-style-type: none"> ▪ 303(d) listings (impaired water bodies and total maximum daily loads) ▪ Percent impervious surface ▪ Minimal drift, if applicable (i.e., pollutant build-up in saltwater basins) 	<ul style="list-style-type: none"> ▪ Aquatic life use ▪ Species with documented presence

The preliminary conditions assessment was presented to the City’s interdepartmental Stormwater Permit Coordination and Planning Group (SWPCPG) and feedback was incorporated into the Receiving Water Conditions Assessment memorandum. A detailed summary of the classification results is provided in the Receiving Water Conditions Assessment (**Appendix A**).

2.2 PHASE II: RECEIVING WATER PRIORITIZATION

The second phase of the SMAP process, the Receiving Water Prioritization, was completed in June 2022. Through this process, the Valley Creek basin was ultimately selected as the high-priority basin that would be the focus of Phase III. Processes outlined in Ecology’s Stormwater Management Action Planning Guidance (SMAP Guidance) (Ecology 2019b) and Chapter 4 of Building Cities in the Rain (BCitR) manual were followed to complete this effort. BCitR is a guidance document developed by the Washington State Department of Commerce to provide tools for local governments to target investment in stormwater retrofits that leverage the restoration of salmonid habitat while facilitating redevelopment in urban centers (Ballash 2006).

To determine the highest priority receiving water for SMAP, each basin was scored relative to other basins within the City’s jurisdictional limits. Basin scores for prioritization were determined using various metrics indicating the relative levels of importance and degradation for each basin. **Table 2-2** summarizes the metrics used for determining level of importance and degradation.

Table 2-2. Receiving Water Prioritization Metrics

Level of Importance	Level of Degradation
<ul style="list-style-type: none"> ▪ Documented fish presence ▪ Forested land cover ▪ Total stream length within the City ▪ Forested land cover in stream corridor ▪ Wetland land cover ▪ Infiltration potential 	<ul style="list-style-type: none"> ▪ Water quality impairment ▪ Impervious surface land cover ▪ Stream crossings ▪ Miles of major corridors

Each metric within each basin was scored on a scale from zero to three and then scores were averaged to produce a final basin score for importance and degradation. The scores for each metric were assigned based on the basin characteristic information that was collected during the Receiving Water Conditions Assessment phase. A detailed summary of the prioritization scoring and results is provided in the Receiving Water Prioritization (**Appendix B**).

Based on their scoring, each basin fell into one of the following four categories: Restoration, Conservation, Protection, and Development. Basins that were categorized as Protection or Restoration would benefit the most from SMAP development. Five basins were categorized as Protection or Restoration. These basins were evaluated further based on the following factors:

- Extent of municipality’s influence
- Opportunity for retrofits
- Water quality treatment and stormwater infrastructure
- Pre-existing local or regional projects planned within the basin
- Overburdened communities

Table 2-3 shows a summary of the results from the detailed high-priority basin comparison.

Table 2-3. High Priority Basin Selection Summary

Basin Name	Notes	Status
Dry Creek	<ul style="list-style-type: none"> ▪ Creek runs dry in the summer 	Eliminated
Valley Creek	<ul style="list-style-type: none"> ▪ Large portion of basin in City limits ▪ Minimal existing water quality and detention facilities ▪ Good opportunities for large scale retrofit projects ▪ Multiple pre-existing partnership opportunities 	Top Candidate for High-Priority Basin
Peabody Creek	<ul style="list-style-type: none"> ▪ Large portion of basin in City limits ▪ Minimal existing water quality and detention facilities ▪ Opportunities for small scale retrofit projects ▪ Fewer pre-existing partnership opportunities 	Alternate Candidate for High-Priority Basin
White Creek	<ul style="list-style-type: none"> ▪ Small portion of basin in City limits ▪ Minimal existing water quality and detention facilities ▪ Less opportunities for small scale retrofit projects ▪ No known partnership opportunities 	Eliminated
Ennis Creek	<ul style="list-style-type: none"> ▪ Only 6 percent of the basin is within City limits 	Eliminated

Of the five basins, the Valley Creek basin and Peabody Creek basin were identified as the top-two potential high-priority basins. Ultimately, the Valley Creek basin was selected for Phase III of the SMAP process because of the readily apparent opportunities for large-scale stormwater treatment retrofit projects, existing CFP projects, and partnership opportunities with other local stakeholders within the basin. The selection process and results were presented to local stakeholders, City Council members, and the public who overwhelmingly supported the end-result.

2.3 PUBLIC INVOLVEMENT AND PARTICIPATION

The City provided multiple opportunities during the initial two phases of SMAP for stakeholder engagement and public involvement. Additionally, recurring meetings were held with the SWPCPG to provide status updates and receive feedback throughout the planning process. These meetings are held every other month, beginning in January 2021.

After Phase I, the City developed a webpage for SMAP (<https://www.cityofpa.us/1140/Stormwater-Management-Action-Plan>), posted the Receiving Water Conditions Assessment memorandum, and

began advertising the ongoing effort and highlighted key progress updates. Once completed in June 2022, the Receiving Water Prioritization memorandum was posted to the City's website and community feedback was solicited. Comments were considered during the development of the SMAs. Further public involvement and participation occurred during Phase III of SMAP and is discussed in **Section 5.1**.

3 PRELIMINARY PLANNING FOR STORMWATER MANAGEMENT ACTIONS

The SMAs listed in this section are in accordance with the SMAP goal to define opportunities to increase stormwater management and improve water quality in the Valley Creek basin. This section describes the planning, screening, and selection process used to identify stormwater SMAs for development and implementation.

3.1 SCREENING AND PRIORITIZATION PROCESS

3.1.1 Process

An initial desktop screening effort was completed by OCI to identify and site potential areas for SMAs within the City. The desktop screening process was conducted by reviewing existing planning documents and GIS data for potential areas (both public and private) to implement water quality and/or flow control projects. In accordance with the SMAP in the Valley Creek basin, initial screening methods targeted the following opportunities:

- Catchments and/or stormwater systems which currently flow untreated into Valley Creek
- Undeveloped parcels near existing municipal separate storm sewer system (MS4)
- Flood reduction/flow control
- Fish passage barriers and riparian restoration/enhancement areas along Valley Creek

Figure 3-1 shows a map of the Valley Creek basin within the city limits. Preliminary projects identified during the initial screening process are plotted as stars on the map indicating the location of potential SMAs throughout the basin. A total of nine preliminary projects or opportunities were identified including three existing capital improvement projects. OCI and City staff discussed opportunities, disadvantages, and project specifics to prioritize projects for inclusion in the SMAP. The result of the SMA workshop is discussed in **Section 3.1.2**.

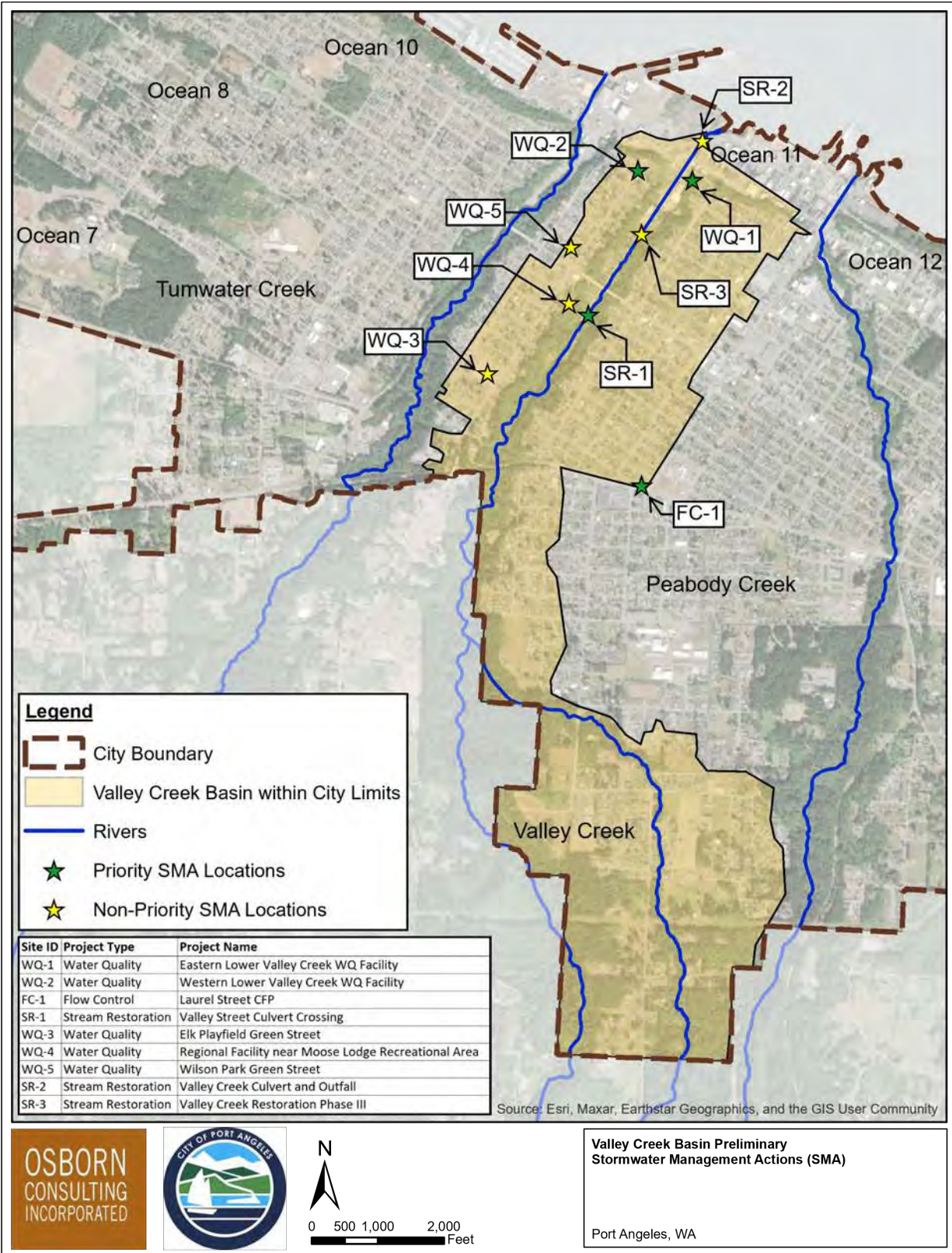


Figure 3-1. Map of Valley Creek Basin and Preliminary Stormwater Management Actions

3.1.2 Results

A workshop was held to discuss potential SMAs and prioritize projects for inclusion in this SMAP based on existing CFP schedule and budget, potential value added to the City, and alignment with regional plans that support the goals of restoring Valley Creek. The preliminary project list and discussion notes for SMAs are shown in **Table 3-1**.

Table 3-1. Preliminary SMAP Screening Results

Site ID	Project Name	Stormwater Opportunity	Selected for SMAP Prioritization	Discussion Notes
WQ-1	Eastern Lower Valley Creek Water Quality Facility ⁽¹⁾	Redirect and treat existing stormwater runoff through regional water quality facility	Yes	Existing City-owned parcel at downstream end of Valley Creek basin could be used for water quality facility.
WQ-2	Western Lower Valley Creek Water Quality Facility ⁽¹⁾	Redirect and treat existing stormwater runoff through regional water quality facility	Yes	Existing City-owned right-of-way at downstream end of Valley Creek basin could be used for water quality facility.
FC-1	Laurel Street and US 101 Capital Facilities Plan ⁽²⁾	Add water quality retrofit to existing flood reduction project	Yes	Current Capital Facilities Plan project in planning stages; project would redirect stormwater flows from Peabody Creek to the Valley Creek basin.
SR-1	Valley Street Culvert Crossing Capital Facilities Plan ⁽²⁾	Remove/replace existing crossing and reconnect floodplain for hyporheic exchange, riparian buffer, and natural flow control	Yes	Opportunity for floodplain reconnection, fish barrier removal, and riparian restoration.
WQ-3	Elk Playfield Green Street ⁽³⁾	Use existing wide right-of-way to provide stormwater treatment and education	No	Proposed downstream regional water quality facility (WQ-2) would treat runoff from this area.
WQ-4	Regional Facility near Moose Lodge Recreational Area ⁽³⁾	Construct regional facility to intercept stormwater system and treat prior to downstream outfall in Valley Creek	No	This site is adjacent to steep slopes and without a simple outfall route. Proposed downstream regional water quality facilities would treat runoff from this area.
WQ-5	Wilson Park Green Street ⁽³⁾	Use existing wide right-of-way to provide stormwater treatment and education	No	Proposed downstream regional water quality facility (WQ-2) would treat runoff from this area.

Site ID	Project Name	Stormwater Opportunity	Selected for SMAP Prioritization	Discussion Notes
SR-2	Valley Creek Culvert and Outfall ⁽²⁾	Reduce sedimentation and flooding through upsizing of lower reach of culvert	No	Project currently exists on City's Capital Facilities Plan list but is unfunded. Would require large funding amount and partnership with WDFW for restoration.
SR-3	Valley Creek Restoration Phase III ⁽²⁾	Improve fish habitat and passage, biological processes, riparian plant establishment, wetland and floodplain enhancement, and reduction of erosion	No	Large project would require significant restructure of stream corridor. Further discussed in Partnerships, see Section 4.3 .

Notes:

(1) Source of project is stormwater management action screening conducted by Osborn Consulting, Inc./City staff

(2) Source of project is City of Port Angeles' Capital Facilities Plan and Transportation Improvement Plan (2022)

(3) Source of project is the GreenLink Port Angeles, Summary of Proposed Project Sites (Futurewise 2022)

SMAP = Stormwater Management Action Plan/Planning

WDFW = Washington Department of Fish and Wildlife

Based on these results from the SMA workshop, four projects were identified as high-priority SMAs and are discussed in more detail in Section 4.

4 PRIORITY STORMWATER MANAGEMENT ACTIONS

This section discusses the priority SMAs selected during the preliminary SMAP process, including projects, land management and land development strategies, programmatic actions, and partnerships for stormwater management within the Valley Creek basin.

4.1 STORMWATER SYSTEM RETROFIT PROJECTS

The four Stormwater Management Actions (SMAs) moving forward in this plan are summarized in **Table 4-1** and described in further detail in the subsequent sections.

Table 4-1. Project Summary Table

Site ID	Project Name	Project Description
WQ-1	Eastern Lower Valley Creek Water Quality Facility	Alternatives analysis for regional water quality facility
WQ-2	Western Lower Valley Creek Water Quality Facility	Alternative analysis for regional water quality facility
FC-1	Laurel Street and US 101 Capital Facilities Plan	Alternative analysis for regional water quality facility added to existing flood control project

Site ID	Project Name	Project Description
SR-1	Valley Street Culvert Crossing Capital Facilities Plan	Alternative analysis to remove or replace culvert crossing and develop land acquisition program and fund

4.1.1 Site WQ-1: Eastern Lower Valley Creek Water Quality Facility

The proposed Eastern Lower Valley Creek Water Quality Facility project (WQ-1) was selected for SMA prioritization because of the incredible opportunity to treat a very large portion (170-acres) of the Valley Creek basin on an existing City-owned parcel. This tributary area equates to over 20% of the total basin within the City that could be improved upon by a single project. This is due to the existing stormwater collection and conveyance infrastructure that directs flow to a single point and due to the riverine topography that would allow large-scale treatment to occur using only gravitational forces. This area is zoned primarily residential (over 50 percent), with roads and City right-of-way contributing an additional 35 percent. Installation of a regional retrofit stormwater treatment facility that serves a residential area is valuable because this land use type is most often falls below current thresholds requiring onsite stormwater management while it still remains an active contributor to non-point source pollution. As opposed to, industrial or commercially zoned areas or sites that inherently are subject to increased oversight from the City’s Source Control Program and O&M Inspection program, along with increased stormwater management requirements that apply during new development or redevelopment.

Installation of a regional stormwater treatment facility at this location would be positioned above any anticipated sea-level rise and would not be in conflict with other ongoing Valley Creek restoration project discussions and ideas currently being advocated. Furthermore, as mentioned briefly above, the location lends itself perfectly to achieving a large impact from a single project or single investment. This has massive initial and long-term cost-savings when compared against a distributed treatment system model that is often necessary when looking at developing retrofit projects. For these reasons this project is considered a high-impact, low investment action for stormwater management within the Valley Creek basin. The contributing subcatchment and project location is shown in **Figure 4-1**.

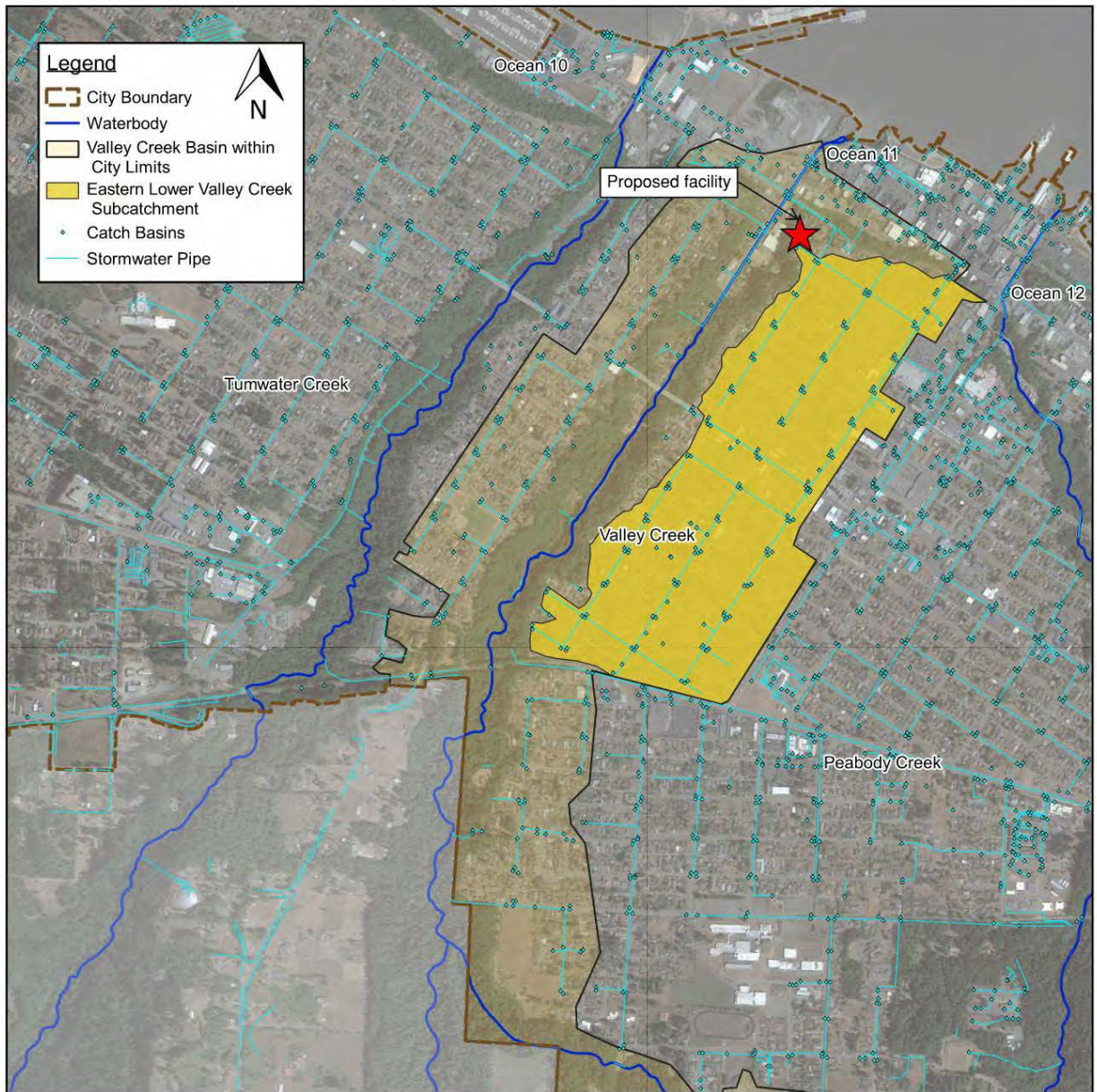


Figure 4-1. WQ-1: Eastern Lower Valley Creek Subcatchment Delineation and Project Location

Under existing conditions, all stormwater runoff collected within the highlighted (yellow) subcatchment, shown in **Figure 4-1**, is directly discharged into Valley Creek without any removal or treatment of stormwater pollutants.

Common pollutants such as nitrogen, phosphorus, zinc, copper, and lead are generated in this area from sources such as residential lawns and automobile brake dust. These pollutants are carried in stormwater runoff and discharge directly into the creek and, in large enough concentrations or over long enough periods of time, are known to have harmful impacts on aquatic and terrestrial species in and around the creek. This project would benefit the health of Valley Creek for its potential to capture and treat these stormwater pollutants from over 170 acres of contributing area.

A retrofit stormwater treatment facility could be manifested any number of ways, however, one possible and foreseeable configuration is depicted below on **Figure 4-2** where storm flow in the City's existing 15-inch concrete stormwater pipe along S Cherry Street would be intercepted and routed to a BioPod Biofilter System with StormMix Media on the City-owned parcel just north of the 2nd/3rd Alley Street before reconnecting into the 15-inch concrete stormwater pipe on W 2nd Street and discharging downstream to Valley Creek.

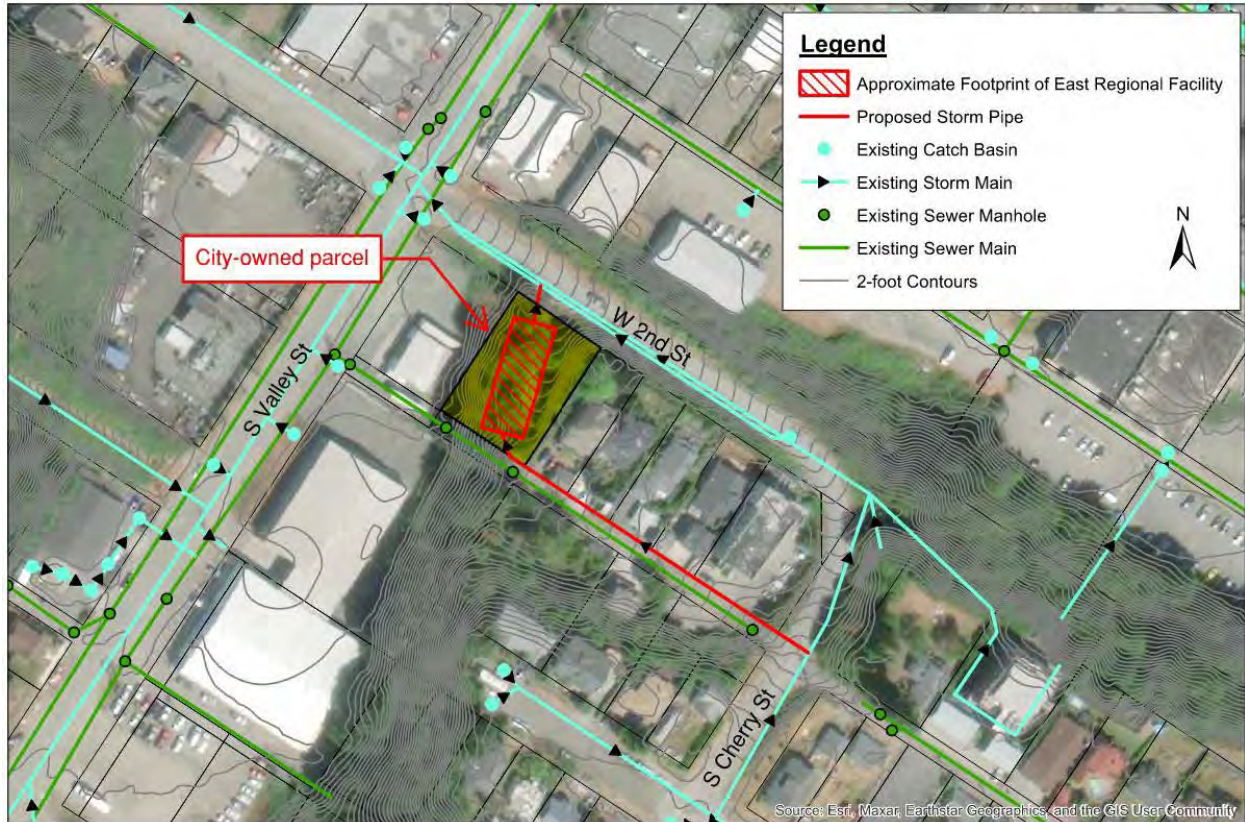


Figure 4-2. Vicinity Map for WQ-1: Eastern Lower Valley Creek Water Quality Facility Opportunity

As shown in **Figure 4-2**, the City currently owns a parcel (highlighted in yellow) located in close proximity to the existing stormwater system, which would circumvent the need for private land acquisition for facility installation and long-term maintenance. The project footprint, shown in hatched red, represents a conceptual construction area needed for facility installation and maintenance access. **Figure 4-3** shows the existing access road where the water quality facility could be sited.



Source: Google Street View

Figure 4-3. Photo Looking Southeast on W 2nd St near Potential Water Quality Site

Depending on what the City ultimately does with this property, this offline facility could consist of a proprietary soil media vault with either an open top with plantings or an underground vault with a concrete lid. Project constraints include steep slopes on the west side of the parcel and inability to infiltrate. These constraints, along with others, would be considered and addressed during the project design phase. The proposed facility would ideally be sized to accommodate the water quality design storm as described in Ecology’s Stormwater Management Manual for Western Washington (SWMMWW) (2019c). Sizing for the water quality design storm would facilitate approximately 91% of the entire runoff volume being treated through the facility, which would meet the performance goals for enhanced treatment. Enhanced treatment performance goals include greater than 30% dissolved copper removal, greater than 60% dissolved zinc removal, and meeting all basic treatment performance goals. Reductions in soluble zinc and copper are especially important in basins tributary to salmonid bearing streams, such as Valley Creek. **Table 4-2** summarizes the conceptual best management practice (BMP) characteristics for the Eastern Lower Valley Creek Water Quality Facility. A fact sheet which details project specifics is included in **Appendix C**.

Table 4-2. WQ-1: Eastern Lower Valley Creek Water Quality Facility Concept BMP Characteristics

Site ID	BMP Type	Treatment Type	Total Contributing Basin Area (acres)	Contributing Effective Impervious Area (acres)	Estimated Facility Footprint (square feet)
WQ-1	Proprietary Soil Media Vault	Enhanced Water Quality	171.1	111.5	3,704

Note:
BMP = best management practice

The City has developed a Climate Resiliency Plan which outlines specific climate resiliency actions and strategies for the community (see **Section 4.2.1** for more detail). This project would explicitly address the “land-based pollutant reduction” action named under the City’s Climate Resiliency Strategy EH-2. In addition, there is an opportunity to do more at this particular site based on what the City envisions, such

as developing a park with trails feature, which could also address the “urban tree canopy, parks, and open space” action under the Strategy EH-2 of the Climate Resiliency Plan. An alternative analysis is recommended to determine and refine the best solution for this site. Next steps for this opportunity include creating a new CFP project, pursuing funding for the design phase, performing an alternatives analysis and creating a concept design that can be used to pursue funding for construction, securing funding for construction, completing design, and constructing the project. These next steps are further discussed in **Section 5**.

4.1.2 Site WQ-2: Western Lower Valley Creek Water Quality Facility

The proposed Western Lower Valley Creek Water Quality Facility project was selected for SMA prioritization for similar reasons to WQ-1. This project provides an accessible opportunity for the City to easily retrofit the existing stormwater system to treat a 71-acre portion of the Valley Creek basin within City right-of-way. This equates to providing treatment to nearly 10 percent of the entire basin at a single location and with a single retrofit project. Similar to WQ-1, the contributing area is zoned primarily residential (over 50 percent), with roads and City right-of-way contributing an additional 38 percent.

Additionally, the site location at the downstream end of the western Valley Creek subcatchment removes the need for multiple dispersed stormwater treatment facilities throughout the western portion of the Valley Creek basin and makes for a high-impact, low investment action for stormwater management within the Valley Creek basin. The contributing subcatchment and project location is shown in **Figure 4-4**.

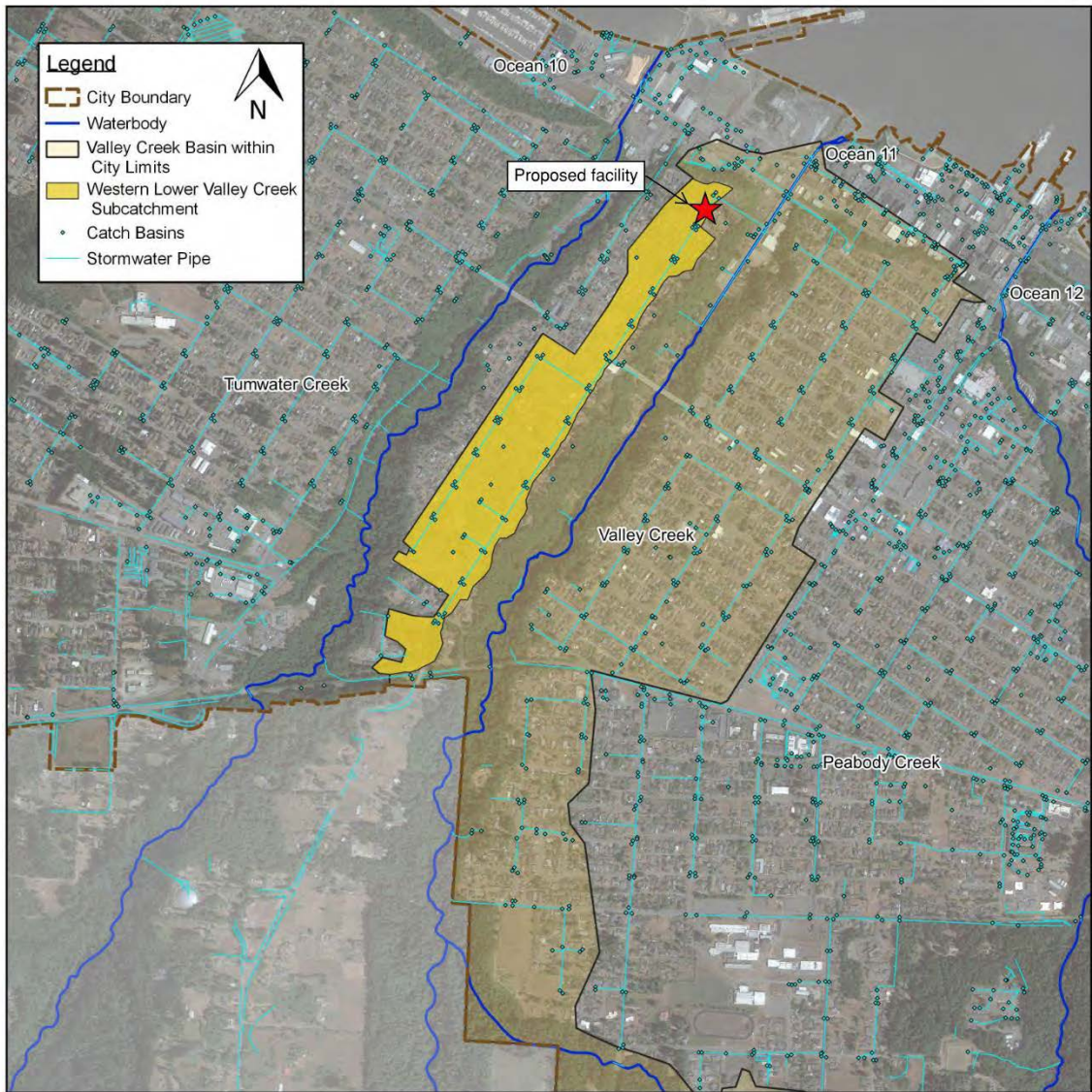


Figure 4-4. WQ-2: Western Lower Valley Creek Subcatchment Delineation and Project Location

Under the current stormwater system configuration, all stormwater runoff collected within the highlighted (yellow) subcatchment, shown in **Figure 4-4**, is directly discharged into Valley Creek without any removal or treatment of stormwater pollutants. The common stormwater pollutants and sources in the Western Lower Valley Creek subcatchment are similar to those discussed for Site WQ-1: nitrogen and phosphorus (from residential lawn fertilizer) and metals such as zinc, copper, and lead (from brake dust). These pollutants are carried in stormwater runoff and directly discharged into Valley Creek, and, in large enough concentrations or over long enough periods of time, are known to have harmful impacts on aquatic and terrestrial species in and around the creek. A retrofit project at this location would provide treatment to the western portion of the City’s most dense residential core within the Valley Creek basin.

Similar to WQ-2, one possible and foreseeable configuration of a retrofit water quality facility at this location (**Figure 4-5**) could intercept flow in the City’s existing 15-inch concrete stormwater pipe along S Pine Street and route stormwater to a BioPod Biofilter System with StormMix Media within the City right-of-way between W 4th Street and W 3rd Street before reconnecting back into the 15-inch stormwater pipe and discharging downstream to Valley Creek.



Figure 4-5. Vicinity Map for WQ-2: Western Lower Valley Creek Water Quality Facility Opportunity

Topography and infrastructure in this area generally directs stormwater runoff NE towards the harbor until 3rd St, where it is directed East and into Valley Creek. The facility footprint, shown in hatched red, represents a conceptual construction area needed for facility installation and maintenance access. The constructed facility is expected to fit within the existing City right-of-way. **Figure 4-6** shows the right-of-way on S Pine Street where the facility could be sited.



Source: Google Street View

Figure 4-6. Photo Looking Northwest on S Pine St near Potential Water Quality Site

Implementation of this project would provide enhanced treatment for approximately 91 percent of residential runoff on the west side of Valley Creek and north of State Highway 101. A retrofit stormwater treatment facility could be manifested in many ways; for this analysis, the proposed facility would be an underground concrete vault with proprietary soil media, which is engineered to treat a large amount of stormwater within a comparatively small footprint. Other nearby alternative locations were assessed to showcase stormwater treatment for educational purposes along the trail just east of W 3rd Street; however, due to constructability and maintenance access issues associated with the steep slopes, narrow pathway, and overhead power lines, this alternative was not pursued further at this time. **Table 4-3** shows a summary of the conceptual BMP characteristics for the Western Lower Valley Creek Water Quality Facility. A project fact sheet is included in **Appendix C**.

Table 4-3. WQ-2: Western Lower Valley Creek Water Quality Facility Concept BMP Characteristics

Site ID	BMP Type	Treatment Type	Total Contributing Basin Area (acres)	Contributing Effective Impervious Area (acres)	Estimated Facility Footprint (square feet)
WQ-2	Proprietary Soil Media Vault	Enhanced water quality	71.2	42.5	1,656

Note:
BMP = best management practice

Similar to WQ-1, this water quality facility could also address the “land-based pollutant reduction” action named under the Climate Resiliency Strategy EH-2, discussed further in **Section 4.2.1**. An alternative analysis is recommended to determine and refine the best solution for this site. Next steps for this opportunity include creating a new CFP project, pursuing funding for the design phase, performing an alternatives analysis and creating a concept design that can be used to pursue funding for construction,

securing funding for construction, completing design, and constructing the project. These next steps are further discussed in **Section 5**.

4.1.3 Site FC-1: Stormwater at Laurel Street and US 101

The City currently has plans to develop solutions for addressing flooding issues on the edge of the Peabody Creek basin by redirecting flows west, into the Valley Creek basin. The opportunity identified in the SMAP process is to perform an alternative analysis to look into the possibility of adding water quality to the existing conveyance project. Implementing a stormwater system retrofit such as this, in collaboration with the existing Capital Improvement Project, would capture and treat urban stormwater runoff from over 90 acres, which is currently untreated. In addition to water quality treatment, flow control could potentially also be provided prior to discharging treated stormwater runoff into Valley Creek. The contributing subcatchment and project location is shown in **Figure 4-7**.

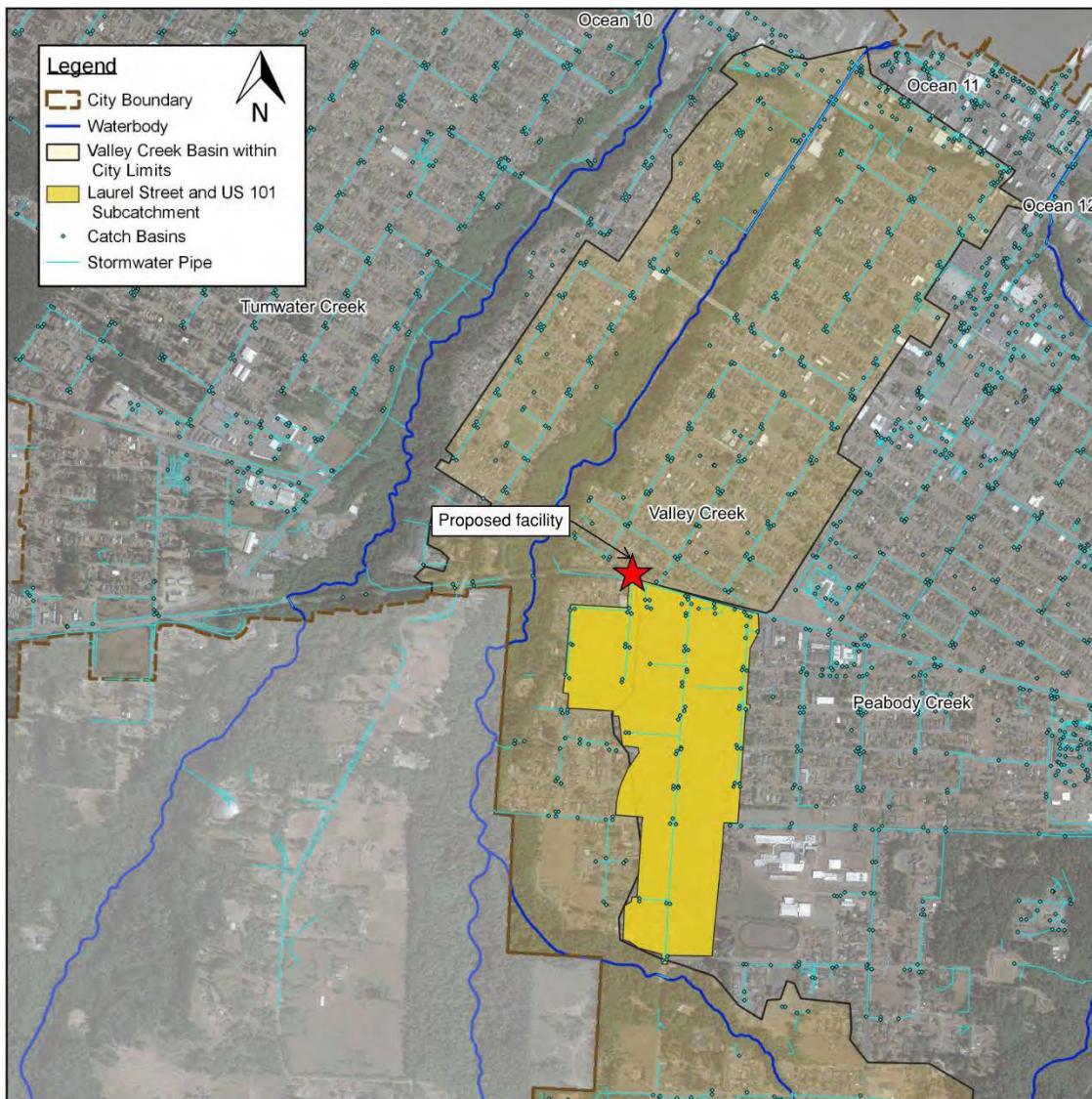


Figure 4-7. FC-1: Laurel St and US 101 Subcatchment Delineation and Project Location

Nearly all (over 90 percent) of the contributing area, highlighted in **Figure 4-7**, is residentially-zoned or City-owned roads and rights-of-way. Like WQ-1 and WQ-2, redevelopment within residentially-zoned

areas does not typically trigger required installation of water quality treatment or flow control facilities for single lot development projects. For this reason, it is a good fit for a concentrated stormwater system retrofit, such as what is proposed.

The Stormwater at Laurel Street and US 101 (CFP DR0304) project is located through the intersections of Highway 101/Lauridsen Street with S Laurel Street and S Lincoln Street (**Figure 4-8**).

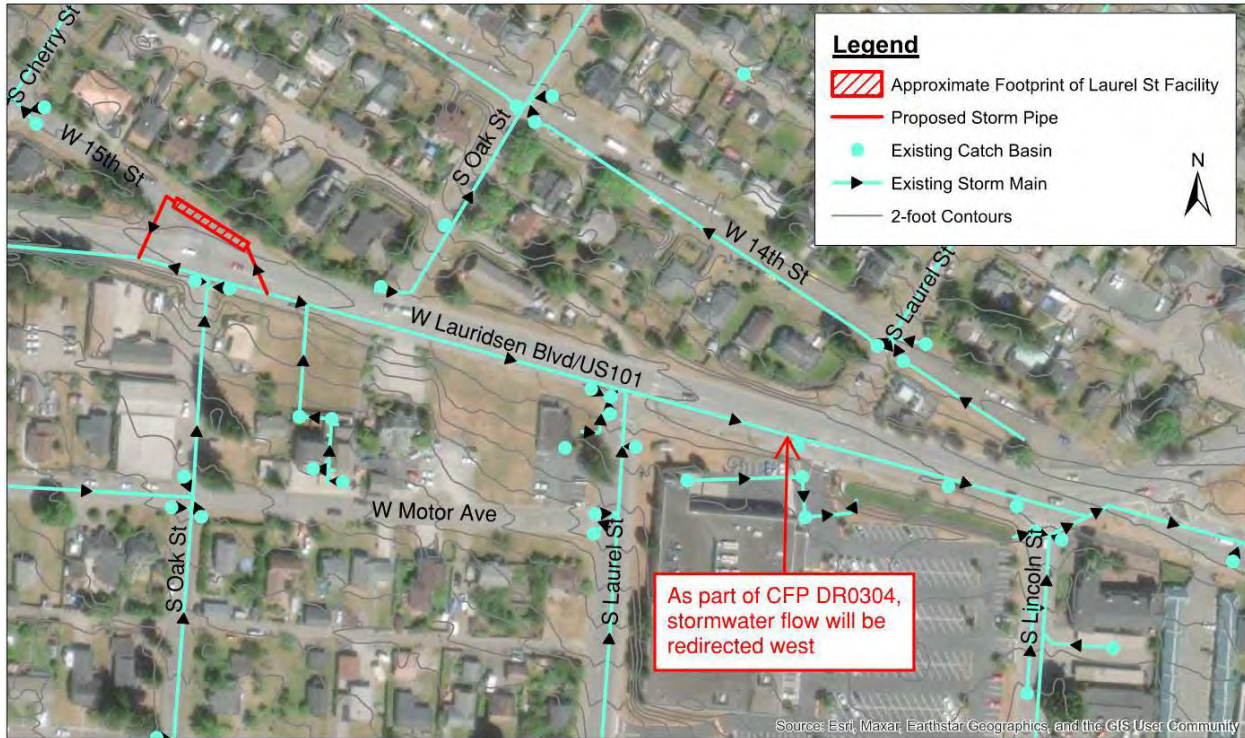


Figure 4-8. Vicinity Map for FC-1: Stormwater at Laurel Street and US 101 Opportunity

The proposed project could intercept flow from the proposed Stormwater at Laurel Street and US 101 CFP project along W Lauridsen Boulevard and route stormwater to a BioPod Biofilter System with StormMix Media, which could potentially be located within the right-of-way at the intersection of W Lauridsen Boulevard and W 15th Street (**Figure 4-9**) before discharging into Valley Creek. The project footprint, shown in hatched red in **Figure 4-8**, represents a conceptual construction area needed for water quality facility installation and maintenance access. Further analysis needs to be conducted to site and design the potential water quality and flow control facilities.



Source: Google Street View

Figure 4-9. Photo Looking East on W 15th St near Potential Water Quality Site

Implementation of this water quality facility would provide enhanced treatment for approximately 91 percent of the urban runoff in the contributing area. For this analysis, the proposed treatment facility was designed as an underground concrete vault with proprietary soil media which can treat a large amount of stormwater within a small area. **Table 4-4** shows a summary of the conceptual BMP characteristics for the Stormwater at Laurel Street and HWY 101 Water Quality Facility. Fact sheets for the proposed water quality facility and CFP DR0304 are included in **Appendix C**.

Table 4-4. FC-1: Stormwater at Laurel Street and US 101 Concept BMP Characteristics

Site ID	BMP Type	Treatment Type	Total Contributing Basin Area (acres)	Contributing Effective Impervious Area (acres)	Estimated Facility Footprint (square feet)
FC-1	Proprietary Soil Media Vault	Enhanced water quality	93.6	52.9	1,893

Note:

BMP = best management practice

Similar to WQ-1 and WQ-2, this project would also address the “land-based pollutant reduction” action named under the Climate Resiliency Strategy EH-2, discussed further in **Section 4.2.1**. An alternative analysis is recommended to determine and refine the best solution for this site. Next steps for this opportunity include creating a new CFP project for the addition of a water quality facility, pursuing funding for the water quality design phase, performing an alternatives analysis and creating a concept design for the water quality facility that can be used to pursue funding for construction of the water quality facility,

securing funding for construction of the water quality facility, completing water quality facility design, integrating the water quality facility design into the design for the flood control project, and constructing the water quality facility and flood control project. These next steps are further discussed in **Section 5**.

4.1.4 Site SR-1: Valley Street Culvert Crossing

This Valley Street Culvert Crossing project (CFP TR0421) is located on Valley Creek, just south of W 8th Street, and shown in hatched red in **Figure 4-10**.



Figure 4-10. Vicinity Map for SR-1: Valley Street Culvert Crossing Opportunity

The Valley Street Culvert Crossing project is an existing Capital Improvement Project (CFP TR0421) listed in the City’s 2023-2028 CFP. The existing culvert and stream crossing (**Figure 4-11**) is nearing the end of its functional service life. Further, it is undersized and causes frequent flooding and erosion. City maintenance staff monitor this crossing annually and often repair the eroding embankments and road. A Fish Passage Barrier Assessment, conducted by Washington Department of Fish and Wildlife (WDFW), determined the crossing to be a 33 percent passage barrier due to the existing slope of the culvert (WDFW 2021). Additionally, the barrier assessment found the culvert to channel width ratio to be approximately 0.4 (i.e., the existing culvert is approximately 40 percent the width of the stream channel), indicating the culvert is channelizing stream flows in the vicinity of the crossing.



Source: Google Street View

Figure 4-11. Photo of Existing Culvert Crossing on Valley Street

There is an opportunity to conduct an alternatives analysis for determining options for addressing this issue and pairing this project with the proposed Stream Corridor Property/Easement Acquisition Program to expand the options for improvement (**Section 4.2.2** provides more detail on this program). For example, if adjacent properties become available and can be acquired by the City, the culvert could be removed without the need for replacement. This would allow for stream restoration opportunities which would have benefits such as restoration of riparian habitat, reduction of erosion and subsequent maintenance to Valley Street, removal of houses from environmentally sensitive areas, and reduction of risk for both the City and property owners by relocating houses outside of frequently flooded areas. A fact sheet for this CFP is included in **Appendix C**. Next steps for this opportunity include creating a new land acquisition program and pursuing funding for the program, pursuing funding for the design phase to address the culvert crossing, performing an alternatives analysis and creating a concept design that can be used to pursue funding for construction, securing funding for construction, completing design, and constructing the project. These next steps are further discussed in **Section 5**.

4.2 LAND MANAGEMENT / DEVELOPMENT STRATEGIES FOR WATER QUALITY MANAGEMENT

In addition to project based SMAs, land management and development SMAs for water quality management were evaluated. The SMAP Guidance document details this requirement, stating this “may include identification of land to protect or conserve from impervious surface conversion, or native vegetation removal... which could be addressed via purchase or zoning or land use policy change” (Ecology 2019b). The following sections detail strategies and programs for managing water quality within the Valley Creek basin.

4.2.1 Climate Resiliency

Stormwater management is inextricably connected to climate resiliency. With the urbanization and industrialization of the City, increased rainfall and concentrated pollutants on impervious surfaces (stormwater runoff) threaten the health of receiving waters and the species which depend upon them. In light of this, the City developed and adopted a Climate Resiliency Plan in June 2022. The Climate Resiliency Plan is a collaborative effort initiated by the community which seeks to guide the City and community in increasing its resiliency to the effects of climate change, such as sea level rise and increased drought. Three specific strategies and subsequent actions identified within the Climate Resiliency Plan are directly related to the Valley Creek SMAP:

- Strategy CRW-2. Prepare Port Angeles for future extreme events
 - Action: Climate resilience and emergency planning
- Strategy EH-2. Restore and protect shoreline, aquatic, and forest habitat
 - Action: Urban tree canopy, parks, and open space
 - Action: Salmon habitat protection
 - Action: Land-based pollutant reductions
 - Action: Culvert replacement
 - Action: Capital Facilities Plan implementation
- Strategy BE-1. Reduce building-related greenhouse gas emissions
 - Low-impact development

Extreme conditions such as drought and flood are expected to increase due to climate change. Drought will create higher stream temperature and reduced streamflow, creating harsh in-stream conditions for aquatic and terrestrial species within the Valley Creek basin. An increase in rainfall due to climate change will cause more frequent, higher-volume floods, which pose a greater threat to human life, stormwater infrastructure, and aquatic species.

4.2.2 Programmatic Actions

The following programs were identified to manage water quality in the Valley Creek basin.

4.2.2.1 Stormwater Management and Private Development Regulation

The Valley Creek Basin is bound by the Olympic National Park to the south and Puget Sound to the north, which make the contribution of stormwater pollutants from sources outside of the City relatively minimal. Development within the City of Port Angeles is regulated by the City. Chapters 5 and 6 of the City of Port Angeles Urban Services Standards and Guidelines (City of Port Angeles 2017) requires all development to meet the minimum requirements set forth in Ecology's SWMMWW (2019c). These standards require all development and redevelopment which triggers stormwater treatment and flow control to essentially restore water quality and hydrology within the project vicinity to conditions which existed prior to settler disturbance. For these reasons, no further improvements to the City's private development review strategies were identified as part of the SMAP.

4.2.2.2 Stream Corridor Property/Easement Acquisition Program

Several regional planning documents have cited the necessity for stream corridor restoration in Valley Creek. However, most of the land directly adjacent to Valley Creek is privately-owned, residential property which hinders restoration of the stream. Properties adjacent to Valley Creek are located within the 100-year Federal Emergency Management Agency (FEMA) floodplain and would no longer be permitted in the same location today due to updated critical areas and floodplain regulations. In addition, these

areas are flooded during high-flow events and human development (houses, buildings, impervious area, etc.) has caused a significant reduction in flood water storage and hyporheic exchange, with a corresponding increase in channel incision and erosion.

For these reasons, it is recommended that the City develop a stream-corridor property and easement acquisition program for Valley Creek. The stream corridor property acquisition program would fund the outreach, ownership tracking, and potential acquisition of properties or easements adjacent to Valley Creek as they become available, with the ultimate goal of restoring the stream corridor. The City plans to investigate the formation of the program in mid to late 2023. Initial phases of the program would require dedicated time for City staff to engage in legal research, local outreach, developing the program, and planning for future expansion of the program. Future phases could establish funding sources for acquisition and stream restoration through the City's CFP or federal and state grant/partnership programs.

4.2.2.3 Source Control

The City's source control program is an inspection-based pollution reduction program aimed at reducing water pollution at the source, prior to entering the City's MS4 and discharging to receiving water bodies.

The City has established an inventory of 243 publicly and privately owned institutional, commercial, and industrial businesses within the City limits that have the potential to pollute stormwater. There are 22 of these businesses located within the Valley Creek basin. Additionally, the City is developing an enhanced source control program to conduct property owner outreach, schedule inspections, and track source control inspections with business owners. This program will be managed by City stormwater staff and is planned to be housed through an online GIS database which is being designed to allow for direct, private property owner communication and data sharing.

The City initiated source control inspections in January 2023 and will start with inspections at businesses that are also eligible for assistance through the Pollution Prevention Assistance (PPA) Program. The source control program was approved by Ordinance 3694 in August 2022 and is included in the Port Angeles Municipal Code (PAMC). Because the Valley Creek basin is predominantly zoned residential, the City has no reason to believe a prioritization of source control inspections in Valley Creek basin will have a significant positive impact on the overall water quality in Valley Creek. Although the City does not plan to prioritize inspections specifically in the Valley Creek Basin at this time, as these inspections occur within the Valley Creek Basin, there is an opportunity to implement BMPs to reduce pollution that would eventually reach Valley Creek at the source.

4.2.2.4 Additional Stormwater Programs

Illicit Discharge Detection and Elimination (IDDE) Field Screening

The City has been partitioned into 8 basins for IDDE screening purposes and field screening is performed annually on a rotational basis; meaning, each basin, including creeks, are screened at least once every 8 years. Knowing that adding extra IDDE field screenings in the Valley Creek basin would force the City to reduce screenings in a neighboring basin, the City is resistant to adjusting the current interval. Additionally, during this analysis and in reviewing basin screening results, no evidence was found that indicated the need for additional, shortened field screening intervals for Valley Creek. IDDE field screening intervals are not currently proposed to be shortened for the Valley Creek basin.

O&M Inspections or Enhanced Maintenance

Maintenance of City-owned water quality facilities currently meets or exceeds Ecology's standards for inspections and servicing, as documented in the City's most recent annual report (City of Port Angeles 2021). The SMAP process indicated that the Valley Creek basin would benefit from installation of new retrofit water quality facilities and is not suffering from lack of maintenance of existing water quality facilities.

Behavior Change

The City is actively working with the West Sound Stormwater Outreach Group (WSSOG) to develop a behavior change program focused on encouraging residential use of natural yard care products instead of chemical alternatives. This program is planned for use throughout the entire City, however, it could be implemented within the Valley Creek basin first, as a pilot project, to monitor the efficacy of the program on a smaller, more focused scale.

4.3 OPPORTUNISTIC/PARTNERSHIP PROJECTS

Projects listed in this section are partnership or opportunity projects or actions identified in associated City or regional planning documents. These opportunities contribute to the overall goal to define opportunities to increase stormwater management and improve water quality in the Valley Creek basin, but are considered beyond the scope of SMAP alone, as the focus of SMAP is stormwater.

4.3.1 Lower Valley Creek Fish Passage and Restoration

The Valley Creek Restoration Phase III project (CFP GG0916) was designed, and permit applications were prepared in 2011 with funding from the Salmon Recovery Fund Board. The project is located directly on Valley Creek, from W 9th Street to W 2nd Street. The stream is currently contained within multiple culverts and channelized in this area. The project proposes to remove and replace 135 feet of existing culvert near the outlet at W 2nd Street with a fish passable structure, removal of 400 feet of culvert in the steepest section of the channel between W 5th Street and W 6th Street, and fish passage retrofits within the existing culvert throughout the remaining culvert. Construction is currently unfunded and significant coordination between partners and agencies is still needed. Pairing this project with the proposed Stream Corridor Property/Easement Acquisition Program, as discussed in **Section 4.2.1.2**, would increase the feasibility and likelihood of this project occurring. Additionally, this project is consistent with the SMAP goal to define opportunities to increase stormwater management and improve water quality in the Valley Creek basin by removing fish barriers and stream crossings and increasing tree canopy within the stream corridor.

4.3.2 Additional Opportunities

GreenLink Port Angeles – Futurewise – Plan (Futurewise 2022) discusses the goal of daylighting the entire Creek downstream of W 8th Street, which is currently contained in a series of existing culverts, totaling 2,062 feet, beneath S Valley Street. This opportunity project should be coordinated among concerned partners to reconcile the different approaches to restoring the downstream reach of Valley Creek. Similar to the Valley Creek Restoration Phase III project discussed above, this project would remove a fish barrier and stream crossing, increase tree canopy within the stream corridor, and increase overall stream length.

5 IMPLEMENTATION SCHEDULE AND FUNDING SOURCES

5.1 PUBLIC OUTREACH AND PARTICIPATION IN DEVELOPMENT OF SMAP

Outreach and engagement events were held in early 2023 for community members to review and comment on the development of the proposed SMAs.

A brief update was provided to the SWPCPG on January 10, 2023, regarding the status of the proposed SMAs. Members of this group were encouraged to attend the full public open-house meeting on January

12, 2023, for a more in-depth presentation on the background and details of each SMA. A presentation was given on January 10, 2023, to the City’s Utility Advisory Committee to inform and gather input on the proposed SMAs.

A virtual public open house was held on January 12, 2023, to inform the community and encourage feedback on the proposed SMAs. On January 6, 2023, slides from this presentation were posted on the City’s SMAP website for public review. The City also offered a webform for community input, questions, and feedback on the proposed SMAs. The public comment period was open from January 6 through January 16, 2023.

Additionally, a public SMAP GIS interface was published on the City’s website (<https://pawa.maps.arcgis.com/apps/webappviewer/index.html?id=ad088d111e6c4c389905bab4296d3bc>). This interface contained background on the Receiving Water Prioritization process, and information about the prioritized SMAs. GIS data included the approximate facility location, type, and footprint for each proposed facility.

5.2 PROPOSED TIMELINE

The proposed timeline for project and program implementation is separated into short-term (up to 6 years) and long-term (7 to 20 years) actions.

5.2.1 Short-term Actions

Table 5-1 shows a proposed 6-year timeline for the proposed SMAs; both projects and programmatic actions are included. This schedule was coordinated with existing plans such as the 2023 to 2028 City of Port Angeles CFP, the Climate Resiliency Plan, and the PAMC (13.63.275).

Table 5-1. Short-Term Stormwater Management Action Proposed Implementation Timeline

Stormwater Management Actions	2023				2024				2025				2026				2027				2028			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Projects																								
WQ-1: Eastern Lower Valley Creek WQ Facility																								
WQ-2: Western Lower Valley Creek WQ Facility																								
FC-1: Stormwater at Laurel St and US 101																								
SR-1: Valley Street Culvert Crossing																								
Programs																								
Source Control																								
Stream Corridor Property/Easement Acquisition Program																								
SW Management and Development Regulation																								
Climate Resiliency																								

Note: This table represents a possible timeline for project analysis, design, and construction and program development and implementation. This proposed timeline is contingent upon Council approved creation of CFPs and securing grant funding.

Key:

- Grant Application
- Alternatives Analysis/Design
- Construction
- Program Development
- Program Implementation



5.2.2 Long-term Actions

Long-term actions were determined to need further planning and analysis prior to outlining a definite implementation timeline. Long-term actions are projects or programs that will not be implemented during the first 6 years but would ideally be researched and planned for future design in the 7- to 20- year timeframe. Many of the projects listed in **Section 4** have an initial short-term goal (i.e., alternatives analysis or grant application) but are anticipated to have future phases such as design, construction, and monitoring, which are considered long-term. Specific programs discussed in the SMAP which are considered long-term are listed below:

- Stream Corridor Property/Easement Acquisition Program
- Continued Stormwater Management and Private Development Regulation
- Implementation of Climate Resiliency Plan

5.3 BUDGET AND FUNDING SOURCES

5.3.1 Stormwater System Retrofits

5.3.1.1 WQ-1: Eastern Lower Valley Creek Water Quality Facility

The Eastern Lower Valley Creek Water Quality Facility project is currently unfunded and is not included in the City's existing CFP. The next step for this project will be to create a new CFP project. If the CFP is approved and the project is added to the City's CFP, funding for the design and construction phases will need to be secured. Grant applications could be submitted to the Ecology Water Quality Combined (WQC) Funding Program. A grant application for this project is anticipated to be submitted in 2026 and could request funds for the design phase, including alternative analysis. If a design phase grant is awarded, alternative analysis and design is estimated to occur after the grant award in 2027 and last through 2028. Conceptual plans and cost estimate will likely be prepared during the alternatives analysis and design phase and can be used to apply for a construction grant in 2027. If approved, construction could begin in 2029. The cost for initial alternative analysis is estimated to be between \$50,000 to \$80,000 in 2023 dollars and will depend on modeling needs. Costs for the design and construction of this project are contingent on site-specific field data and the concept chosen during the alternative analysis phase. Conceptually, for design and construction, a retrofit treatment facility as proposed herein would require \$2.0M – \$2.5M in funding for completion.

5.3.1.2 WQ-2: Western Lower Valley Creek Water Quality Facility

The Western Lower Valley Creek Water Quality Facility project is currently unfunded and is not included in the City's existing CFP. The next step for this project will be to create a new CFP project. If the CFP is approved and the project is added to the City's CFP, funding for the design and construction phases will need to be secured. Grant applications could be submitted to the Ecology Water Quality Combined (WQC) Funding Program. A grant application for this project is anticipated to be submitted in 2025 and could request funds for the design phase, including alternative analysis. If a design phase grant is awarded, alternative analysis and design is estimated to occur after the grant award in 2026 and last through 2027. Conceptual plans and cost estimate will likely be prepared during the alternatives analysis and design phase and can be used to apply for a construction grant in 2026. If approved, construction could begin in 2028. The cost for initial alternative analysis is estimated to be between \$50,000 to \$80,000 in 2023 dollars and will depend on modeling needs. Costs for the design and construction of this project are contingent on the concept chosen during the initial alternative analysis phase. Conceptually, for design and construction, a retrofit treatment facility as proposed herein would require \$1.8M – \$2.3M in funding for completion.

5.3.1.3 FC-1: Stormwater at Laurel Street and US 101

This project includes a planned Capital Improvement Project (CFP DR0304) to reduce flooding that is currently listed in the City's 2023 to 2028 CFP and an alternative analysis for water quality and flow

control that is currently unfunded and is not included in the City's existing CFP. The City currently has funding set aside for the conveyance work only. The next step for this project will be to create a new CFP project for the water quality facility. If the CFP is approved and the project is added to the City's CFP, funding for the design and construction phases will need to be secured. The City's current plan is to perform the alternatives analysis for water quality and flow control in house in 2023, prior to applying for funding to design the water quality and flow control retrofits, as discussed in **Section 4.1**. To fit this addition within the existing project schedule, a grant application for additional design would need to be submitted in late 2023, with a finalized design incorporating a water quality facility scheduled for late 2025. Conceptual plans and cost estimate for the water quality facility will likely be prepared during the alternatives analysis and design phase and can be used to apply for a construction grant for the water quality facility in 2024. Design costs for the existing CFP conveyance project were estimated at \$130,000 in 2022 dollars. Construction of CFP DR0304 is scheduled for 2026 at approximately \$645,000 in 2022 dollars. The current funding source for this CFP project is the City's Stormwater Reserves Utility Fund. Costs for the design and construction of the water quality facility are contingent on the concept chosen during the initial alternative analysis phase. Addition of a water quality component to the project could feasibly require an additional \$750k - \$1M to the project budget for design and construction.

5.3.1.4 SR-1: Valley Street Culvert Crossing

This project is another planned Capital Improvement Project (CFP TR0421) listed in the City's 2023 to 2028 CFP. The project is in the pre-planning stages. Per the City's CFP, an alternative analysis is proposed to begin in 2025, followed by design in 2026, at a cost of \$150,000 in 2022 dollars. The construction costs for this project were estimated at \$1,400,000 in 2022 dollars to replace the culvert. This project is currently unfunded and is proposed for grant applications. This project is closely tied to the proposed Stream Corridor Property/Easement Acquisition Program, and alternatives analysis for this site will likely begin in 2023 in conjunction with the development of this program.

An alternatives analysis is planned to be conducted by the City prior to applying for grant funding to design and construct the project. Depending on the results of the alternatives analysis, grant applications for design could be submitted in 2024, followed by a grant application for construction in 2025. The most appropriate source for grant funding would be determined during the alternatives analysis phase. Potential funding sources include FEMA's Hazard Mitigation Assistance (HMA) Grant program and Ecology's Floodplains by Design program. Specific grants within FEMA's HMA program include Building Resilience in Communities and the Pre-Disaster Mitigation programs. Both of these programs require an in-depth federal application process including Environmental Planning and Historic Preservation review. Through this funding source, FEMA HMA can provide funding for acquisition of hazard-prone (i.e., floodplains and other critical areas) properties to relocate residents to safer locations. If residents along the stream corridor were relocated and properties were acquired, Ecology's Floodplains by Design grant could be used for restoration of Valley Creek in this area.

5.3.2 Programmatic Actions

5.3.2.1 Source Control

The City has received a grant (WQC-2022-PoAnPW-00169) through Ecology to develop, implement, and enhance the City's source control program. The grant agreement is active through June 2024. The City also codified the source control program rate to recuperate costs for staff time, equipment, tracking software, and other associated costs. At the time of this writing, each business or property inspected will be charged an annual fee per PAMC (13.63.095); however, the City is currently revisiting the best way to fund the Source Control Program.

5.3.2.2 Stream Corridor Property/Easement Acquisition Program

The Stream Corridor Property/Easement Acquisition Program does not currently exist at the City. The City plans to conduct preliminary research into the feasibility and capacity of forming this program in late 2023.

To kickstart this program research needs to be conducted internally to determine the feasibility and legal guidelines surrounding property/easement acquisition.

6 ADAPTIVE MANAGEMENT

Section S5.C.2.iii.(f) of the Permit requires a process and schedule for future assessment and feedback to improve the planning process and implementation of procedures or projects (Ecology 2019a). The following section describes opportunities and goals the City can track and adaptively manage within the Valley Creek basin.

The concept of adaptive management varies throughout the industry and is difficult to define. Each project, action, opportunity, or plan requires a unique set of principles which are defined by the goals set for that specific region. Simply put, each adaptive management plan is context specific for the region and project/plan in consideration. This discussion of adaptive management is not a comprehensive management plan; however, the purpose of this section is to offer a framework to guide the City in tracking the SMAP success within Valley Creek.

6.1 FRAMEWORK AND INDICATORS

The overarching goal of this Valley Creek SMAP effort is to leverage and coordinate local planning efforts to accommodate future growth, while protecting natural resources and functions of the basin and its receiving waters. The “broad management strategy” (Ballash 2006) for Valley Creek, determined in Phase II of SMAP, is restoration. Therefore, the adaptive management framework for Valley Creek focuses on tracking progress made towards restoring the Valley Creek basin and modifying the process, based on the results. In the section below a basic framework of indicators is presented for tracking and adapting SMAP for Valley Creek.

6.1.1 General Use and Implementation

The SMAP should be used to append related City and regional plans to include the SMAs identified here. The primary document which should be appended is the City’s CFP. Adding the SMAs identified through this planning effort to the City’s CFP will further strengthen the need and feasibility of each action.

The SMAP can be shared with stakeholders through specific outreach efforts such as social media, open-house meetings, and other avenues. Intentionally sharing and marketing the SMAP within the community should build support surrounding Valley Creek. A plan and process should be established to conduct and track these outreach efforts.

The SMAP should be used to inform grant applications and funding discussions. The SMAP offers a high-level overview of sites and opportunities that exist within Valley Creek to implement SMAs. The concepts and narratives should function as a basis for justifying funds to design and construct projects and implement programmatic actions.

6.1.2 Tracking Specific Programs and Actions

Specific actions identified in the SMAP, as discussed in **Chapter 4**, which should be developed and tracked, are listed below:

Source Control

- Track source control program inspections
- Deploy and publish a GIS Dashboard as a pilot tool to show program progress

- If possible, monitor community engagement on the dashboard to inform decision making

Stream Corridor Property/Easement Acquisition Program

- Begin formation of Stream Corridor Property/Easement Acquisition Program
 - Develop and track potential partnerships with conservation and restoration non-profits and other potential stakeholders
 - Make contact with property owners
 - Use program to justify program funding through Floodplains by Design/HMA grant funding

6.1.3 Monitoring and Tracking Valley Creek Environmental Indicators

As the projects and programs are further formed and eventually implemented within Valley Creek, the City may choose to review and reconduct the steps conducted in Phase I and II of the SMAP process to track the health of the watershed. Stormwater management actions and strategies for Valley Creek SMAP should be adapted if the metrics are not changing from the SMA implementation.

Further environmental and water monitoring could also be implemented and tracked to inform the City's efforts in Valley Creek. Specific sampling may include:

- Water quality
- Aquatic benthic macroinvertebrate

Monitoring water quality consistently will allow the City to track pollutant loading (type and concentration) within Valley Creek. Specifically, reviewing water quality monitoring results pre- and post-project, downstream of each project, will offer feedback on the efficacy and success of the projects. Shortcomings of water quality and pollutant monitoring is that they are specific to the time and place the sample is taken, meaning it can be skewed by recent storm events or random, unknown pollutant discharges.

Aquatic benthic macroinvertebrate monitoring provides a more continuous view of the health of a stream or waterbody. The number and diversity of organisms within the waterbody is a good indicator of the biological conditions and health of the waterbody. Consistently conducting benthic macroinvertebrates surveys would allow the City to track the stream health and the efficacy of the SMAs, specifically the projects that would provide direct habitat and stream health benefits (SR-1, SR-2, SR-3; **Figure 3-1**).

The City currently has an interlocal agreement with the Streamkeepers for monitoring water quality parameters and conducting aquatic benthic macroinvertebrate monitoring within Valley Creek. Continuing this agreement could provide the City with indicators on the success of the SMAs.

7 REFERENCES

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APPENDIX A

Receiving Water Conditions Assessment

The Receiving Water Conditions Assessment document is available on the City's website here:

https://www.cityofpa.us/DocumentCenter/View/11970/CoPA-SMAP-Receiving-Water-Assessment-Memo_Clean

APPENDIX B

Receiving Water Prioritization Memo

The Receiving Water Prioritization Memo document is available on the City's website here:

https://www.cityofpa.us/DocumentCenter/View/11969/CoPA-SMAP-Final-Prioritization-Memo_062822

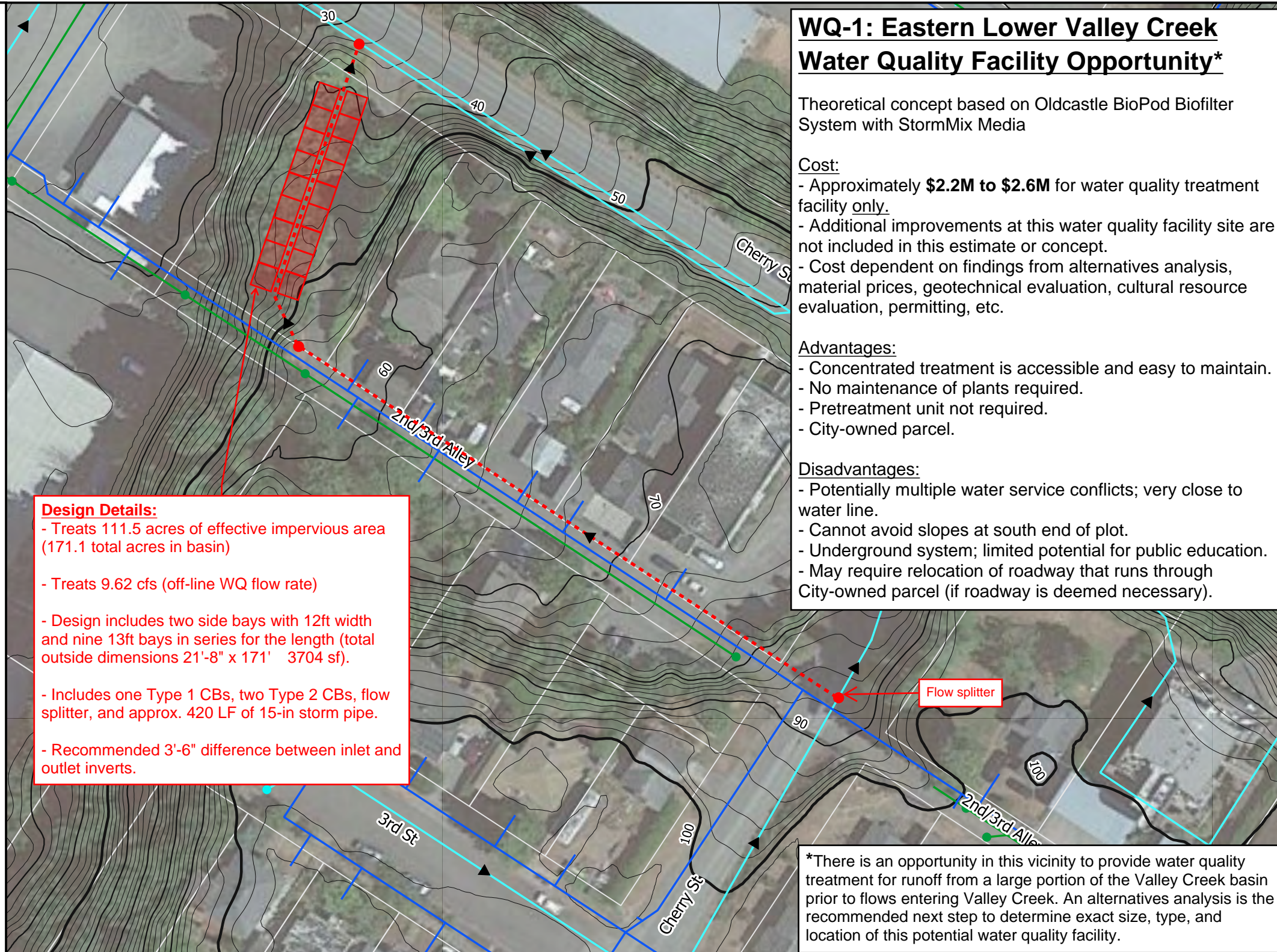
APPENDIX C

Stormwater Management Action Fact Sheets

Port Angeles Valley Creek Basin

Legend

- Sewer Gravity Main
- Storm Gravity Main
- Water Line
- Contours 2-ft
- Sewer Manhole
- Storm Catch Basin
- Parcels
- Proposed 15-inch Pipe
- Proposed BMP Footprint
- Proposed Catch Basin



Design Details:

- Treats 111.5 acres of effective impervious area (171.1 total acres in basin)
- Treats 9.62 cfs (off-line WQ flow rate)
- Design includes two side bays with 12ft width and nine 13ft bays in series for the length (total outside dimensions 21'-8" x 171' 3704 sf).
- Includes one Type 1 CBs, two Type 2 CBs, flow splitter, and approx. 420 LF of 15-in storm pipe.
- Recommended 3'-6" difference between inlet and outlet inverts.

WQ-1: Eastern Lower Valley Creek Water Quality Facility Opportunity*

Theoretical concept based on Oldcastle BioPod Biofilter System with StormMix Media

Cost:

- Approximately **\$2.2M to \$2.6M** for water quality treatment facility only.
- Additional improvements at this water quality facility site are not included in this estimate or concept.
- Cost dependent on findings from alternatives analysis, material prices, geotechnical evaluation, cultural resource evaluation, permitting, etc.

Advantages:

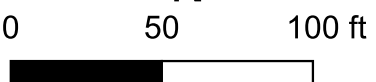
- Concentrated treatment is accessible and easy to maintain.
- No maintenance of plants required.
- Pretreatment unit not required.
- City-owned parcel.

Disadvantages:

- Potentially multiple water service conflicts; very close to water line.
- Cannot avoid slopes at south end of plot.
- Underground system; limited potential for public education.
- May require relocation of roadway that runs through City-owned parcel (if roadway is deemed necessary).

Flow splitter

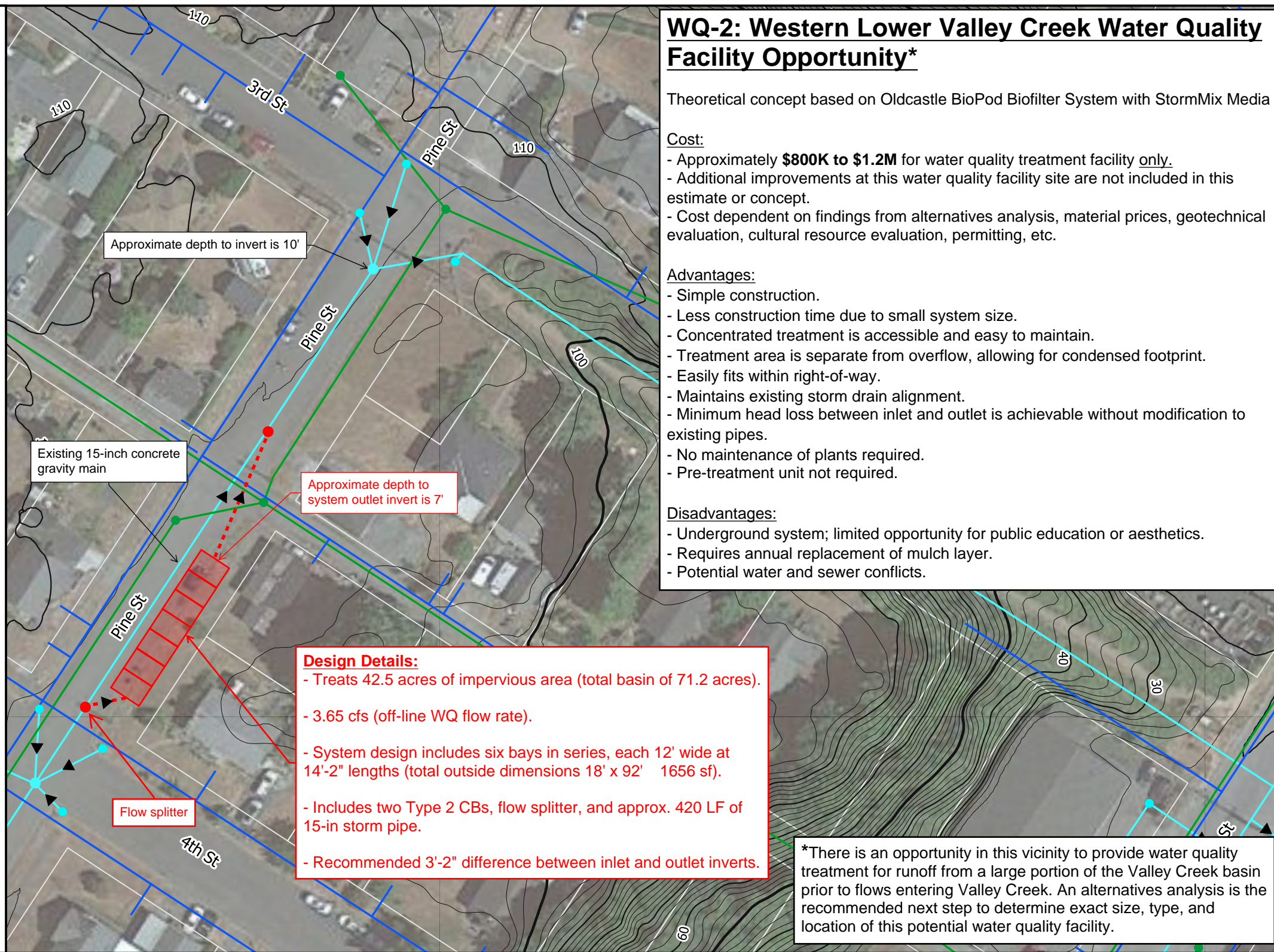
*There is an opportunity in this vicinity to provide water quality treatment for runoff from a large portion of the Valley Creek basin prior to flows entering Valley Creek. An alternatives analysis is the recommended next step to determine exact size, type, and location of this potential water quality facility.



Port Angeles Valley Creek Basin

Legend

- Sewer Gravity Main
- Storm Gravity Main
- Water Line
- Contours 2-ft
- Sewer Manhole
- Storm Catch Basin
- Parcels
- - - Proposed 15-inch Pipe
- ▭ Proposed BMP Footprint
- Proposed Catch Basin



WQ-2: Western Lower Valley Creek Water Quality Facility Opportunity*

Theoretical concept based on Oldcastle BioPod Biofilter System with StormMix Media

Cost:

- Approximately **\$800K to \$1.2M** for water quality treatment facility only.
- Additional improvements at this water quality facility site are not included in this estimate or concept.
- Cost dependent on findings from alternatives analysis, material prices, geotechnical evaluation, cultural resource evaluation, permitting, etc.

Advantages:

- Simple construction.
- Less construction time due to small system size.
- Concentrated treatment is accessible and easy to maintain.
- Treatment area is separate from overflow, allowing for condensed footprint.
- Easily fits within right-of-way.
- Maintains existing storm drain alignment.
- Minimum head loss between inlet and outlet is achievable without modification to existing pipes.
- No maintenance of plants required.
- Pre-treatment unit not required.

Disadvantages:

- Underground system; limited opportunity for public education or aesthetics.
- Requires annual replacement of mulch layer.
- Potential water and sewer conflicts.

Design Details:

- Treats 42.5 acres of impervious area (total basin of 71.2 acres).
- 3.65 cfs (off-line WQ flow rate).
- System design includes six bays in series, each 12' wide at 14'-2" lengths (total outside dimensions 18' x 92' 1656 sf).
- Includes two Type 2 CBs, flow splitter, and approx. 420 LF of 15-in storm pipe.
- Recommended 3'-2" difference between inlet and outlet inverts.

*There is an opportunity in this vicinity to provide water quality treatment for runoff from a large portion of the Valley Creek basin prior to flows entering Valley Creek. An alternatives analysis is the recommended next step to determine exact size, type, and location of this potential water quality facility.



0 50 100 ft



February 2023

Port Angeles Valley Creek Basin

Legend

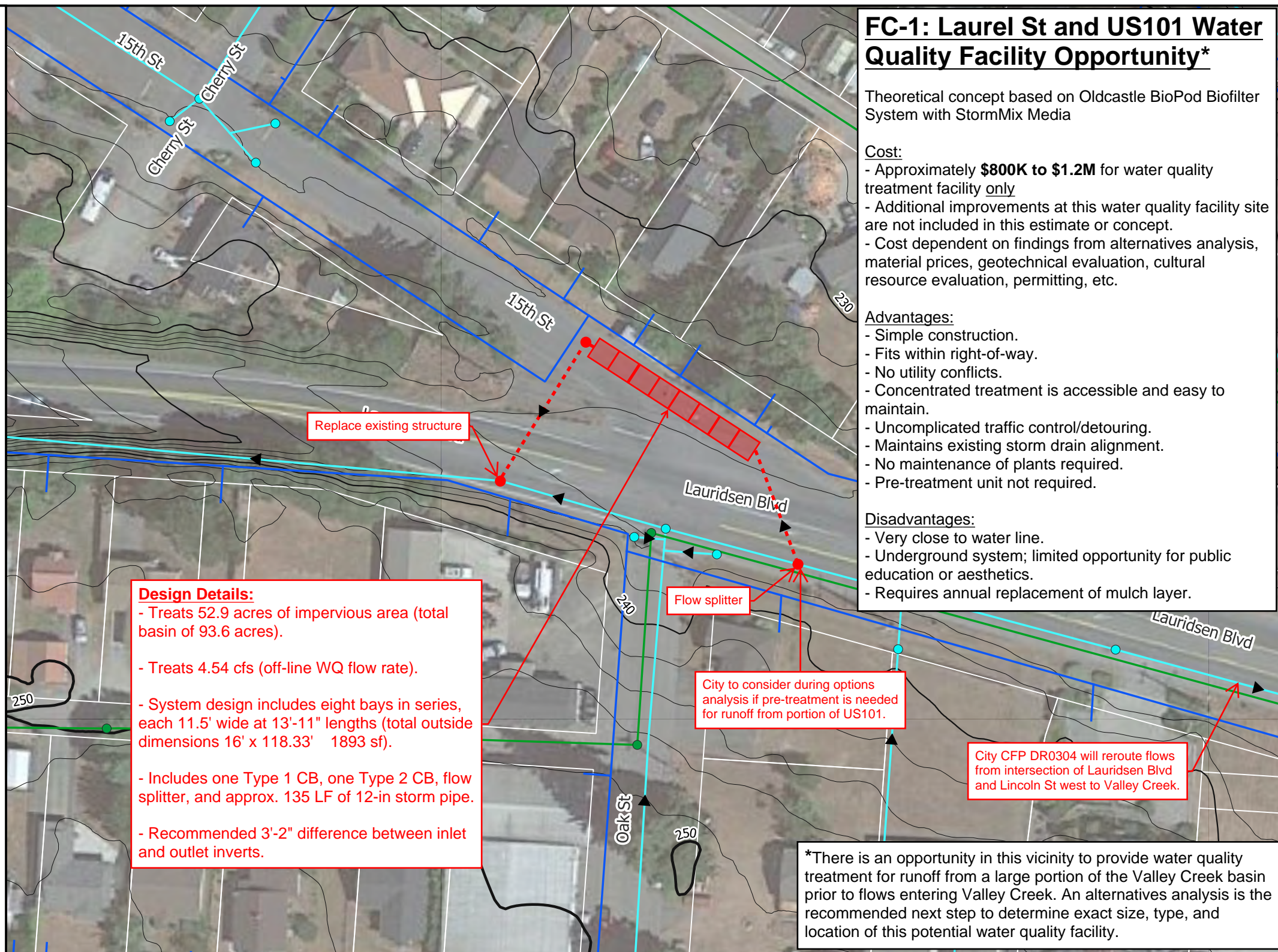
- Sewer Gravity Main
- Storm Gravity Main
- Water Line
- Contours 2-ft
- Sewer Manhole
- Storm Catch Basin
- Parcels
- Proposed 15-inch Pipe
- Proposed BMP Footprint
- Proposed Catch Basin



0 50 100 ft



February 2023



FC-1: Laurel St and US101 Water Quality Facility Opportunity*

Theoretical concept based on Oldcastle BioPod Biofilter System with StormMix Media

Cost:

- Approximately **\$800K to \$1.2M** for water quality treatment facility only
- Additional improvements at this water quality facility site are not included in this estimate or concept.
- Cost dependent on findings from alternatives analysis, material prices, geotechnical evaluation, cultural resource evaluation, permitting, etc.

Advantages:

- Simple construction.
- Fits within right-of-way.
- No utility conflicts.
- Concentrated treatment is accessible and easy to maintain.
- Uncomplicated traffic control/detouring.
- Maintains existing storm drain alignment.
- No maintenance of plants required.
- Pre-treatment unit not required.

Disadvantages:

- Very close to water line.
- Underground system; limited opportunity for public education or aesthetics.
- Requires annual replacement of mulch layer.

Design Details:

- Treats 52.9 acres of impervious area (total basin of 93.6 acres).
- Treats 4.54 cfs (off-line WQ flow rate).
- System design includes eight bays in series, each 11.5' wide at 13'-11" lengths (total outside dimensions 16' x 118.33' 1893 sf).
- Includes one Type 1 CB, one Type 2 CB, flow splitter, and approx. 135 LF of 12-in storm pipe.
- Recommended 3'-2" difference between inlet and outlet inverts.

City to consider during options analysis if pre-treatment is needed for runoff from portion of US101.

City CFP DR0304 will reroute flows from intersection of Lauridsen Blvd and Lincoln St west to Valley Creek.

*There is an opportunity in this vicinity to provide water quality treatment for runoff from a large portion of the Valley Creek basin prior to flows entering Valley Creek. An alternatives analysis is the recommended next step to determine exact size, type, and location of this potential water quality facility.

PROJECT STATUS: PLANNING
PRESENT CONDITION: POOR
LATITUDE / LONGITUDE: 48.107408, -123.445146
PROJECT MANAGER: VINCE MCINTYRE
ESTIMATED LIFE: 80 YEARS

ABOUT THE PROJECT:

Design and construct stormwater system improvements through the intersection of Lincoln and Lauridsen with Highway 101, as well as other areas of flooding along Lauridsen and Highway 101.



JUSTIFICATION:

Stormwater that collects upstream of Highway 101 arrives at this area and the pipes are not large enough to properly carry the water. The water is also piped east to Peabody Creek rather than Valley Creek to the west. This is a City issue unrelated to runoff from Highway 101.

FUNDING SOURCES	PRIOR YEARS	Budget 2022	CAPITAL FACILITIES PLAN					
			2023	2024	2025	2026	2027	2028
Reserves Utilities Fund					\$ 130,000	\$ 645,000		
Grants								
Bonds								
General Fund								
Donations/Insurance Reim.								
Other								
TOTAL	\$ 0	\$ 0	\$ 0	\$ 0	\$ 130,000	\$ 645,000	\$ 0	\$ 0

EXPENDITURES	Prior	2022	2023	2024	2025	2026	2027	2028
Capital Costs					130,000	645,000		
TOTAL	\$ 0	\$ 0	\$ 0	\$ 0	\$ 130,000	\$ 645,000	\$ 0	\$ 0

OTHER OPERATING COSTS	Prior	2022	2023	2024	2025	2026	2027	2028
Other								
TOTAL OTHER COSTS	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

Estimated Total Project Cost: \$775,000

Estimated Total Design Cost: \$130,000



PROJECT STATUS: PRE-PLANNING
CONDITION: FAIR
LATITUDE / LONGITUDE: 48.114320 / -123.445981
PROJECT MANAGER: JONATHAN BOEHME
ESTIMATED LIFE: 80 YEARS
TYPE: RESTORATION



ABOUT THE PROJECT:

The project will start with an alternative analysis to determine the preferred method to address the failing bridge, alternatives to consider include bridge replacement, and property acquisition and bridge removal. Should replacement be warranted, the project will remove and replace the expired and antiquated Valley Creek Bridge with a new concrete box culvert designed to meet modern fish-passage requirements. The bridge provides sole access to properties and residences on the east side of Valley Creek. It is unknown if this project could qualify for grant funding as a fish passage project. A review of potential grant opportunities is proposed in the near future.

JUSTIFICATION:

The existing culvert is unable to adequately convey Valley Creek's seasonal high-water flow. During a back-water event, water is pushed between the culvert and the bridge deck undermining the roadbed and destabilizing the bridge supports. Annual maintenance and repair work performed by Operations Staff can only temporarily extend the life of the facility. Bridge failure would cut-off access to four single family homes residing on the east side of the Creek. An additional environmental benefit would be achieved as the expended and outdated culvert would be removed or if determined in the alternative analysis be replaced with a box culvert designed to meet all modern fish-passage minimum standards.

FUNDING SOURCES	PRIOR YEARS	Budget 2022	CAPITAL FACILITIES PLAN					
			2023	2024	2025	2026	2027	2028
Reserves Utilities Fund								
Grants						100,000	1,200,000	
Bonds								
General Fund								
Donations/Insurance Reim.								
REET					50,000		200,000	
TOTAL	\$ 0	\$ 0	\$ 0	\$ 0	\$ 50,000	\$ 100,000	\$ 1,400,000	\$ 0

EXPENDITURES	Prior	2022	2023	2024	2025	2026	2027	2028
Capital Costs					50,000	100,000	1,400,000	
TOTAL	\$ 0	\$ 0	\$ 0	\$ 0	\$ 50,000	\$ 100,000	\$ 1,400,000	\$ 0

OTHER OPERATING COSTS	Prior	2022	2023	2024	2025	2026	2027	2028
Other								
TOTAL OTHER COSTS	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

ESTIMATED TOTAL PROJECT COST: \$1,550,000

ESTIMATED TOTAL DESIGN COST: \$150,000



DATE MARCH 31, 2022

TO WASHINGTON DEPARTMENT OF ECOLOGY, SW REGIONAL OFFICE, WATER QUALITY PROGRAM

CC ANGELA VINCENT, WASHINGTON DEPARTMENT OF ECOLOGY

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CITY OF PORT ANGELES | STORMWATER MANAGEMENT ACTION PLANNING RECEIVING WATER CONDITIONS ASSESSMENT

INTRODUCTION

The City of Port Angeles (City) is located along the northern edge of the Olympic Peninsula in Washington State. The City is approximately 14.5 square miles in size with a population of approximately 19,960 according to the 2020 census. As an operator of a regulated small municipal separate storm sewer system (MS4) in Western Washington, the City must abide by the Western Washington Phase II MS4 Permit (Permit), regulated by the Washington State Department of Ecology (Ecology). Per Section S5.C.1.d of the 2019 Permit, each Permittee is required to develop a Stormwater Management Action Plan (SMAP) for one high priority basin located within the Permittee's jurisdiction. The first component of developing a SMAP is the Receiving Water Conditions Assessment. This assessment is made of up the following four steps:

- Delineate basins and identify receiving waters
- Assess receiving water conditions
- Assess stormwater management influence
- Assess relative conditions and contributions

The purpose of the Receiving Water Conditions Assessment is to document and assess existing information related to the receiving waters and the contributing area conditions to identify which receiving waters are most likely to benefit from stormwater management planning. This assessment will result in a list of receiving waters that will be ranked later in the SMAP process to select one high priority basin. A planning document will then be developed that identifies approaches to accommodate growth and development within the chosen basin while preventing water quality degradation and improving receiving water conditions.

This memo will discuss the four steps taken to conduct the Receiving Water Conditions Assessment for the City of Port Angeles.

DELINEATE BASINS AND IDENTIFY RECEIVING WATERS

The City is made up of 15 basins. Six of the basins discharge to one of the following creeks (freshwater): Dry Creek, Tumwater Creek, Valley Creek, Peabody Creek, White Creek, and Ennis Creek. The remaining nine basins discharge to the Port Angeles Harbor or the Strait of Juan de Fuca (saltwater). For

the purposes of this report, the basins discharging to saltwater have been labeled Ocean 7 – Ocean 15 and given names based on the area of the outfall location. The basins discharging to the Strait of Juan de Fuca include Ocean 7 (Cemetery Basin), Ocean 8 (N Street Basin), and Ocean 9 (P Street Basin). The basins discharging to the Port Angeles Harbor include Ocean 10 (Mill and Log Yard Basin), Ocean 11 (Ferry Terminal Basin), Ocean 12 (Hollywood Beach Basin), Ocean 13 (Old Rayonier Mill Basin), Ocean 14 (Gales Addition Basin), and Ocean 15 (Ediz Hook Basin). The following resources were used to delineate the basins:

- Puget Sound LIDAR Consortium
- Clallam County – 10-foot Contours
- City of Port Angeles – 2-foot Contours
- City of Port Angeles – GIS Shapefile Data for gravity storm sewer infrastructure and waterbodies (DGravityMain, DCatchBasin, WaRivers)
- Google Maps Aerial Imagery (2022)

Once assembled, the basin delineation work was validated using the basins recently developed for the GreenLink Port Angeles Project, a grant funded watershed planning effort being conducted by Futurewise with the goal of identifying and developing green stormwater infrastructure (GSI) opportunities within the City of Port Angeles.

Results of the basin delineation exercise are shown on the Port Angeles Basin Delineation Map, provided in Attachment 1. The receiving water name, total watershed area, and percent of the total watershed area within the city limits are listed for each basin in the Basin Characteristics Table, provided in Attachment 2.

Per the SMAP Guidance, the last step in the basin delineation process is determining whether outfalls discharging directly to the Puget Sound discharge to a shoreline area where there is likely a buildup of sediments, which often contain stormwater pollutants. The nine basins within the City that discharge to the Port Angeles Harbor or the Strait of Juan de Fuca technically discharge directly to the Puget Sound. According to the Coastal Atlas Map, seven of the basin discharge points are active transport zones, where sediment is transported up or down the shoreline by natural processes. Two basins, Ocean 10 (Mill and Log Yard Basin) and Ocean 11 (Ferry Terminal Basin), have been classified as areas of no appreciable drift, where sediment is not transported and instead accumulates; however, sedimentation and buildup at these discharge points has not been observed on account of continuous wave action and semidiurnal tidal influences along the shoreline.

ASSESS RECEIVING WATER CONDITIONS

The following sections describe the available data that was reviewed and considered to assess the receiving water conditions.

Identify the Designated Uses and Desired Water Quality Conditions

Resources used to identify the designated uses and the extent to which the desired conditions are being met include:

- Ecology's Water Quality Atlas Online Mapping Tool for Assessed Water/Sediment Impairments and Water Quality Standards
- Washington Department of Fish & Wildlife's (WDFW) SalmonScape Online Mapping Tool
- Washington Administrative Code (WAC) 173-201A: Water Quality Standards for Surface Waters of the State of Washington

The designated uses were determined by reviewing the data available for the target waterbody within each basin (or the downstream waterbody for basins discharging to saltwater) and reporting the documented water quality standards and impairments (Ecology Water Quality Atlas, WAC), and fish species presence and spawning use (WDFW's SalmonScape, WAC). The extent to which the desired conditions are being met was assessed by reviewing the Ecology Water Quality Atlas and reporting listings that may impact the desired conditions. Basins with streams and/or downstream waterbodies with Category 5-303(d) listings for any impairment were the primary focus for assessing whether stormwater management actions have potential to address the impairment.

A summary of the designated uses and extent to which the desired conditions are being met for each basin is provided in the Receiving Water Conditions Assessment Table, provided in Attachment 3.

Landscape – Scale Data

Data and corresponding sources for information gathered to evaluate landscape-scale data include:

- Zoning
 - Provided by the City of Port Angeles
- Land Cover
 - Multi-Resolution Land Characteristics Consortium, National Land Cover Database (2019)
 - Google Maps Aerial Imagery (2022)
- Basin Area
 - Puget Sound LIDAR Consortium
 - Clallam County – 10-foot Contours
 - City of Port Angeles – 2-foot Contours
 - City of Port Angeles – GIS Shapefile Data for gravity storm sewer infrastructure and waterbodies (DGravityMain, DCatchBasin, WaRivers)
 - Google Maps Aerial Imagery (2022)
 - GreenLink Delineated Basins
- Effective Impervious Surface
 - Multi-Resolution Land Characteristics Consortium, National Land Cover Database (2019)
 - Land Zoning – Provided by City of Port Angeles
 - Google Maps Aerial Imagery (2022)
- Traffic Proximity and Volume
 - EJScreen: Environmental Justice Screening and Mapping Tool
- Superfund Proximity
 - EJScreen: Environmental Justice Screening and Mapping Tool
- Hazardous Waste Proximity
 - EJScreen: Environmental Justice Screening and Mapping Tool

A summary of the landscape-scale data for each basin is provided in the Basin Characteristics Table, provided in Attachment 2.

Development Pressure

A meeting with the City's Director of Community and Economic Development, Emma Bolin, was held in December 2021 to discuss development pressure within the City. The meeting focused on zoning changes that may direct development towards specific basins and transportation planning. The most notable and relevant zoning code change occurring in recent years consisted of a reduction in minimum lot size, city wide. For example, in 2019, City Council approved the minimum lot size reduction of all lots within Zone R-7, a predominant residential zone within the City, from 7,000 square feet (sf) to 5,000 sf. It was reduced again to 3,500 sf in January 2022. This reduction is anticipated to help prevent urban sprawl, increase housing opportunities, and attract development. While this future development will be required to meet current stormwater regulations, it is also recognized that the feasibility of implementing

onsite stormwater management techniques, such as Low Impact Development (LID), will decrease as lot size decreases. As a result, the City may need to consider different methods of managing stormwater runoff such as upgrades and retrofits to existing systems or installation of small regional facilities serving population-dense regions throughout the City.

The City has also identified areas that would benefit from being rezoned from residential to commercial or mixed use to provide commercial services, which are lacking in the western portion of the City. These areas include W 8th Street between S C Street and S Cedar Street. These rezoning efforts are only speculative at this time. No formal action is scheduled.

To assess development pressure throughout the City, transportation planning was also taken into consideration. For years, the City has been working towards an ongoing goal to improve access for other modes of transportation, as well as making improvements for vehicular traffic. New bike lanes and ADA ramps are common add-ons to most Public Works capital projects and the City actively seeks out grants to help fund transportation improvement projects. For example, the City recently received a grant for the S Race Street Complete Street project, which will develop S Race Street into a multi-modal corridor for pedestrians, bicyclist, vehicles, and transit users. This is a multi-phase, retrofit project. Phase I will implement LID techniques, but this phase of the project did not trigger stormwater detention or treatment requirements. Future phases will likely incorporate treatment and detention elements, based on Ecology's Stormwater Management Manual for Western Washington (SWMMWW) minimum requirements (Washington State Department of Ecology Water Quality Program, 2019). Both the rezoning opportunities and transportation planning efforts will be considered when prioritizing stormwater basins and selecting stormwater management actions.

A summary of the development pressure within each basin is provided in the Receiving Water Conditions Assessment Table, provided in Attachment 3.

Basins Discharging to Impaired Waters

Resources used to assess characteristics of basins discharging to impaired waters include:

- Existing Land Cover and Zoning Data
- SWMMWW Best Management Practices (BMP) descriptions
- United States Environmental Protection Agency (US EPA) 1999 Preliminary Data Summary of Urban Storm Water Best Management Practices (US EPA, 1999)

As outlined in the SMAP Guidance document, this assessment exercise is “intended to be a rapid assessment” of known conditions in the watershed, and there are not expectations “to collect new data or establish a local monitoring program.” Specific monitoring data was not available at the time of this analysis; therefore, each basin was assessed at a desktop level to identify likely characteristics contributing to impairments and options that may improve the conditions.

Each basin was assessed to consider the potential for basin-wide stormwater management approaches to reduce the pollutant loadings specific to each basin waterbody or receiving water. Land cover and zoning data provide an indicator of common pollutants in runoff associated with specific land cover or zoning types. For example, organic materials are typically associated with residential lawns and gardens, commercial landscaping, and animal waste (US EPA, 1999). Category 5 pollutant impairments identified via Ecology's Water Quality Atlas tool were reviewed to assess which water quality BMPs in the SWMMWW could be applied to help mitigate waterbody specific pollutants of concern. Similarly, enhanced municipal stormwater management actions and non-stormwater actions were assessed for potential to reduce pollutant loads and meet targets. For the assessment of methods to reduce pollutant loadings, each basin with an impairment is categorized with an Unlikely/Potential/Likely rating for the opportunity to reduce the loading with the analyzed method (i.e. basins with a Category 5 impairment for

bacteria were listed as “Unlikely” to be addressed through BMPs found in the SWMMWW and applied through the City’s Stormwater Master Plan (SWMP), as follows:

- "Unlikely" where there are not options or actions (i.e. BMPs in the SWMMWW, enhanced municipal stormwater management, non-stormwater components) that can provide measurable improvements to Category 5 impairments specific to a given basin
- "Potential" where there are options or actions (i.e. BMPs in the SWMMWW, enhanced municipal stormwater management, non-stormwater components) that may provide measurable improvements to Category 5 impairments specific to a given basin
- "Likely" where there are options or actions (i.e. BMPs in the SWMMWW, enhanced municipal stormwater management, non-stormwater components) that directly provide measurable improvements to Category 5 impairments specific to a given basin
- "N/A" for basins with zero Category 5 impairments
- "*" for basins with zero Category 5 impairments, but potential to prioritize for protection

If any strategies were categorized as “Potential” or better, the actions that are anticipated to reduce current and future loadings most effectively were listed in the Receiving Water Conditions Assessment Table (ex. the non-stormwater management action of increasing riparian buffer density is likely to reduce temperature and Dissolved Oxygen (DO) impairments). A summary of the data associated with basins discharging to impaired waters, including potential opportunities to reduce the pollutant loadings, is provided in the Receiving Water Conditions Assessment Table.

Overburdened Communities

Information related to overburdened communities was collected from the following source:

- EJScreen: Environmental Justice Screening and Mapping Tool

Data relevant to understanding overburdened communities in the City of Port Angeles included demographic parameters such as People of Color Population and Low-Income Population. This data was then combined and weighed together in a Demographic Index. The percentage of people of color ranged from 12 percent to 22 percent across the basins. The percentage of low-income population ranged from 29 percent to 47 percent, with the highest percentage in the Ocean 12 (Hollywood Beach Basin) and Peabody Creek basins.

A summary of information regarding overburdened communities for each basin is provided in the Basin Characteristics Table, provided in Attachment 2.

ASSESS STORMWATER MANAGEMENT INFLUENCE

As outlined in the SMAP Guidance, a basin with relatively low expected stormwater management influence for SMAP is defined as having both low expected hydrologic impacts and low expected pollutant loadings. Low expected hydrologic impacts are evaluated for MS4s that drain directly to:

- Flow control exempt receiving waters as defined in the 2019 SWMMWW, or
- Ephemeral streams, or
- Receiving waters primarily influenced by groundwater flows.

The Puget Sound is listed as a flow control exempt receiving water in the 2019 SWMMWW; therefore, the basins draining to the Port Angeles Harbor and the Strait of Juan de Fuca are expected to have low hydrologic impacts. Dry Creek basin is the only basin that drains to an ephemeral creek, so it can also be expected to have low hydrologic impacts. The remaining basins are not primarily influenced by groundwater flows and drain to perennial creeks, so they cannot be considered basins with low expected hydrologic impacts.

To determine if low pollutant loadings were expected within a basin, land cover, zoning, parking areas, and the ADT of roadways were evaluated. Resources used to evaluate this information include:

- Ecology's 2019 Stormwater Management Manual for Western Washington (SWMMWW)
- Zoning and Land Cover data (described in the "Assess Receiving Water Conditions" Section)
- ADT raw data provided by the City, collected between 12/3/2019 and 12/9/2021.
- Google Maps Aerial Imagery (2022)

Through this evaluation it was determined that no catch basins within the City limits received runoff from only the sources listed in the 'Assess Stormwater Management Influence' section of the SMAP Guidance; therefore, no basins are expected to have low pollutant loadings. Because no single basin has both low expected hydrologic impacts as well as low expected pollutant loading, no basin within the City is expected to categorically have low stormwater management influence for the SMAP. In other words, all basins have potential for changes in stormwater management or policy to have a direct effect on current impairments. As a result, all basins will be considered in the assessment of relative conditions and contributions. A summary of the relative stormwater management influence for each basin is provided in the Receiving Water Conditions Assessment Table, provided in Attachment 3.

For each basin, the major pollutants were identified and the potential for these pollutant sources to increase under future land use conditions was assessed. There are no significant zoning changes planned for the City; therefore, land use conditions are not expected to change significantly from their current use. As discussed previously, there are opportunities for development on undeveloped and partially developed parcels within residential and industrial zones, implying that the most significant expected change to land cover would be an increase in impervious surface as properties continue to be developed. That said, the City's population has an annual growth rate of 0.6%, which is comparable to the national average and would suggest this anticipated land cover change will likely occur at a manageable rate (World Population Review, 2022). Table 1 identifies the major pollutants, impacted receiving waters, whether the loadings will increase with increased development, and land management strategies that can help manage growth to minimize adverse stormwater impacts.

Table 1: Major pollutants and corresponding land management strategies

Pollutant	Impacted Basin	Will loadings increase under expected future land use conditions?	Can these sources be addressed through other land management strategies, including policies, code, or development standards?	Can future growth be managed to minimize adverse stormwater impacts?
Dissolved Oxygen (DO)	Dry Creek Ocean 15 (Ediz Hook Basin)	DO decreases as oxygen is consumed by micro-organisms, aquatic animals, decomposition, and chemical reactions. Additionally DO and temperature are inversely related. An increase in impervious surface and stormwater systems are anticipated to increase leaf litter accumulation in streams, and increase temperatures of overland flow stormwater runoff, which will likely decrease levels of DO (US EPA, 2012).	Yes, land management strategies including increased riparian buffers density (to reduce stream temperatures) and prioritizing infiltration and/or groundwater recharge opportunities over stormwater outfall discharges to streams may help increase DO levels in water bodies.	Yes, future growth can be managed by preventing development within stream buffers and considering regional flow control and water quality treatment facilities in areas with anticipated future growth.
Bioassessment	Dry Creek Peabody Creek	An increase in impervious surface is anticipated to increase volume, temperature, and flashiness of runoff; therefore, the biological diversity and health of the stream will likely decrease.	Yes, these sources may be addressed through land management strategies such as maintaining adequate stream buffers, increasing vegetation and tree cover density in riparian corridors, and disconnecting outfalls from the stream.	Yes, future growth can be managed by preventing development within stream buffers and considering regional flow control and water quality treatment facilities in areas with anticipated future growth.

Pollutant	Impacted Basin	Will loadings increase under expected future land use conditions?	Can these sources be addressed through other land management strategies, including policies, code, or development standards?	Can future growth be managed to minimize adverse stormwater impacts?
			Development standards can promote adequate flow control to decrease runoff volume.	
Temperature	Dry Creek Peabody Creek	An increase in impervious surface and decrease in vegetation and tree cover density are anticipated to increase the temperature of the stream. Additionally, temperature and DO are inversely related (US EPA, 2012).	Yes, these sources may be addressed through land management strategies such as maintaining adequate stream buffers, increasing vegetation and tree cover density in riparian corridors, and disconnecting outfalls from the stream. Development standards can promote subsurface runoff storage to reduce temperatures, which may also increase DO concentrations.	Yes, future growth can be managed by preventing development within the stream buffers and considering regional flow control and water quality treatment facilities in areas with anticipated future growth.
Bacteria	Tumwater Creek Valley Creek Peabody Creek Ennis Creek Ocean 12 (Hollywood Beach Basin)	Common sources of bacteria include unmanaged pet waste, CSO and SSO releases, and illicit discharges. Specific chronic sources have not been identified. An increase in impervious surface will not likely cause a significant increase in bacteria (Washington State Department of Ecology).	Yes, bacteria reduction may be achieved through targeted education and outreach campaigns, CSO reduction programs, capital upgrades to the sanitary sewer system, and subsidy programs to collect sanitary waste from RVs for the unhoused at no or low-cost.	No, impairment due to bacteria is not anticipated to increase with future development.
Turbidity	Peabody Creek	An increase in impervious surface and decrease in vegetation are anticipated to	Yes, these sources may be addressed through development standards that promote	Yes, as growth occurs and development increases, proper construction BMPs can be put

Pollutant	Impacted Basin	Will loadings increase under expected future land use conditions?	Can these sources be addressed through other land management strategies, including policies, code, or development standards?	Can future growth be managed to minimize adverse stormwater impacts?
		increase factors that cause turbidity, such as sediment (US EPA, 2012).	construction BMPs to limit sediment from entering the receiving waters.	into place to mitigate turbid conditions.
PAHs & PCBs	White Creek Ennis Creek Ocean 13 (Old Rayonier Mill Basin)	PCBs within the City are likely from the Rayonier Mill, which is no longer in operation. An increase in impervious surface is not expected to increase levels of PCBs. An increase in impervious surface through roads may increase PAHs (US EPA, 2016).	Yes, PAHs may be addressed through development standards that promote proper water quality treatment BMPs.	Yes, as growth occurs and development increases, proper water quality treatment BMPs can be put into place.
Mercury in Sediment	Ocean 15 (Ediz Hook Basin)	An increase in industrial development could increase mercury in sediment. (US EPA, 2016)	Yes, these sources may be addressed through development standards requiring proper industrial stormwater permits.	Yes, as growth occurs and industrial development potentially increases, proper industrial stormwater permits can be obtained.

ASSESS RELATIVE CONDITIONS AND CONTRIBUTIONS

To assess the relative conditions of each basin the work conducted as part of the Puget Sound Watershed Characterization Project (PSWCP) was first reviewed. This project previously assessed the degradation conditions and level of importance for each receiving water and designated one of the following categories: protection, restoration, conservation, and/or development. The PSWCP designations can be found in the Receiving Water Conditions Assessment Table, provided in Attachment 3. With the data collected as part of the Receiving Waters Conditions Assessment, these designations were re-evaluated. Level of degradation was determined based on the following information:

- 303(d) listings
- Percent impervious surface
- No drift, if applicable

Using this data, each receiving water received a rating between medium and high. The receiving waters with the highest level of degradation were Peabody Creek, Ocean 13 (Old Rayonier Mill Basin), and Ocean 15 (Ediz Hook Basin).

The level of importance for each receiving water was determined based on the following information:

- Aquatic life use
- Species with documented presence

Using this data, each receiving waters also received a rating between medium and high. The receiving waters with the highest level of importance were Dry Creek, Tumwater Creek, Valley Creek, and Ennis Creek.

The preliminary assessment of relative levels of degradation and importance was presented to the City's interdepartmental Stormwater Permit Coordination and Planning Group (SWPCPG) and feedback was incorporated into the final report. Once finalized, the 2016 Building Cities in the Rain's (BCitR) Management Matrix for Restoration and Protection was used to categorize each receiving water. Chapter 4.2 of BCitR emphasizes focusing stormwater investments on receiving waters categorized as protection or restoration. The following receiving waters within the City fall into one of these two categories:

Protection

- White Creek

Restoration

- Dry Creek
- Tumwater Creek
- Valley
- Peabody Creek
- Ennis Creek

A summary of the classification results is provided in the Receiving Water Conditions Assessment Table, provided in Attachment 3.

Planned and Expected Future Land Uses

Planned and expected future land use changes were assessed as part of the Receiving Water Conditions Assessment. Based on discussions with the City, no major zoning changes are anticipated that would impact land cover within the City. A full build out analysis was performed to determine the percent

increase of impervious surface throughout each basin. This was conducted by assuming the maximum impervious surface, based on City zoning code, occupied by each parcel within the City. The percent increase of impervious surface ranged from 0 – 1 percent in basins currently built out, such as Ocean 11 (Ferry Terminal Basin) and Ocean 12 (Hollywood Beach Basin), to a high of 40 percent in the Dry Creek Basin. In the full build out condition, impervious surface will cover 39 – 85 percent of each basin. An increase in impervious surface can contribute to higher stormwater runoff volumes, greater sediment yields, and increased pollutant loads. While development within the City falls under the City’s Stormwater Management Program, which requires consideration and management of stormwater runoff during development, only larger projects will trigger water quality treatment and flow control requirements. Smaller projects, which are inherently less impactful, yet also more prevalent, are required to implement LID techniques; however, the City’s predominant soil type, Clallam Gravely Sandy Loam, has very poor infiltration rates with a high seasonal groundwater table. This often results in onsite stormwater management being infeasible. Therefore, despite current City and State development standards, BMP options may be limited in order to protect receiving waters. The City’s Stormwater Management Program is continually being upgraded and improved with new and creative techniques proven to be locally effective and beneficial. For example, while infiltration may not be feasible due to the soils and small lot sizes, an incentive program for stormwater cisterns is currently being developed to help mitigate flow rates in downstream receiving waters during peak storm events.

Proposed Protection and Restoration Goals

Protection and restoration goals will be considered for each basin given a protection or restoration designation, as defined in BCiTR. For basins with protection designations, protection goals may include land management actions such as preserving the riparian buffers, installing flow control and water quality controls as development occurs, and promoting proper construction BMPs during development, especially for erosion control. For basins with restoration designations, restoration goals may include installing water quality and flow control facilities where needed in areas of existing development, increasing vegetation and tree cover density within stream buffers, prioritizing retrofit projects involving infiltration and groundwater recharge (where conditions allow), disconnecting outfalls located directly in or adjacent to streams, and conducting education and outreach programs aimed to decrease sources of bacteria, if the sources within the City can be identified.

Protection and restoration goals for each basin will be further developed in the next phase of the SMAP process – Receiving Water Prioritization.

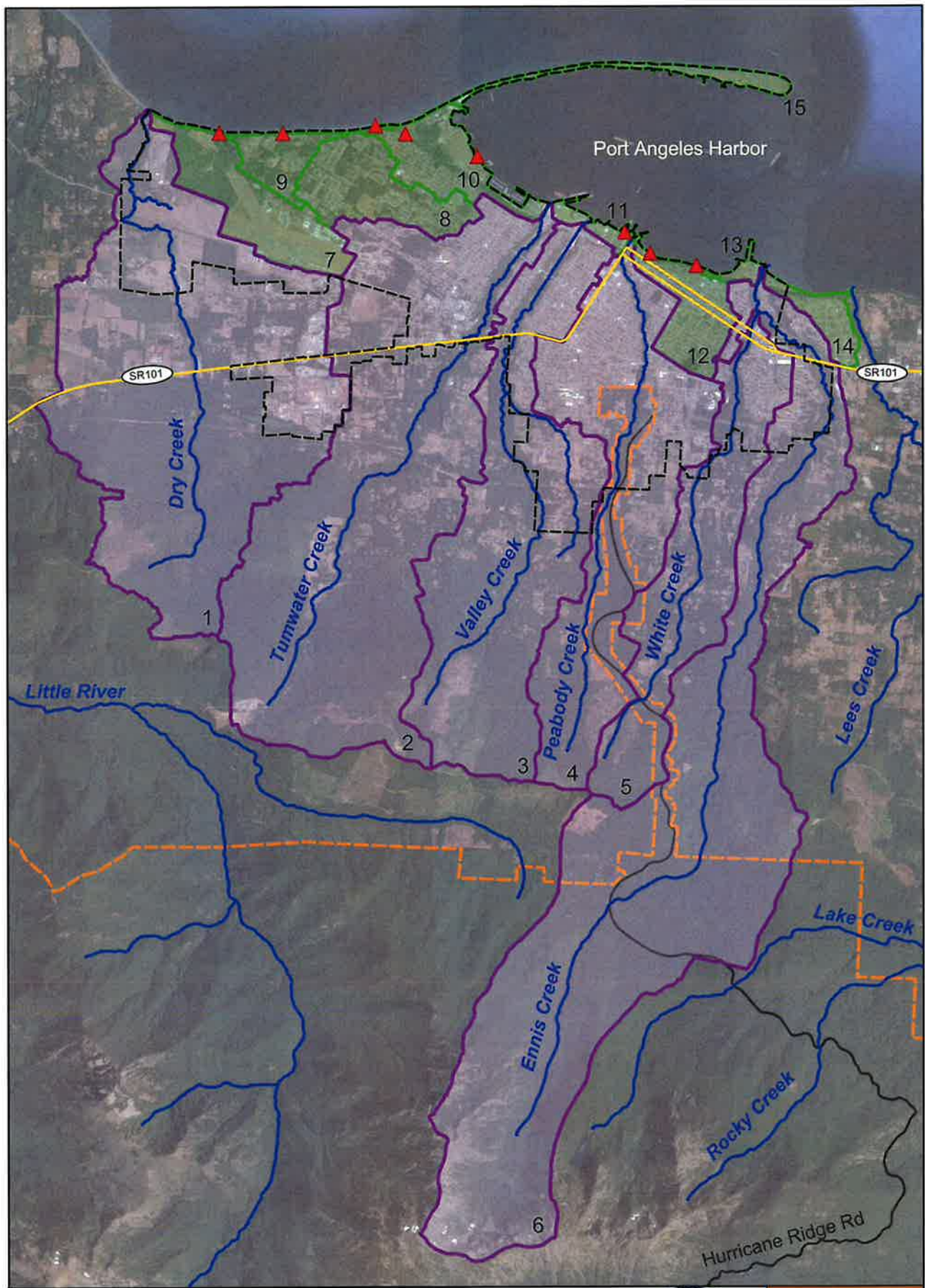
CONCLUSION / RECOMMENDATIONS

By completing the four steps outlined as part of the Receiving Water Conditions Assessment, a candidate list of receiving waters and basins was developed. Though this assessment it was determined all receiving waters and basins within the City were considered to have relatively high expected Stormwater Management Influence for SMAP. With a relative uniform land use distribution throughout the City, these results were expected. The receiving waters within the City provide habitat for several fish species and are important to the community for recreational, domestic, and agricultural purposes. Due to the rural lifestyle, the environmental impacts, while still present, are less than what would be expected in a highly urbanized area. For these reasons, all receiving waters and basins within the City will be considered in the Receiving Water Prioritization process.

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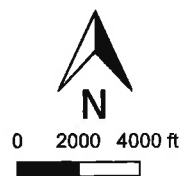
ATTACHMENT 1 - MAPS



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

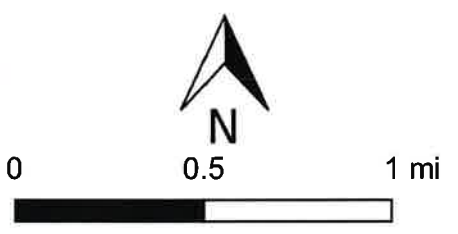


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Existing Critical Areas Within the City of Port Angeles

Legend

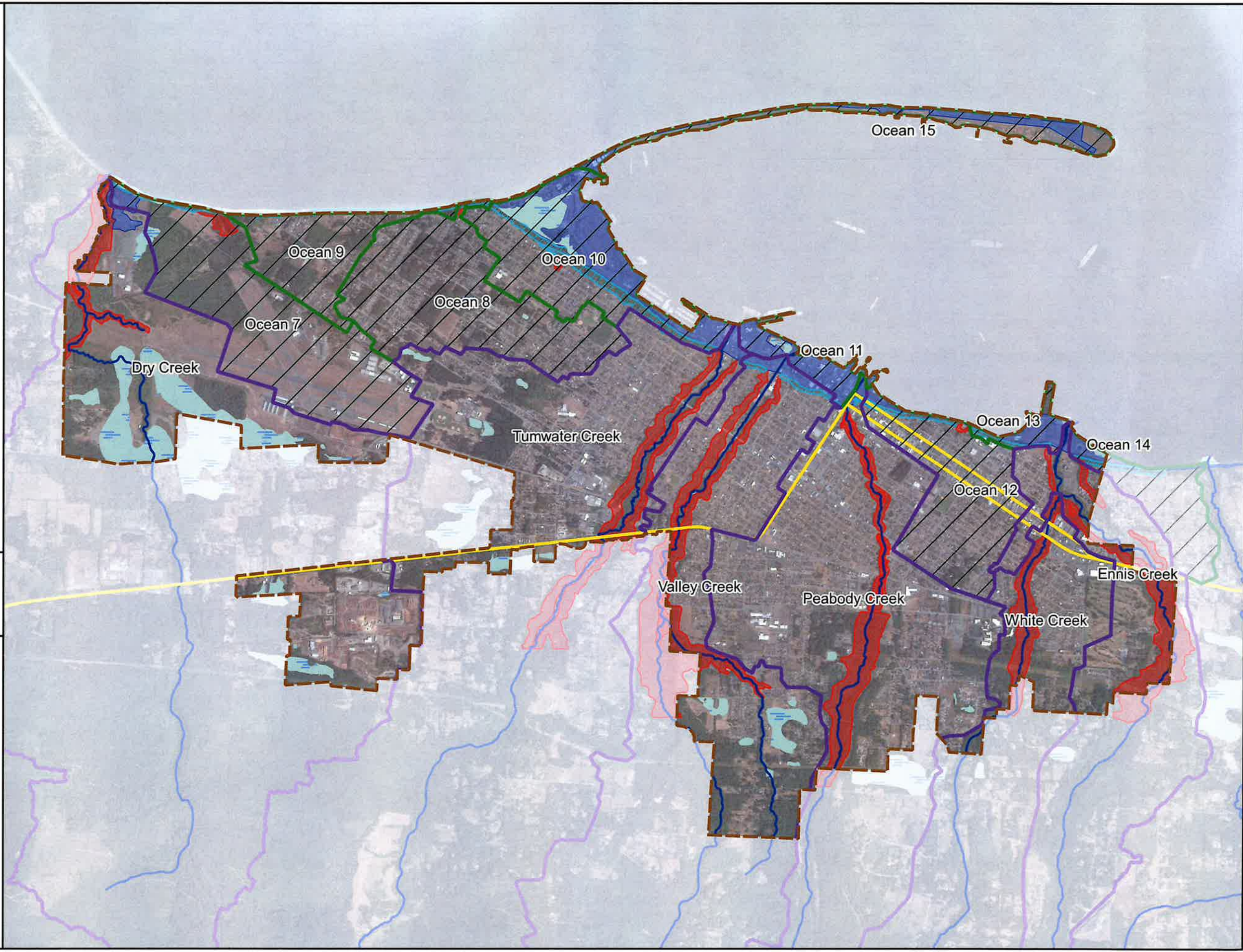
- Port Angeles City Boundary
- Freshwater Basin Boundary
- Saltwater Basin Boundary
- Beaches and Coastal Areas
- Marine Bluffs
- Ravine
- Wetland
- Waterbody
- State Route 101



City of Port Angeles
02/23/2022
Critical areas data developed by the City
of Port Angeles, n.d.















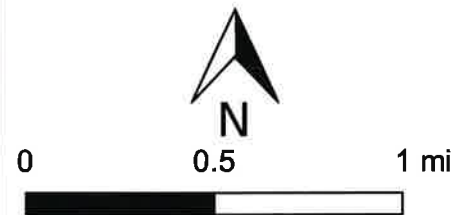
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Existing Hydrologic Soil Group Within the City of Port Angeles

Legend

-  A
-  B
-  B/D
-  C
-  C/D
-  D
-  N/A
-  Freshwater Basin Boundary
-  Saltwater Basin Boundary
-  City Boundary copy copy
-  Waterbody
-  State Route 101

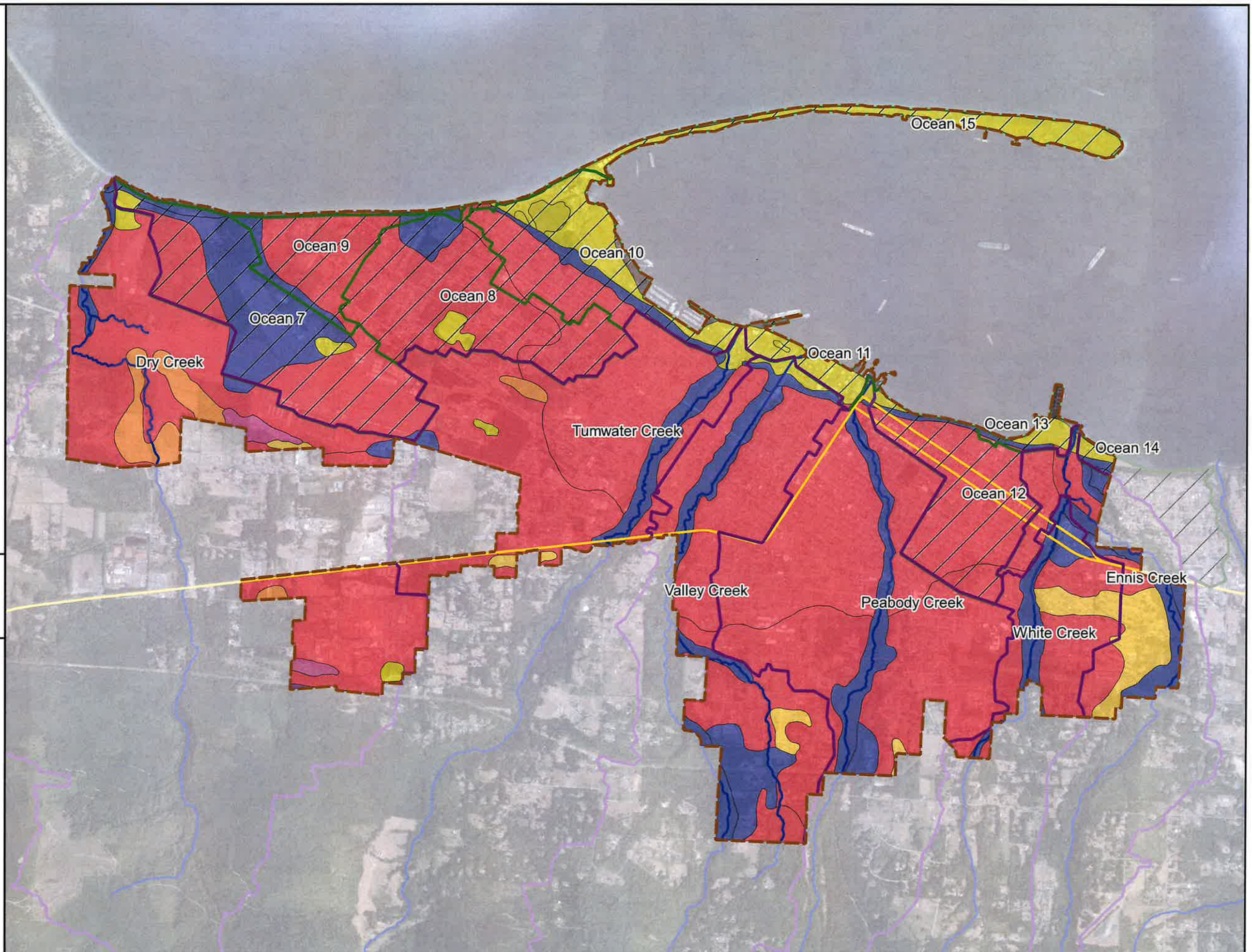


City of Port Angeles
02/23/2022

Soils data developed by USDA's Web Soil Survey, 2022.



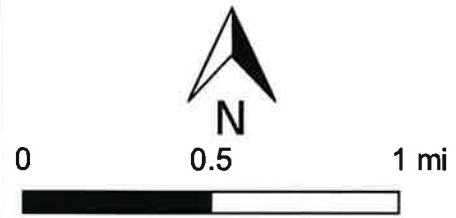
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Existing Land Cover Within the City of Port Angeles

Legend

- Barren Land
- Developed Land
- Forest
- Open Water
- Pasture
- Wetland
- Freshwater Basin Boundary
- Saltwater Basin Boundary
- City Boundary copy copy
- Waterbody
- State Route 101

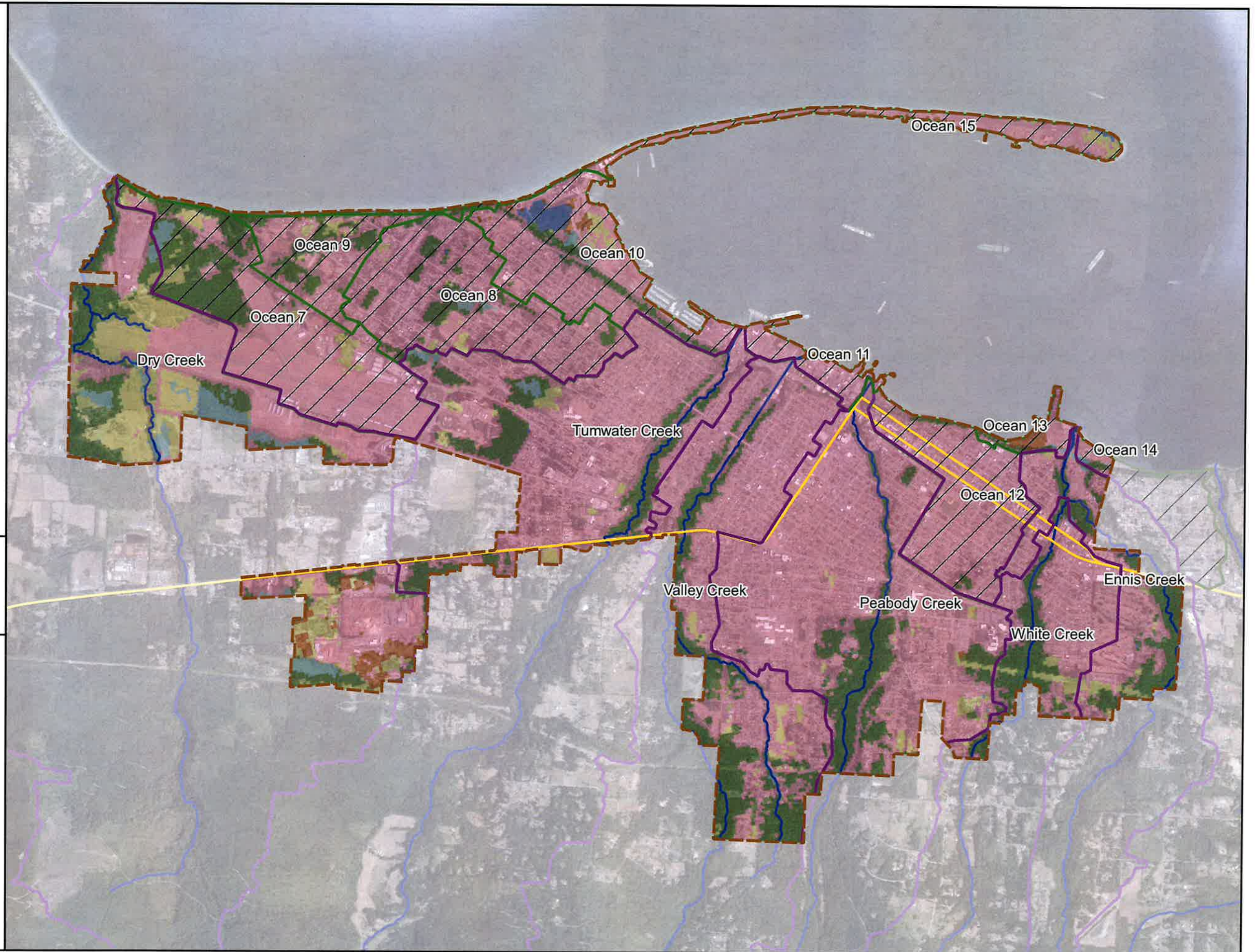


City of Port Angeles
02/23/2022

Land Cover data developed by Multi-
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Consortium, 2019.



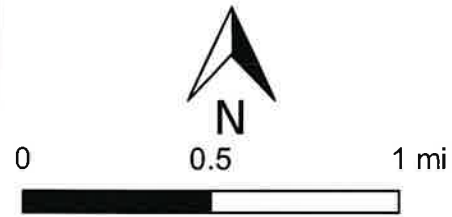
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Existing Land Zoning Within the City of Port Angeles

Legend

- Commercial
- High Density Residential
- Industrial
- Medium Density Residential
- Parks and Public Buildings
- Single Family Residential
- Roads
- Freshwater Basin Boundary
- Saltwater Basin Boundary
- Port Angeles City Boundary
- Waterbody
- State Route 101

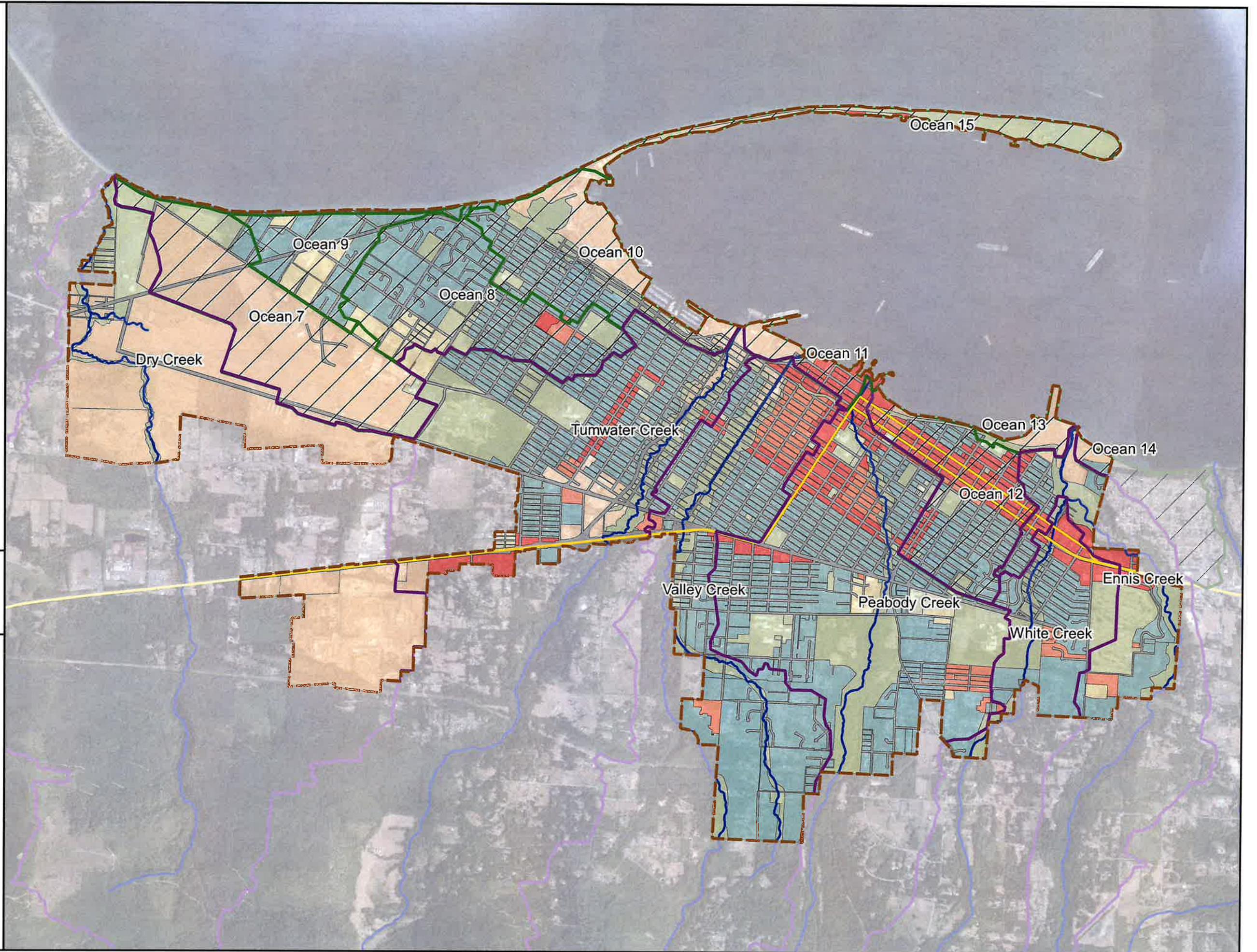


City of Port Angeles
02/23/2022

Land Zoning data provided by the City of
Port Angeles.



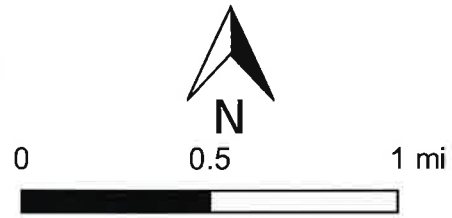
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Existing Topography Within the City of Port Angeles

Legend

- 10' Contours
- Freshwater Basin Boundary
- Saltwater Basin Boundary
- Port Angeles City Boundary
- Waterbody
- State Route 101



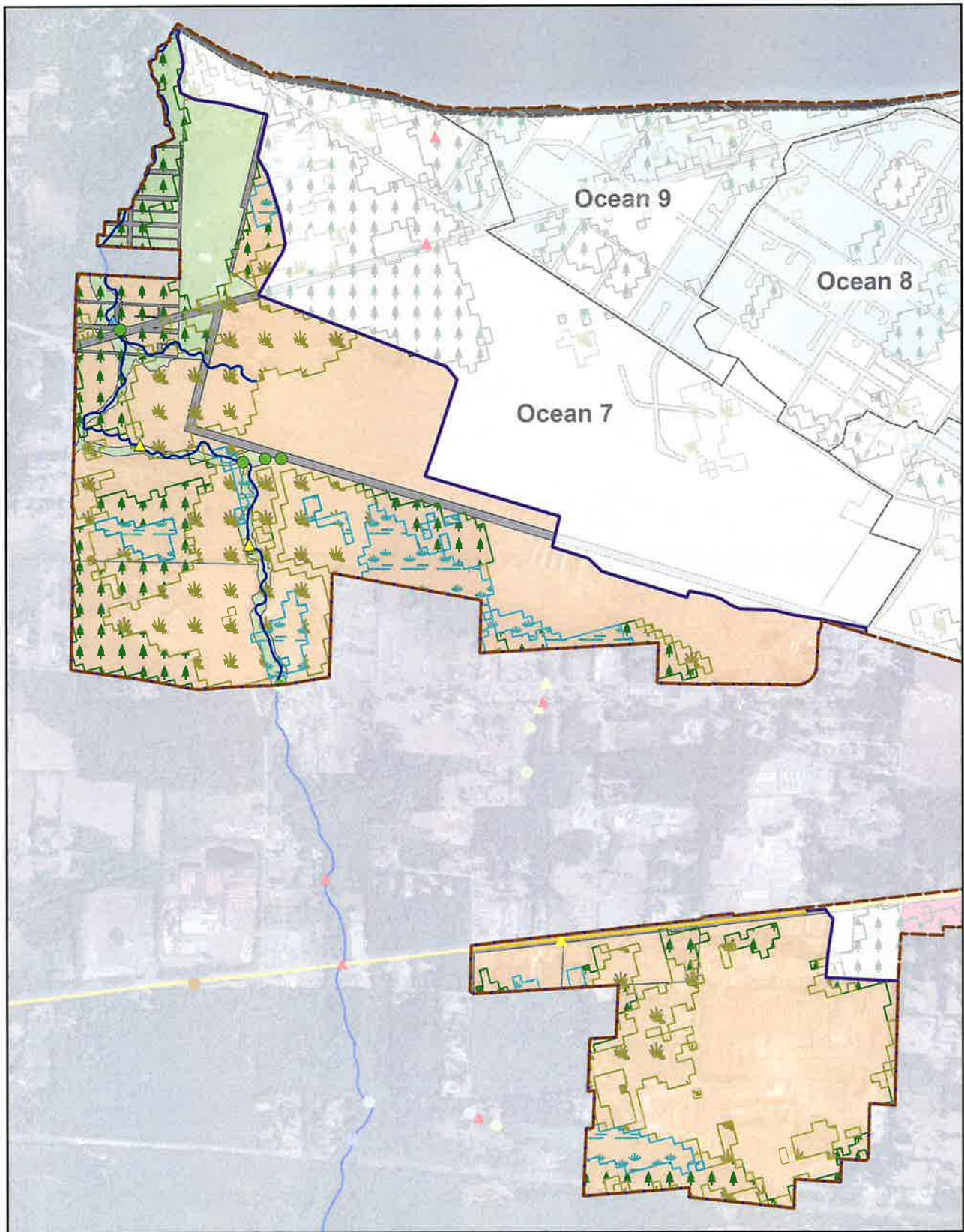
City of Port Angeles
02/23/2022

10-ft Contour Data developed by Clallam
County, n.d.



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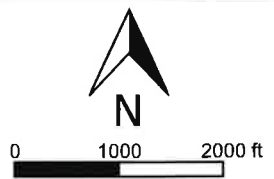




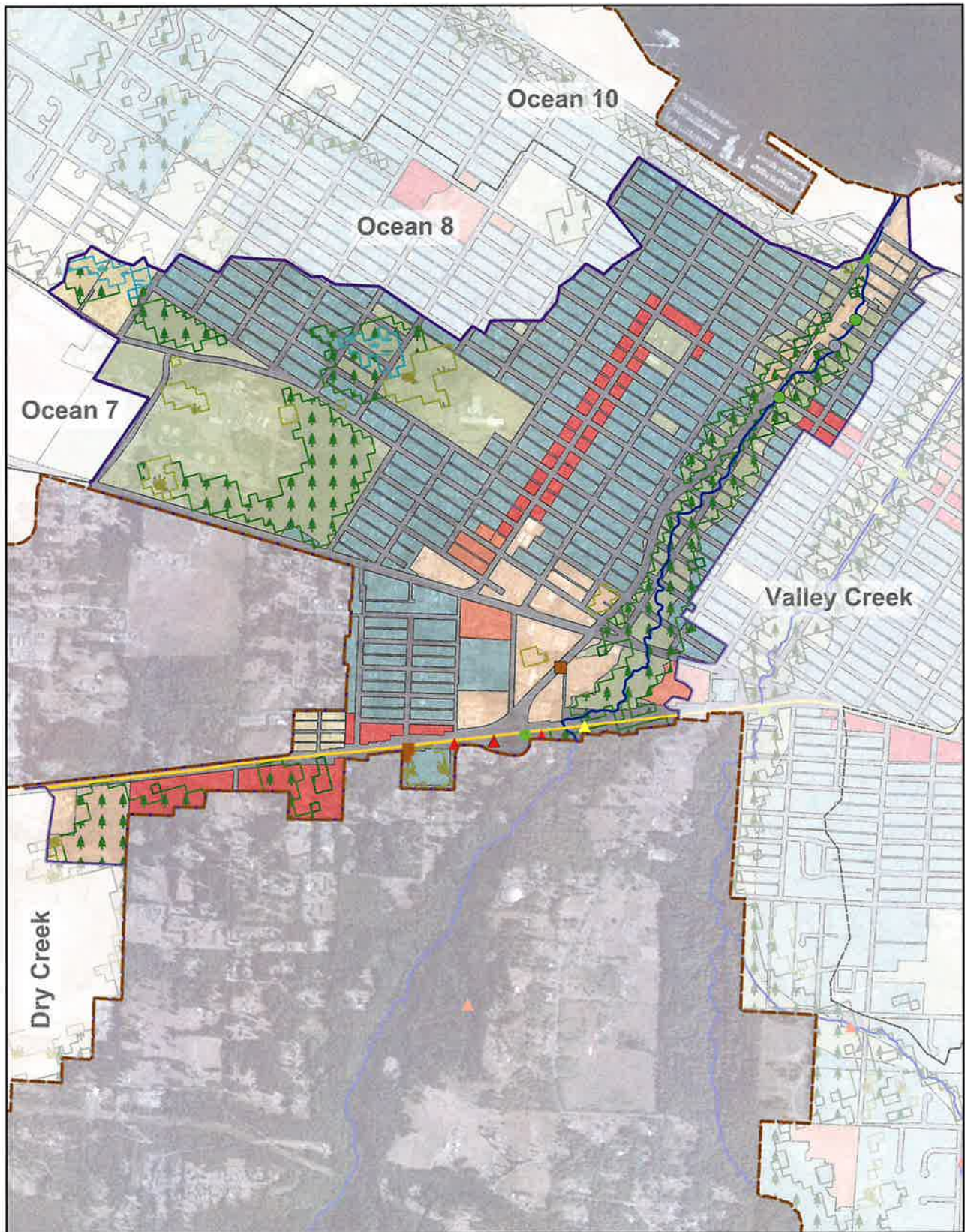
Port Angeles Basin Delineations - Dry Creek

Legend

- | | | |
|-------------------------------|----------------------------|-------------------|
| Freshwater Basin Boundary | State Route 101 | Land Cover |
| Neighboring Basin Boundary | Waterbody | Forest |
| Port Angeles City Boundary | Land Zoning | Pasture |
| Fish Passage | Industrial | Wetland |
| Not a Barrier | Parks and Public Buildings | |
| Partial Fish Passage Blockage | Roads | |
| Natural Barrier | | |

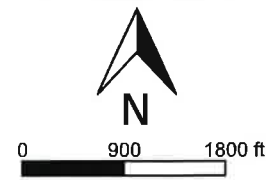


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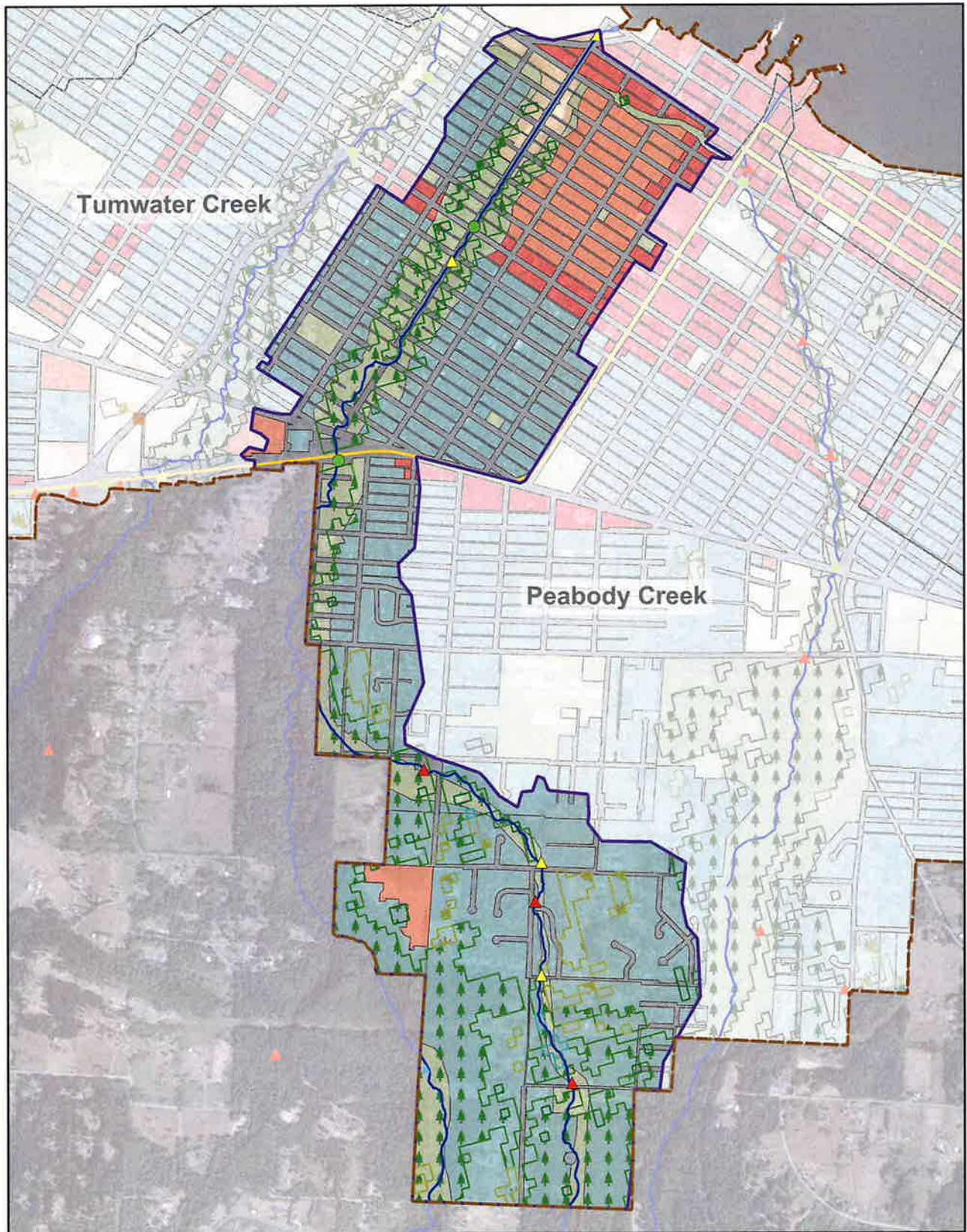


Port Angeles Basin Delineations - Tumwater Creek
Legend

- | | | |
|-------------------------------|----------------------------|-------------------|
| Freshwater Basin Boundary | State Route 101 | Land Cover |
| Neighboring Basin Boundary | Waterbody | Forest |
| Port Angeles City Boundary | Land Zoning | Pasture |
| Fish Passage | Commercial | Wetland |
| Not a Barrier | High Density Residential | |
| Total Fish Passage Blockage | Industrial | |
| Partial Fish Passage Blockage | Medium Density Residential | |
| On a Non-Fish Bearing Stream | Parks and Public Buildings | |
| Unknown | Single Family Residential | |
| | Roads | |



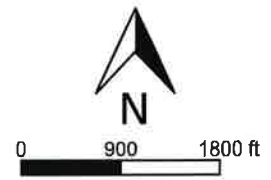
OSBORN
 CONSULTING
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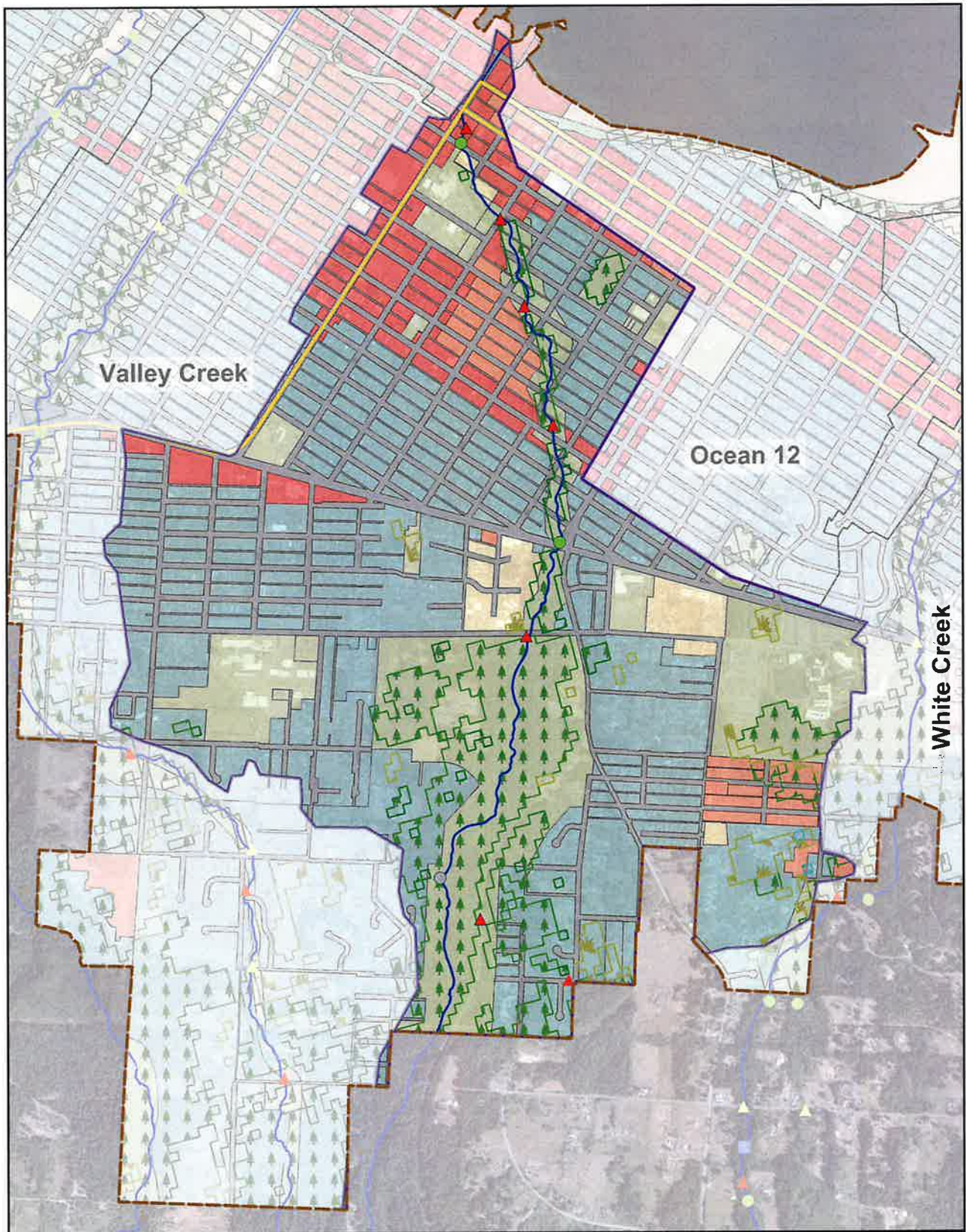
Port Angeles Basin Delineations - Valley Creek

Legend

- | | | |
|-------------------------------|----------------------------|------------|
| Freshwater Basin Boundary | State Route 101 | Land Cover |
| Neighboring Basin Boundary | Waterbody | Forest |
| Port Angeles City Boundary | Land Zoning | Pasture |
| Fish Passage | Commercial | Wetland |
| Not a Barrier | High Density Residential | |
| Total Fish Passage Blockage | Industrial | |
| Partial Fish Passage Blockage | Parks and Public Buildings | |
| Natural Barrier | Single Family Residential | |
| Unknown | Roads | |

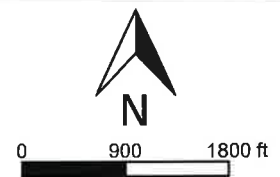


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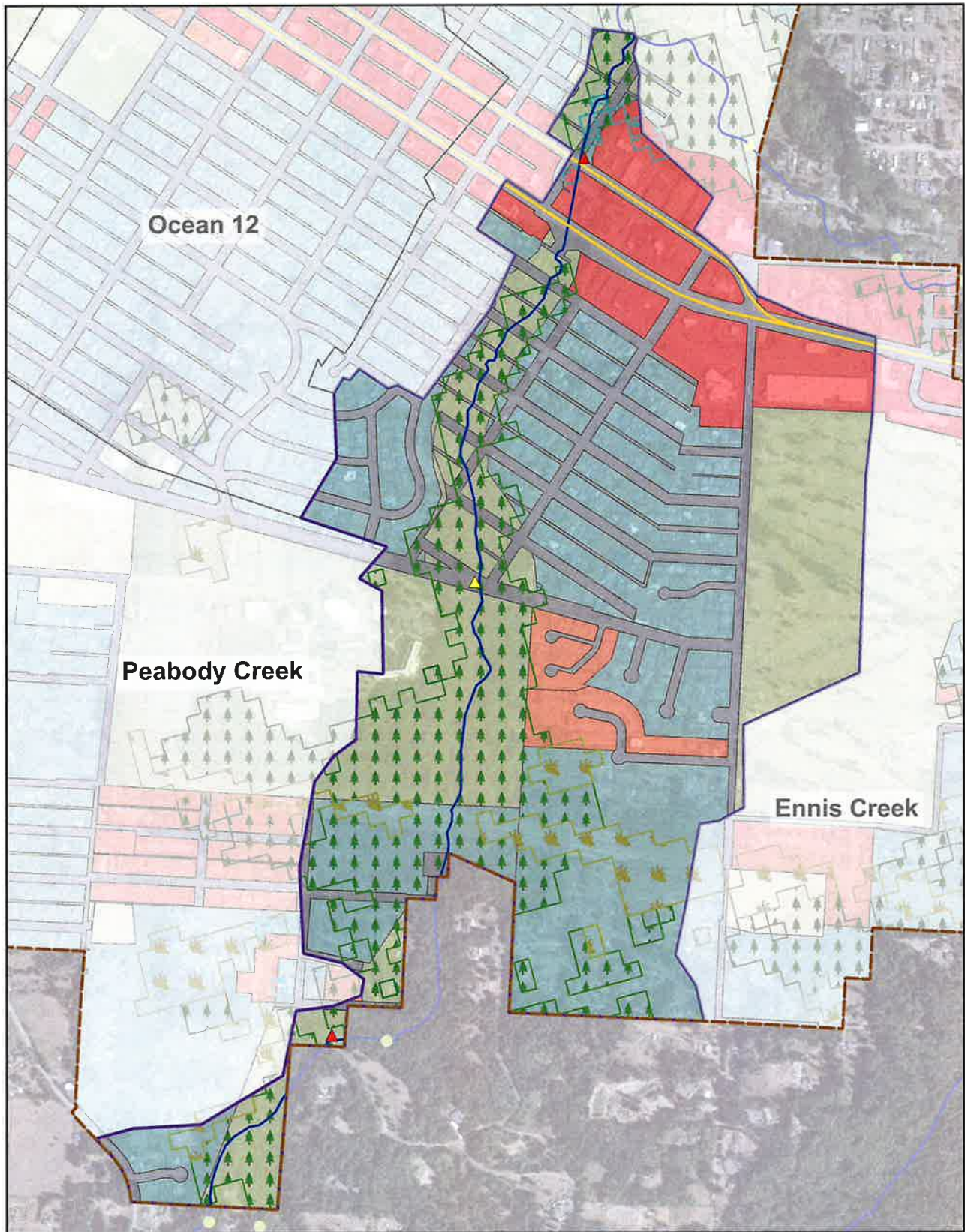


Port Angeles Basin Delineations - Peabody Creek
Legend

- | | | |
|-----------------------------|----------------------------|------------|
| Freshwater Basin Boundary | State Route 101 | Land Cover |
| Neighboring Basin Boundary | Waterbody | Forest |
| Port Angeles City Boundary | Land Zoning | Pasture |
| Fish Passage | Commercial | Wetland |
| Not a Barrier | High Density Residential | |
| Total Fish Passage Blockage | Medium Density Residential | |
| Unknown | Parks and Public Buildings | |
| | Single Family Residential | |
| | Roads | |



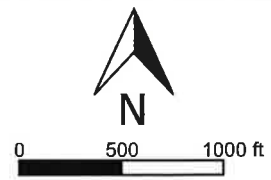
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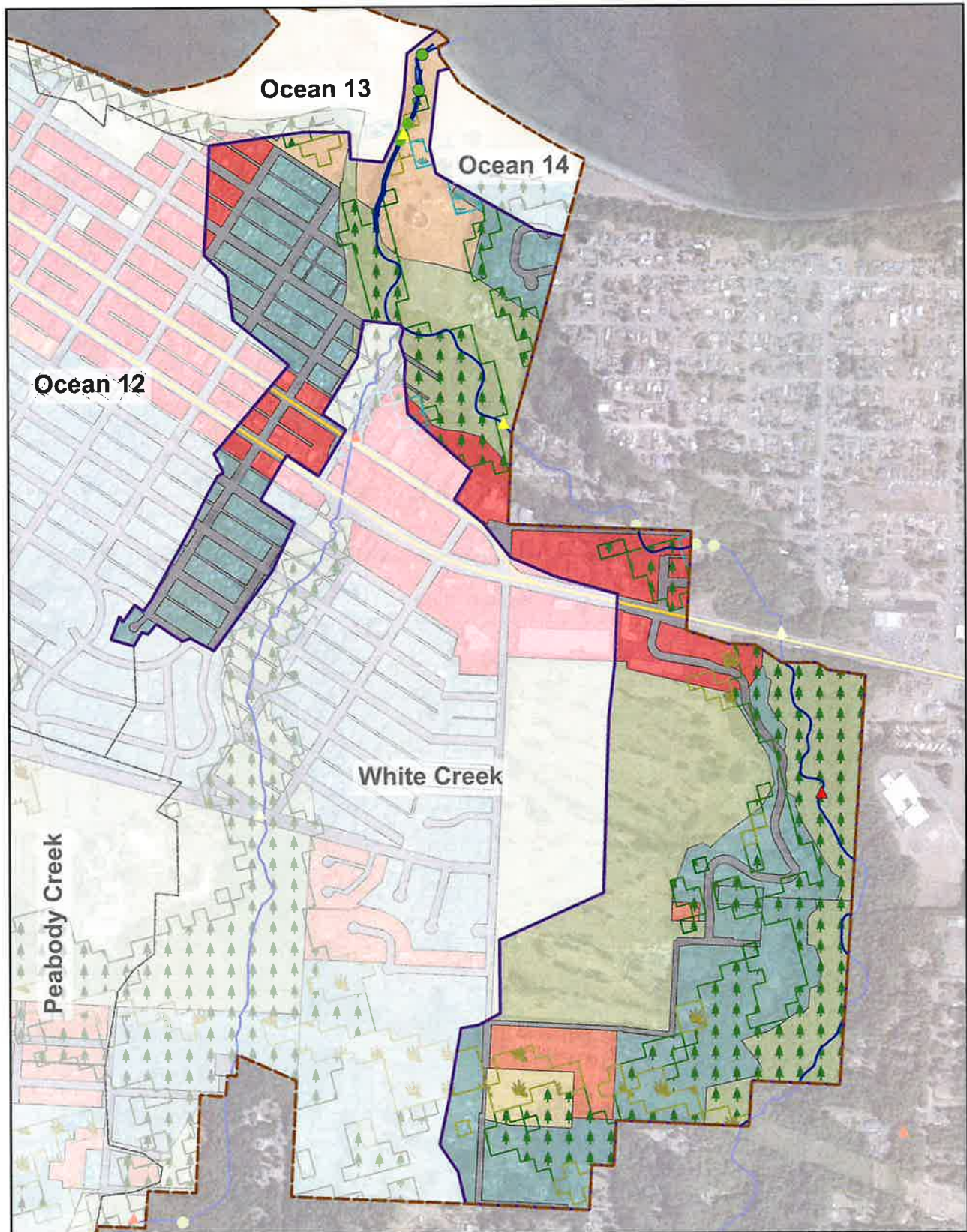
Port Angeles Basin Delineations - White Creek

Legend

- | | | |
|-------------------------------|----------------------------|-------------------|
| Freshwater Basin Boundary | State Route 101 | Land Cover |
| Neighboring Basin Boundary | Waterbody | Forest |
| Port Angeles City Boundary | Land Zoning | Pasture |
| Fish Passage | Commercial | Wetland |
| Total Fish Passage Blockage | High Density Residential | |
| Partial Fish Passage Blockage | Parks and Public Buildings | |
| | Single Family Residential | |
| | Roads | |



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Port Angeles Basin Delineations - Ennis Creek

Legend

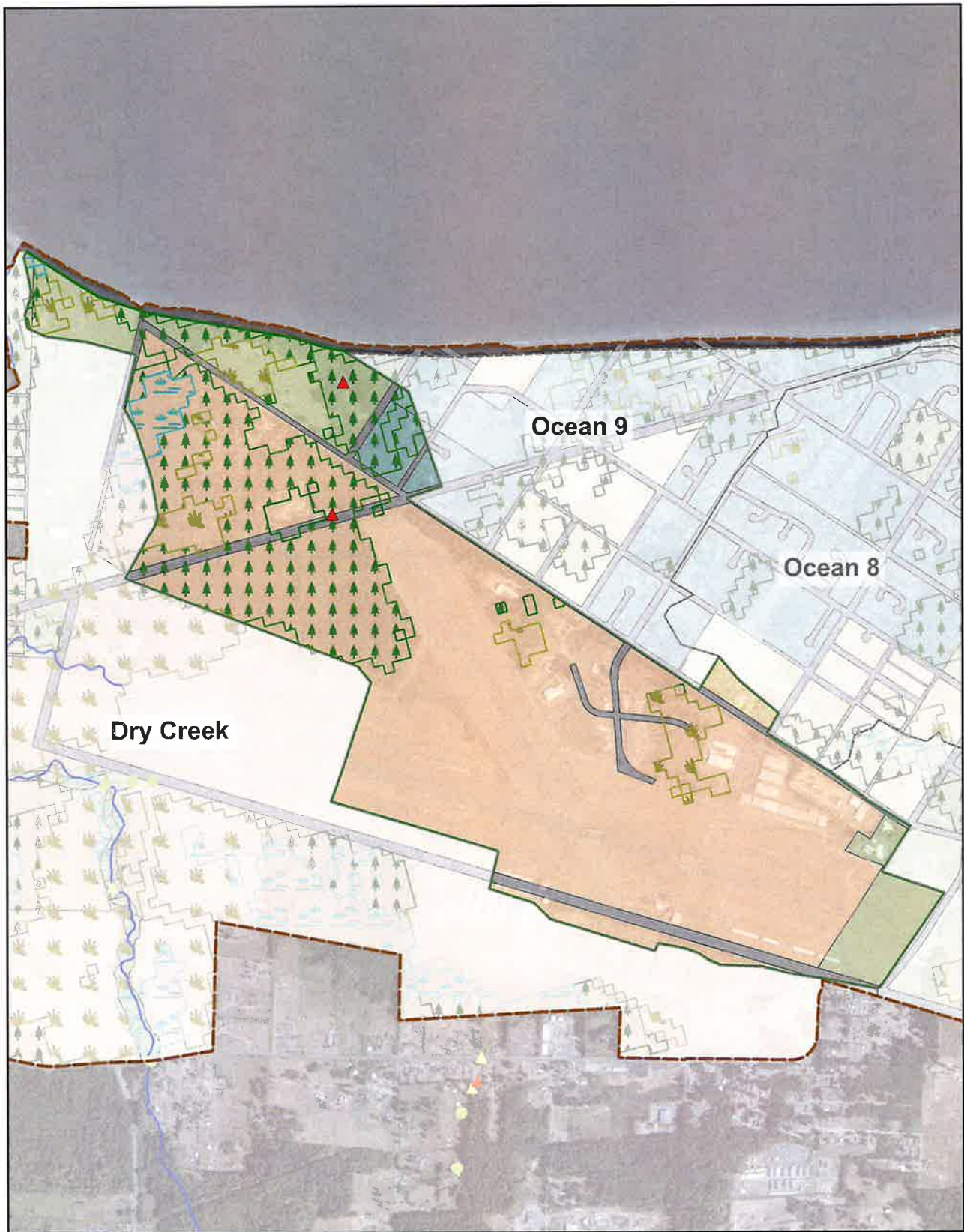
- | | | |
|-------------------------------|----------------------------|---------|
| Freshwater Basin Boundary | State Route 101 | Forest |
| Neighboring Basin Boundary | Waterbody | Pasture |
| Port Angeles City Boundary | Land Zoning | Wetland |
| Fish Passage | Commercial | |
| Not a Barrier | High Density Residential | |
| Total Fish Passage Blockage | Industrial | |
| Partial Fish Passage Blockage | Medium Density Residential | |
| | Parks and Public Buildings | |
| | Single Family Residential | |
| | Roads | |



0 500 1000 ft



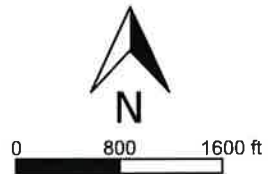
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Port Angeles Basin Delineations - Ocean 7

Legend

Saltwater Basin Boundary	Land Zoning	Land Cover
Neighboring Basin Boundary	Industrial	Forest
Port Angeles City Boundary	Medium Density Residential	Pasture
Fish Passage	Parks and Public Buildings	Wetland
Total Fish Passage Blockage	Single Family Residential	
	Roads	



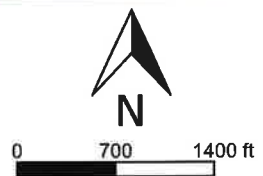
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Port Angeles Basin Delineations - Ocean 8

Legend

- | | | |
|------------------------------|----------------------------|---------|
| Saltwater Basin Boundary | Commercial | Forest |
| Neighboring Basin Boundary | High Density Residential | Pasture |
| Port Angeles City Boundary | Medium Density Residential | Wetland |
| Fish Passage | Parks and Public Buildings | |
| On a Non-Fish Bearing Stream | Single Family Residential | |
| | Roads | |



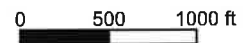
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Port Angeles Basin Delineations - Ocean 9

Legend

Saltwater Basin Boundary	Land Zoning	Land Cover
Neighboring Basin Boundary	Medium Density Residential	Forest
Port Angeles City Boundary	Parks and Public Buildings	Pasture
	Single Family Residential	
	Roads	



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Port Angeles Basin Delineations - Ocean 10

Legend

Saltwater Basin Boundary	Land Zoning	Forest
Neighboring Basin Boundary	High Density Residential	Pasture
Port Angeles City Boundary	Industrial	Wetland
Fish Passage	Parks and Public Buildings	Roads
Unknown	Single Family Residential	



0 600 1200 ft



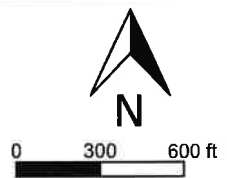
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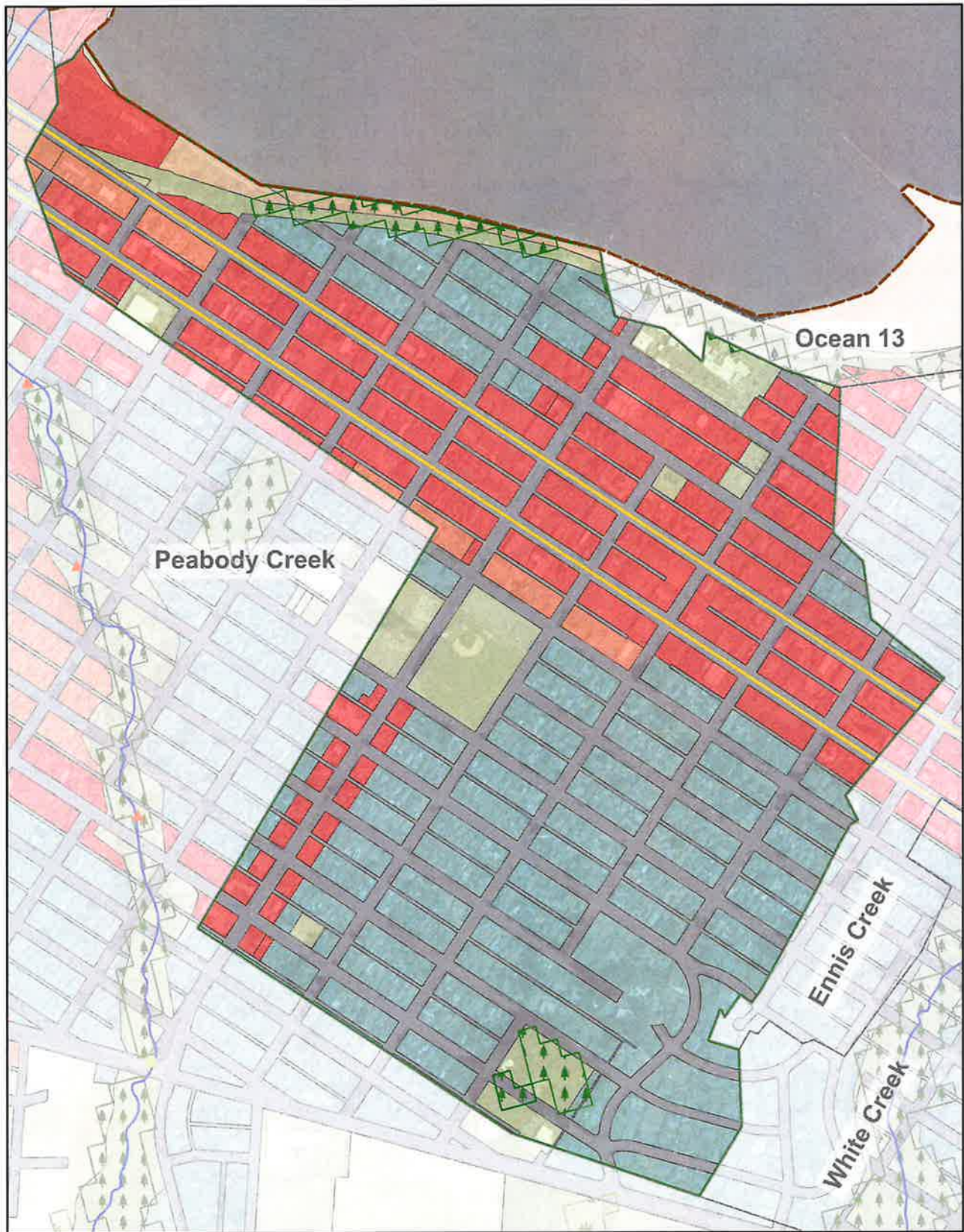
Port Angeles Basin Delineations - Ocean 11

Legend

- | | | |
|----------------------------|----------------------------|--------------------|
| Saltwater Basin Boundary | Waterbody | Land Zoning |
| Neighboring Basin Boundary | Commercial | Industrial |
| Port Angeles City Boundary | Parks and Public Buildings | Roads |



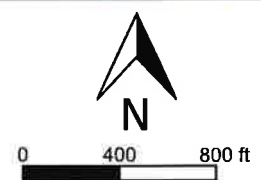
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CONSULTING
INCORPORATED



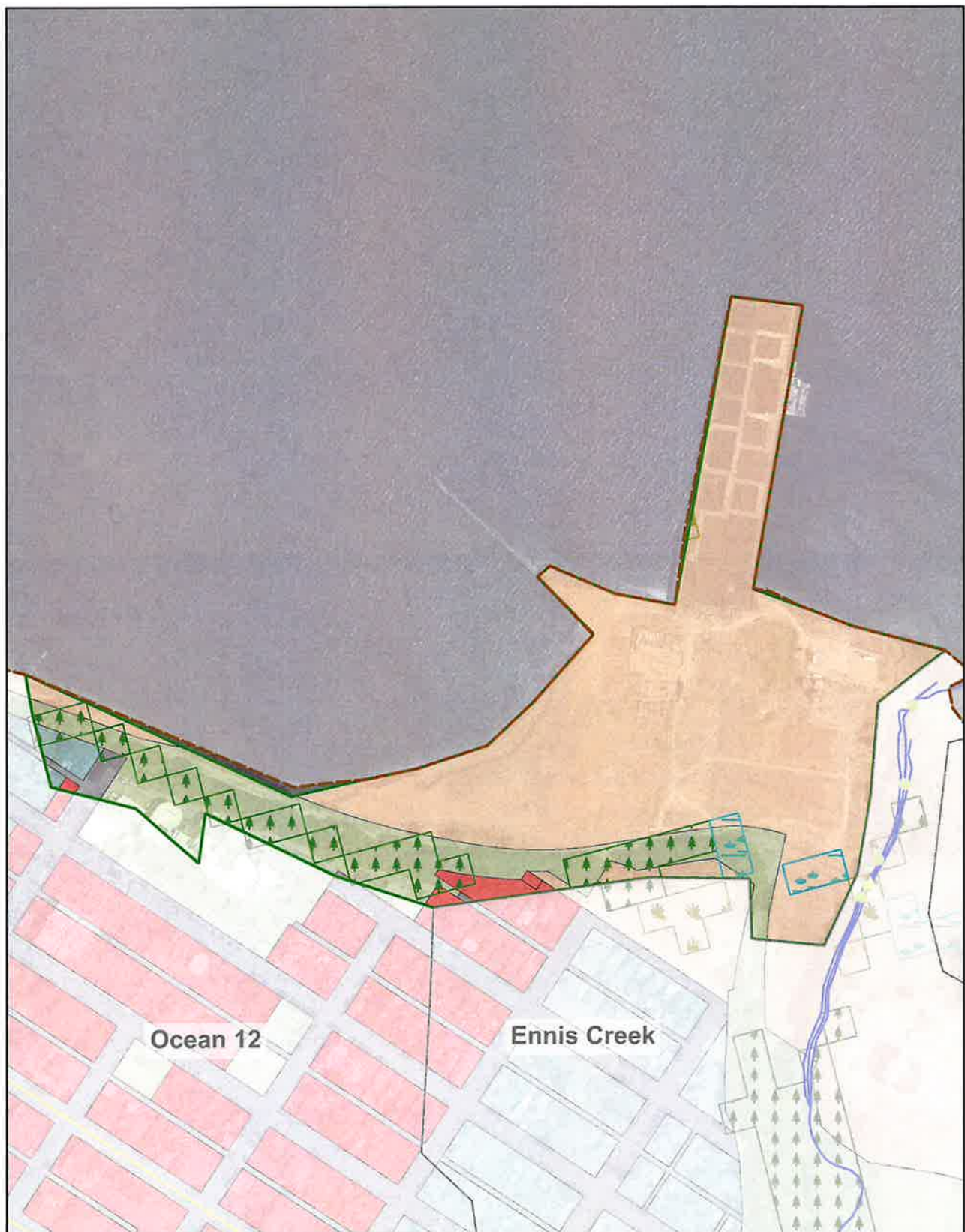
Port Angeles Basin Delineations - Ocean 12

Legend

- | | | |
|----------------------------|----------------------------|------------|
| Saltwater Basin Boundary | Land Zoning | Land Cover |
| Neighboring Basin Boundary | Commercial | Forest |
| Port Angeles City Boundary | High Density Residential | |
| State Route 101 | Industrial | |
| | Parks and Public Buildings | |
| | Single Family Residential | |
| | Roads | |



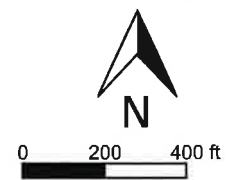
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CONSULTING
INCORPORATED



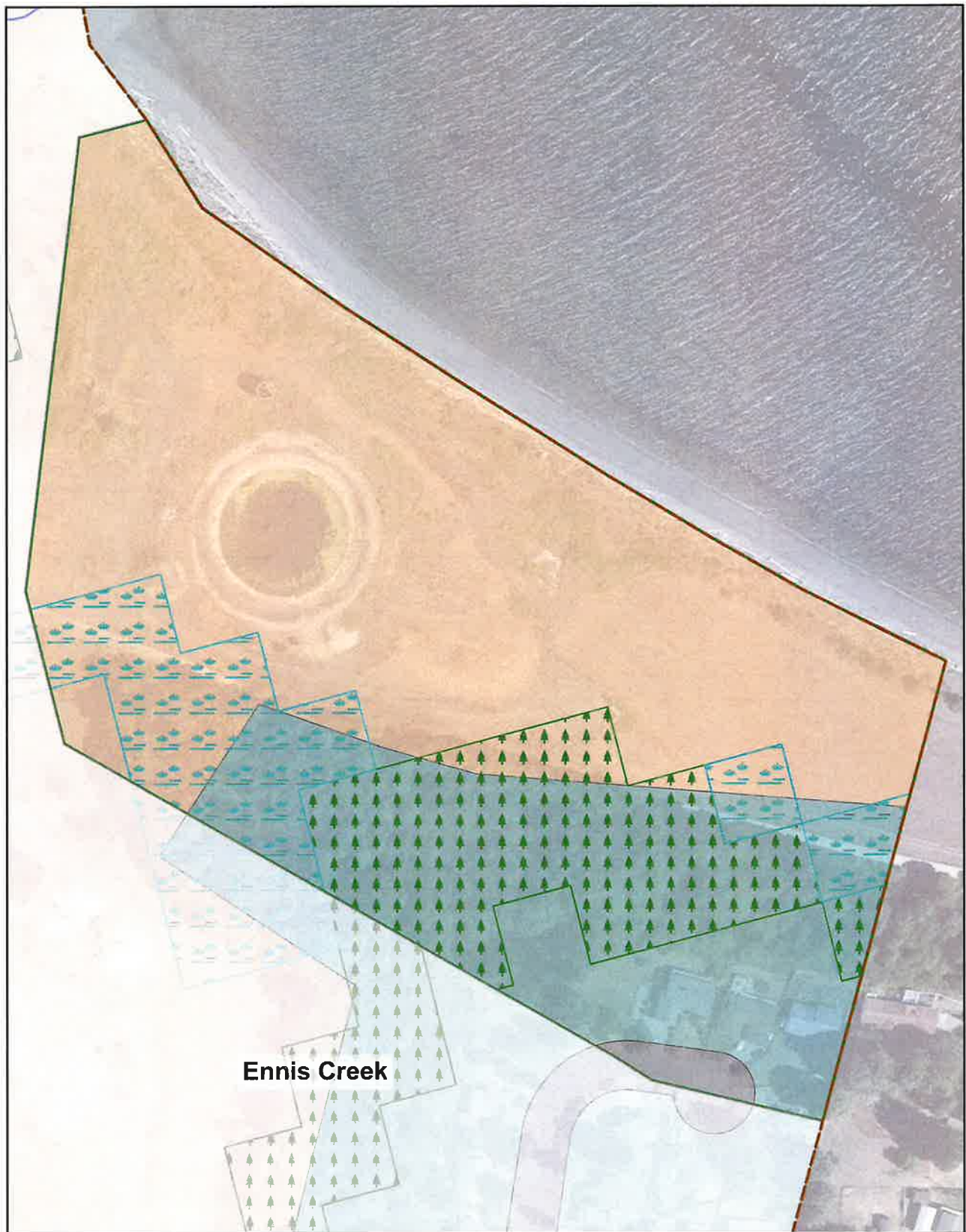
Port Angeles Basin Delineations - Ocean 13

Legend

- | | | |
|----------------------------|----------------------------|---------|
| Saltwater Basin Boundary | Commercial | Forest |
| Neighboring Basin Boundary | Industrial | Pasture |
| Port Angeles City Boundary | Parks and Public Buildings | Wetland |
| | Single Family Residential | |
| | Roads | |



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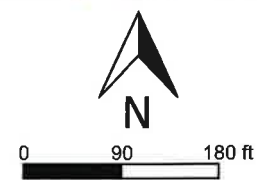


Ennis Creek

Port Angeles Basin Delineations - Ocean 14

Legend

- | | | |
|----------------------------|---------------------------------------|--------------------|
| Saltwater Basin Boundary | Land Zoning Industrial | Land Cover Forest |
| Neighboring Basin Boundary | Land Zoning Single Family Residential | Land Cover Wetland |
| Port Angeles City Boundary | Land Zoning Roads | |



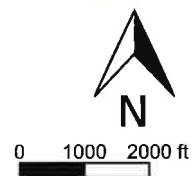
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Port Angeles Basin Delineations - Ocean 15

Legend

- | | | |
|----------------------------|---------------------------|----------------------------|
| Saltwater Basin Boundary | Land Zoning | Forest |
| Neighboring Basin Boundary | Commercial | Pasture |
| Port Angeles City Boundary | Industrial | Parks and Public Buildings |
| | Single Family Residential | Roads |



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ATTACHMENT 2 – BASIN CHARACTERISTICS TABLE

	Dry Creek	Tumwater Creek	Valley Creek	Peabody Creek	White Creek	Ennis Creek	Ocean 7 Cemetery Basin (Strait)	Ocean 8 N Street Basin (Strait)	Ocean 9 P Street Basin (Strait)	Ocean 10 Mill and Log Yard Basin (Harbor)	Ocean 11 Ferry Terminal Basin (Harbor)	Ocean 12 Hollywood Beach Basin (Harbor)	Ocean 13 Old Rayonier Mill Basin (Harbor)	Ocean 14 Gales Addition Basin (Harbor)	Ocean 15 Ediz Hook Basin (Harbor)
Compiled 2/24/2021															
Land Zoning¹															
Commercial ²	0%	5%	3%	7%	10%	10%	0%	1%	0%	0%	40%	25%	2%	0%	2%
Industrial ³	86%	9%	1%	0%	0%	6%	78%	0%	0%	33%	45%	1%	75%	69%	21%
High Density Residential ⁴	0%	1%	7%	3%	4%	3%	0%	2%	0%	0%	0%	2%	0%	0%	0%
Medium Density Residential ⁵	0%	2%	0%	3%	0%	2%	1%	8%	23%	0%	0%	0%	0%	0%	0%
Single Family Residential	0%	30%	53%	41%	40%	30%	2%	55%	57%	28%	0%	32%	1%	30%	2%
Roads ⁶	4%	29%	22%	20%	17%	12%	6%	24%	19%	21%	15%	32%	1%	1%	2%
Parks and Public Building	10%	24%	14%	26%	29%	37%	13%	10%	1%	18%	0%	8%	21%	0%	73%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Land Cover⁷															
Barren Land	4%	0%	0%	0%	0%	0%	1%	0%	3%	3%	0%	0%	26%	0%	11%
Open Water	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%	0%	0%	3%	0%	3%
Effective Impervious ⁸	32%	53%	48%	51%	43%	38%	50%	56%	44%	54%	85%	73%	41%	52%	30%
Landscape ⁹	13%	28%	25%	32%	26%	28%	19%	31%	24%	25%	15%	25%	18%	18%	48%
Forest ¹⁰	19%	16%	24%	15%	26%	28%	23%	9%	25%	8%	0%	2%	10%	17%	1%
Pasture ¹¹	25%	2%	3%	2%	4%	5%	6%	2%	4%	3%	0%	0%	0%	0%	7%
Wetland ¹²	7%	1%	0%	0%	1%	1%	1%	2%	0%	1%	0%	0%	2%	13%	0%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Physical Parameters															
Effective Impervious ⁸ (from Land Cover, above)	32%	53%	48%	51%	43%	38%	50%	56%	44%	54%	85%	73%	41%	52%	30%
Future Effective Impervious (built out conditions) ¹³	72%	62%	61%	58%	57%	54%	71%	62%	63%	65%	85%	74%	66%	71%	39%
Effective Impervious Percent Difference (Future - Current)	40%	9%	13%	7%	14%	16%	21%	6%	19%	11%	0%	1%	25%	19%	9%
Total Basin Area	4364	4490	2761	2336	1503	5447	561	491	199	356	72	340	42	156	134
Acres Inside City Boundary	996	928	852	1202	341	326	561	491	199	356	72	340	42	17	134
% of Basin Within City	23%	21%	31%	51%	23%	6%	100%	100%	100%	100%	100%	100%	100%	11%	100%
% of Jurisdictional Area	15%	14%	12%	18%	5%	5%	8%	7%	3%	5%	1%	5%	1%	0%	2%
Drift Cell Type ¹⁴	N/A	N/A	N/A	N/A	N/A	N/A	Right to Left	Right to Left	Right to Left	No Drift	No Drift	Left to Right	Right to Left	Left to Right	Right to Left
Environmental Parameters¹⁵															
Traffic Proximity and Volume (daily traffic count/distance to road)	20	160	300	250	360	57	21	36	18	57	340	650	-	-	3.4
Superfund Proximity (site count/km distance)	0.015	0.015	0.016	0.016	0.016	0.016	0.015	0.015	0.015	0.016	0.016	0.016	-	-	0.016
Hazardous Waste Proximity (facility count/km distance)	0.71	1.20	1.10	0.67	0.31	1.60	0.87	1.10	0.92	1.60	1.50	0.61	-	-	1.20
Demographic Parameters^{15,16}															
Demographic Index ((% minority + % low-income) / 2)	21%	28%	29%	33%	25%	25%	26%	27%	27%	25%	43%	31%	-	-	32%
People of Color Population	14%	14%	19%	18%	12%	16%	15%	14%	14%	16%	22%	18%	-	-	12%
Low Income Population	29%	42%	39%	47%	39%	35%	37%	40%	39%	35%	- ¹⁷	45%	-	-	- ¹⁷

Notes & Assumptions

- 1 Land Zoning data was provided by the City of Port Angeles from the City's GIS database.
- 2 The Commercial Land Zoning designation includes designations for parcels such as Central Business District, Commercial Neighborhood, Commercial Office, Commercial Shop District, and Commercial Arterial.
- 3 The Industrial Land Zoning designation includes designations for parcels such as Industrial Heavy and Industrial Light
- 4 The High Density Residential Land Zoning designation includes designations for parcels such as Planned Residential District and Residential High Density.
- 5 The Medium Density Residential Land Zoning designation includes designations for parcels such as Residential Trailer Park and Residential High Density.
- 6 The Roads designation indicates Right of Way.
- 7 Land Cover data collected from the Multi-Resolution Land Characteristics Consortium, National Land Cover Database (2019). Data provided in raster form with 100'x100' resolution. Land Cover Data was updated using aerial imagery.
- 8 The Developed Land Cover category was broken down into Effective Impervious and Landscape categories. The percentages for each basin were calculated predicated on literature values for percent impervious for the overlapping Land Zoning designation.
- 9 Landscape is the area of Developed Land that is not defined as Effective Impervious. Developed Land was identified in the Land Cover dataset.
- 10 The Forest Land Cover designation includes designations for Deciduous Forest, Evergreen Forest, and Mixed Forest.
- 11 The Pasture Land Cover designation includes designations for Pasture/Hay, Grassland/Herbaceous, and Shrub/Scrub.
- 12 The Wetlands Land Cover designation includes designations Woody Wetlands and Emergent Herbaceous Wetlands.
- 13 Future Effective Impervious for built out conditions assumed impervious percentages for each land zoning category and that all land is fully developed.
- 14 Drift Cell Types defined by the Location of outfall to Port Angeles harbor or to the Puget Sound. Locations of "No Drift" designate areas of concern for sedimentation.
- 15 Environmental and Demographic Parameters data collected from EPA's EJSCREEN: Environmental Justice Screening and Mapping Tool. Basins Ocean 13 and Ocean 14 were smaller than a local block group and can not represent the average person within the defined basin.
- 16 Demographic Parameters are presented as percentages relating to the demographics within each basin.
- 17 Basin contains minimal, if any, residential zoning.

ATTACHMENT 3 – RECEIVING WATER CONDITIONS ASSESSMENT TABLE

		Basin Name													
		Dry Creek	Tumwater Creek	Valley Creek	Peabody Creek	White Creek	Ennis Creek	Ocean 7 Cemetery Basin (Strait)	Ocean 8 N Street Basin (Strait)	Ocean 9 P Street Basin (Strait)	Ocean 10 Mill and Log Yard Basin (Harbor)	Ocean 11 Ferry Terminal Basin (Harbor)	Ocean 12 Hollywood Beach Basin (Harbor)	Ocean 13 Old Rayonier Mill Basin (Harbor)	Ocean 14 Gales Addition Basin (Harbor)
Designated Uses	Aquatic Life Use	Salmonid Spawning, rearing, and migration; core summer salmonid habitat	Salmonid Spawning, rearing, and migration	Salmonid Spawning, rearing, and migration	Salmonid Spawning, rearing, and migration	Core Summer Habitat	Core Summer Habitat	No waterbody present in basin. See Downstream Water Body section.							
	Species with Documented Presence	Coho Salmon (Streams) Chum Salmon (Streams - Fall) Steelhead (Streams - Winter) Cutthroat Trout (Streams)	Coho Salmon (Streams) Chum Salmon (Streams - Fall) Steelhead (Streams - Summer & Winter) Cutthroat Trout (Streams)	Coho Salmon (Streams) Chum Salmon (Streams - Fall) Steelhead (Streams - Summer & Winter) Cutthroat Trout (Streams)	Coho Salmon (Streams) Cutthroat Trout (Streams)	Coho Salmon (Streams) Cutthroat Trout (Streams)	Chinook Salmon (Fall) Coho Salmon (Streams) Chum Salmon (Streams - Fall) Steelhead (Streams - Summer & Winter) Bull Trout (Streams - Presumed) Cutthroat Trout (Streams)	No waterbody present in basin. See Downstream Water Body section.		No waterbody present in basin. Most popular species in the Port Angeles Harbor include Chinook Salmon, Pacific Halibut, and Coho Salmon.					
	Recreation Use	Primary contact recreation						No waterbody present in basin. See Downstream Water Body section.							
	Other Uses	Water Supply Uses (Domestic, Industrial, Agricultural, Stock), and Miscellaneous Uses (Wildlife Habitat, Harvesting, Commerce/Navigation, Boating, Aesthetics)						No waterbody present in basin. See Downstream Water Body section.							
	Downstream Waterbody	Strait of Juan de Fuca Aquatic Life Use: Extraordinary quality Recreation Use: Primary contact recreation Other Uses: Shellfish Harvesting and Miscellaneous Uses	Port Angeles Harbor Aquatic Life Use: Excellent - Shall exceed requirements for all uses including, but not limited to, salmonid migration and rearing; other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning, crustacean and other shellfish rearing and spawning. Recreation Use: Primary contact recreation Other Uses: Shellfish Harvesting and Miscellaneous Uses (Wildlife Habitat, Harvesting, Commerce/Navigation, Boating, Aesthetics)				Strait of Juan de Fuca Aquatic Life Use: Extraordinary quality - Shall exceed the requirements for all uses including, but not limited to, salmonid migration and rearing; other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning; crustaceans and other shellfish rearing and spawning. Recreation Use: Primary contact recreation Other Uses: Shellfish Harvesting and Miscellaneous Uses (Wildlife Habitat, Harvesting, Commerce/Navigation, Boating, Aesthetics)		Port Angeles Harbor Aquatic Life Use: Excellent - Shall exceed requirements for all uses including, but not limited to, salmonid migration and rearing; other fish migration, rearing, and spawning; clam, oyster, and mussel rearing and spawning, crustacean and other shellfish rearing and spawning. Recreation Use: Primary contact recreation Other Uses: Shellfish Harvesting and Miscellaneous Uses (Wildlife Habitat, Harvesting, Commerce/Navigation, Boating, Aesthetics)						
Desired Water Quality Conditions (to support designated uses)		No 303(d) listings/ impairments													
Specific Indicator		Ecology 303(d) Listings													
Waterbody		Category 5 (water): DO, Bioassessment, Temperature Category 2 (water): pH, Bacteria, Turbidity	Category 5 (water): Bacteria	Category 5 (water): Bacteria Category 2 (water): Turbidity, DO Category 1 (water): Bioassessment	Category 5 (water): Temperature, Bacteria, Bioassessment, Turbidity Category 2 (water): pH	None	Category 5 (water): Bacteria Category 1 (water): Bioassessment	No waterbody present in basin. See Downstream Water Body section.							

	Downstream Waterbody	Category 2 (water): Bacteria	Category 1 (sediment): 18 listings [see note]	Category 1 (sediment): 23 listings [see note]	Category 5 (water): Bacteria Category 2 (water): Bacteria Category 1 (sediment): 34 listings [see note]	Category 5 (water): Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Polychlorinated Biphenyls (PCBs) Category 1 (water): 14 listings [see note] Category 5 (sediment): 31 listings [see note]	None	None	None	Category 2 (water): Bacteria Category 2 (sediment): Mercury Category 1 (sediment): 31 listings [see note]	Category 1 (sediment): 23 listings [see note]	Category 5 (water): Bacteria	Category 5 (water): Benzo(a)anthracene, Benzo(b)fluoranthene, Chrysene, Polychlorinated Biphenyls (PCBs) Category 1 (water): 16 listings [see note] Category 5 (sediment): Sediment Bioassay	Category 1 (sediment): Arsenic, Chromium, Copper, Lead, Silver, Zinc	Category 5 (water): DO Category 2 (water): Bacteria Category 5 & 2 (sediment): Mercury Category 2 (sediment): Cadmium, Zinc Category 1 (sediment): 22 listings [see note]
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Information available to assess extent desired conditions are met Ecology 303(d) Listings

How much growth is being directed toward this basin?	Opportunity for heavy and light industrial development.	Potential for future rezoning from residential to commercial or mixed use to provide more commercial services to the west side of the City.	R7 zoning code updates reduced minimum lot size from 5,000 SF to 3,500 creating greater potential for short plats.	Growth is not being directed to this basin.	Growth is not being directed to this basin.	Growth is not being directed to this basin.	Potential for light industrial development near the airport.	R7 zoning code updates reduced minimum lot size from 5,000 SF to 3,500 creating greater potential for short plats. Potential for future rezoning from	Potential for residential development.	R7 zoning code updates reduced minimum lot size from 5,000 SF to 3,500 creating greater potential for short plats.	Growth is not being directed to this basin.	Growth is not being directed to this basin.	Potential for heavy industrial redevelopment.	R7 zoning code updates reduced minimum lot size from 5,000 SF to 3,500 creating greater potential for short plats.	Growth is not being directed to this basin.
--	---	---	--	---	---	---	--	--	--	--	---	---	---	--	---

How is transportation planning likely to affect this basin?	Not likely	Not likely	Not likely	Planned transportation projects in this basin may provide flow control or water quality treatment, if requirements are triggered.	Not likely	Not likely	Not likely	Not likely	Not likely	Not likely	Not Likely	Not Likely	Not Likely	Not Likely	Not Likely
---	------------	------------	------------	---	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------

Are headwaters, riparian areas, and other sensitive portions of the basin likely to be protected under current zoning and plans?	Yes	Yes	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
--	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

What sources/activities are the main contributors to the pollutant load targeted for reduction?	Zoning	Majority: Light-heavy industrial Minority: Parks and Public Buildings	Majority: Single-family residential Minority: Commercial neighborhood, and Parks and Public Buildings	Majority: Single-family and high density residential Minority: Commercial neighborhood/shopping district, and Parks and Public Buildings	Majority: Single-family residential Minority: Parks and Public Buildings, and commercial	Majority: Single-family and Parks and Public Buildings Minority: Commercial and industrial	Majority: Parks and Public Buildings and single-family residential Minority: Commercial and industrial	Majority: Industrial Minority: Parks and Public Buildings	Majority: Single-family residential Minority: medium density residential Parks and Public Buildings	Majority: Single-family and medium density residential Minority: None	Majority: Single-family residential and industrial Minority: Parks and Public Buildings	Majority: Commercial Minority: None	Majority: Single-family residential and commercial Minority: Parks and Public Buildings	Majority: Industrial Minority: Parks Public Buildings	Majority: Industrial Minority: Single-family residential	Majority: Parks and Public Buildings Minority: Industrial, Commercial
	Existing Land Cover	Majority: Impervious and Pasture Minority: Forest, Wetland, Barren land	Majority: Impervious Minority: Forest	Majority: Impervious Minority: Forest	Majority: Impervious Minority: Forest	Majority: Impervious Minority: Forest	Majority: Impervious Minority: Forest, Pasture	Majority: Impervious Minority: Forest, Pasture	Majority: Impervious Minority: Forest, Pasture	Majority: Impervious Minority: Forest	Majority: Impervious Minority: Forest, Pasture	Majority: Impervious Minority: Pasture, Open Water, Forest, Barren Land	Majority: Impervious Minority: None	Majority: Impervious Minority: None	Majority: Impervious Minority: Barren Land, Forest, Open Water	Majority: Impervious Minority: Wetland, Forest

Can these sources be addressed through BMPs found in the SWMMWW and applied through CoPA's SWMP?	Unlikely	Unlikely	Unlikely	Unlikely	N/A	Unlikely	N/A	N/A	N/A	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	
Will enhanced municipal stormwater management actions result in meeting loading targets?	Unlikely	Unlikely	Unlikely	Unlikely	N/A	Unlikely	N/A	N/A	N/A	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	Unlikely	
Are substantial non-stormwater actions needed to address the impairment?	Likely	Potential	Potential	Likely (Temp) Potential (Bacteria) Unlikely (Bioassessment, Turbidity)	N/A	Potential	N/A	N/A	N/A	Unlikely	Unlikely	Potential	Unlikely	Unlikely	Unlikely	
What combination of additional stormwater management actions will most effectively reduce current and future loadings?	Increase riparian buffer density to reduce temp/increase DO	E&O programs to reduce fecal matter (i.e. pet waste); develop a sampling program	E&O programs to reduce fecal matter (i.e. pet waste); develop a sampling program	Increase riparian buffer density to reduce temp/increase DO	N/A	E&O programs to reduce fecal matter (i.e. pet waste); develop a sampling program	N/A	N/A	N/A	N/A	N/A	E&O programs to reduce fecal matter (i.e. pet waste) or "Protect Drain" type signage; develop a sampling program	N/A	N/A	N/A	
Low expected level of influence (low being having both "low expected hydrologic impacts" and "low expected pollutant loadings")?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Expected hydrologic impacts from MS4s draining directly to:	No	No	No	No	No	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Flow-control exempt waters (per the SWMMWW)	No	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Ephemeral streams	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Receiving waters primarily influenced by groundwater flows	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Expected pollutant loadings from MS4s receiving runoff from only:	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Non-pollutant generating surfaces as defined in the 2019 SWMMWW	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Low density residential land uses	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Parking areas with ≤ 100 total trip ends or for ≤ 300 employees	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Roads with ADT ≤ 7,500, fully and partially controlled limited access highways with ADT ≤ 15,000	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	
Watershed Characterization Project	Importance	M/H or H	M	M	M, M/H or H	M	M	M	M/H or H	M/H or H	H	M/H or H, M	M/H or H	M/H or H	M/H or H	H
	Degradation	M/H or H	M/H or H	M/H or H	M/H or H, M/H or H	M/H or H	M/H or H	M/H or H	M/H or H	M/H or H	H	M/H or H, M/H or H	M/H or H	M/H or H	M/H or H	H
	Designation	Restoration	Restoration / Development	Restoration / Development	Development / Restoration	Development / Restoration	Development / Restoration	Development / Restoration	Restoration	Restoration	Highest Restoration	Restoration	Restoration	Restoration	Restoration	Highest Restoration
OCI Confirmation	Importance	H	H	H	M/H	M/H	H	M	M	M	M	M	M	M	M	M
	Degradation	M/H	M/H	M/H	H	M	M/H	M	M	M	M/H	M/H	M/H	H	M	H
	Designation	Restoration	Restoration	Restoration	Restoration	Protection	Restoration	Conservation	Conservation	Conservation	Restoration with Development	Restoration with Development	Restoration with Development	Restoration with Development	Conservation	Restoration with Development



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

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05/27/2022

Vincent McIntyre
321 East 5th Street
Port Angeles, Washington 98362-0217
vmcintyr@cityofpa.us

**Re: FY2022 Stormwater Financial Assistance Program
Agreement No. WQC-2022-PoAnPW-00164**

Dear Vincent McIntyre:

Ecology has reviewed the Prioritization Scoring Methodology deliverable for the Stormwater Management Action Plan (SMAP) project. I am pleased to inform you that Ecology accepts the Prioritization Scoring Methodology deliverable as complete.

If you have any questions, you can reach me at choh461@ecy.wa.gov or (360) 485-2474.

Sincerely,

Charlie Hohlbein

Municipal Stormwater Grants Project Specialist
Water Quality Program

cc: Doug Howie, Ecology Engineer
Michelle Myers, Ecology Financial Manager

DATE JUNE 28, 2022

TO WASHINGTON DEPARTMENT OF ECOLOGY, SW REGIONAL OFFICE, WATER QUALITY PROGRAM

CC CHARLIE HOHLBEIN, WASHINGTON STATE DEPARTMENT OF ECOLOGY

DAVID MORA, WASHINGTON STATE DEPARTMENT OF ECOLOGY

AUTHOR(S) VINCE MCINTYRE, PE | CITY OF PORT ANGELES

ANN BRYANT, PE | OSBORN CONSULTING, INC.

FRANCESCA WHITE, PE | EVERGREEN STORMWATER H2O

CITY OF PORT ANGELES | STORMWATER MANAGEMENT ACTION PLANNING FINAL RECEIVING WATER PRIORITIZATION MEMO

GRANT AGREEMENT #WQC-2022-PoANPW-00164 | DELIVERABLE 4.5

INTRODUCTION

Over the past several decades, urbanization has altered the natural environment; including habitat structure, flow regime, and the water quality of downstream waterbodies (Booth 2005). To accommodate growth and development while taking measures to minimize or preventing water quality degradation, the Western Washington Phase II Municipal Stormwater Permit (the Permit) has required all Phase II Permittees, including the City of Port Angeles (the City), to develop a Stormwater Management Action Plan (SMAP) for one high-priority basin located within the City's jurisdiction. The SMAP process is a planning approach that emphasizes the protection of designated waters and improvements to receiving water quality and its habitat through strategic retrofits, land management strategies, and Stormwater Management Plan (SWMP) enhancements. The first step of the SMAP process, the Receiving Water Conditions Assessment (Osborn Consulting 2022), delineated the City's basins and identified the receiving waters, gathered data to assess the receiving water conditions, and evaluated the stormwater management influence. Building on the Receiving Waters Conditions Assessment, a prioritization method was developed and implemented to determine which receiving water will receive the most benefit from strategic retrofits and land management actions.

This technical memorandum describes the prioritization methodology, the results of the City's receiving water prioritization process, and identifies a high priority catchment area that will be focused on in the upcoming final phase of this effort – development of an SMAP.

METHODOLOGY OVERVIEW

This receiving water prioritization method follows the process outlined in the Stormwater Management Action Planning Guidance (SMAP Guidance) document, which was developed by Washington State Department of Ecology (Ecology), as well as Chapter 4 of the Building Cities in the Rain (BCitR). BCitR is a guidance document developed by the Washington State Department of Commerce to provide tools for local governments to target investment in stormwater retrofits that leverage the restoration of salmonid habitat while facilitating redevelopment in urban centers (Ballash 2006). To determine the highest-priority receiving water basin for a SMAP, each basin was scored relative to other basins within the City's jurisdictional limits. Scoring was conducted using various metrics to determine the level of importance

assigned to natural processes and aquatic species, as well as the current relative level of degradation for each basin.

Metrics used to measure level of importance for natural processes and aquatic species included the following:

- Documented fish presence
- Forested land cover
- Total stream length within the City
- Forested land cover in stream corridor
- Wetland land cover
- Infiltration potential

Metrics used to measure level of degradation from development included the following:

- Water quality impairment
- Impervious surface land cover
- Stream crossings
- Miles of major corridors

Each metric was scored on a scale from zero to three and the scores were averaged to produce a final basin score for importance and degradation. The scores for each metric were assigned based on the basin characteristic information that was collected during the Receiving Water Conditions Assessment (Osborn Consulting 2022). Using the final scores for level of importance and level of degradation, each basin fell into one of the four categories described below and illustrated on Figure 1:

- **Restoration** – Highest importance for restoring water resource functions, but greatest degradation. These basins will likely benefit the most from a regional retrofit project and may require the most intensive management strategies.
- **Conservation** – Low importance, but also low degradation. These basins should require a lower level of management attention.
- **Protection** – High importance and low existing degradation. These basins will likely benefit the most from stormwater management and regulated development (appropriate zoning or protective easements) and may need little or no active intervention to maintain high functional conditions.
- **Development** – Low importance and significant existing human impact. These basins are the most appropriate areas for development.

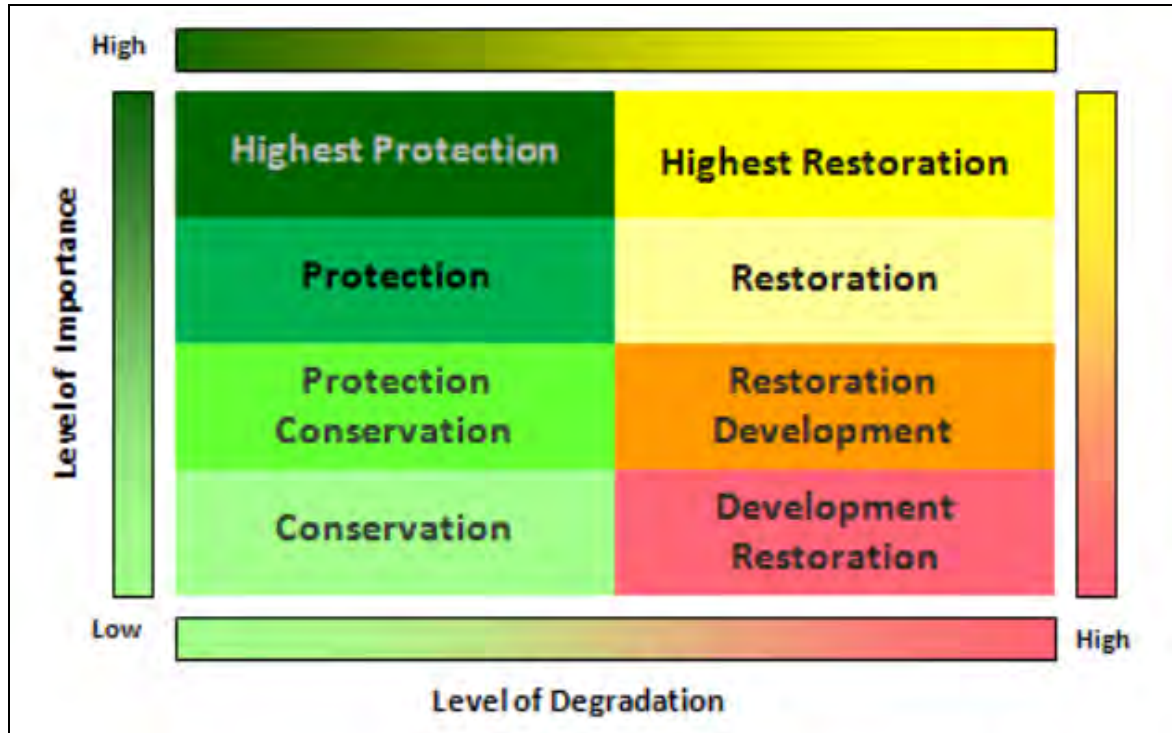


Figure 1: Puget Sound Watershed Characterization Management Strategy Matrix

Both the SMAP Guidance and BCiR suggest that basins falling into the *Protection* and *Restoration* categories should be prioritized for strategic retrofits and land management activities (Ballash 2006). Basins that fell into these categories during the Receiving Water Conditions Assessment were further assessed and evaluated based on the following criteria:

- Extent of municipality's influence
- Opportunity for retrofits
- Water quality treatment and stormwater infrastructure
- Pre-existing local or regional projects planned within the basin
- Overburdened communities

Using the criteria above, one high-priority basin was selected from those that fell into the *Protection* or *Restoration* category to move forward with the development of the SMAP document. The following sections discuss in greater detail the different metrics, scoring systems, and results for determining the level of importance for natural processes and aquatic species, level of degradation from development, and selection of the high-priority basin for the SMAP.

IMPORTANCE FOR NATURAL PROCESSES AND AQUATIC SPECIES

DOCUMENTED FISH PRESENCE

Using the Washington Department of Fish and Wildlife (WDFW) SalmonScape online mapping tool, documented fish presence was scored based on the number of observed species within each basin and in their downstream receiving waters (Port Angeles Harbor and the Strait of Juan de Fuca). Basins with multiple observed species scored higher than those with limited or no fish presence. Scoring criteria is provided in Table 1 and results for each basin are provided in Table 2.

TABLE 1 DOCUMENTED FISH PRESENCE	
Document Fish Presence	Score
No Known or Observed Fish Species	0
Single Documented Species within Basin or >3 number of Species in Downstream RW	1
Two Documented Species within Basin and >3 number of Species in Downstream RW	2
Three or More Documented Species within Basin and >3 number in Downstream RW	3

TABLE 2 DOCUMENTED FISH PRESENCE RESULTS				
Basin Name	Number of Fish Species within Basin (Freshwater)	Number of Fish Species in Downstream Receiving Waters (Saltwater)	Total Number of Fish Species	Score
Dry Creek	4	> 3	> 3	3
Tumwater Creek	4	> 3	> 3	3
Valley Creek	4	> 3	> 3	3
Peabody Creek	2	> 3	> 3	2
White Creek	2	> 3	> 3	2
Ennis Creek	6	> 3	> 3	3
Ocean 7	0 ⁽¹⁾	> 3	> 3	1
Ocean 8	0 ⁽¹⁾	> 3	> 3	1
Ocean 9	0 ⁽¹⁾	> 3	> 3	1
Ocean 10	0 ⁽¹⁾	> 3	> 3	1
Ocean 11	0 ⁽¹⁾	> 3	> 3	1
Ocean 12	0 ⁽¹⁾	> 3	> 3	1
Ocean 13	0 ⁽¹⁾	> 3	> 3	1
Ocean 14	0 ⁽¹⁾	> 3	> 3	1
Ocean 15	0 ⁽¹⁾	> 3	> 3	1

Note:

⁽¹⁾ No freshwater stream exists in these basins.

FORESTED LAND COVER

Receiving water health is often dependent on land cover within the overall basin. Receiving water health can be managed by minimizing impervious surface and maximizing preservation of native forest cover. Forested land cover produces less stormwater runoff and does not typically generate pollutants commonly associated with impervious surfaces, such as suspended solids, petroleum hydrocarbons, and heavy metals. It is suggested that stream quality is best maintained when impervious surface is limited to less than 10 percent and at least 65 percent of forested cover is retained (Schueler 2003). Forested land cover was scored based on the percent of forested land cover in each basin. Scoring criteria is provided in Table 3 and results for each basin are provided in Table 4.

TABLE 3 FORESTED LAND COVER	
Forest Land Cover (%)	Score
0 – 10	0
10 – 25	1
25 – 65	2
> 65	3

TABLE 4 FORESTED LAND COVER RESULTS		
Basin Name	Percent Forest Land Cover (%)	Score
Dry Creek	19	1
Tumwater Creek	16	1
Valley Creek	24	1
Peabody Creek	15	1
White Creek	26	2
Ennis Creek	28	2
Ocean 7	23	1
Ocean 8	9	0
Ocean 9	25	1
Ocean 10	8	0
Ocean 11	0	0
Ocean 12	2	0
Ocean 13	10	0
Ocean 14	17	1
Ocean 15	1	0

TOTAL IN-CITY STREAM LENGTH

The length of stream within City limits corresponds to the extent of the receiving water that the City can directly influence through strategic retrofits and land management strategies. Stream length also indicates the potential for fish and other aquatic habitat. Total stream length in the City was scored based on the miles of stream in each basin that lies within City limits. Scoring criteria is provided in Table 5 and results for each basin are provided in Table 6.

TABLE 5 TOTAL STREAM LENGTH IN CITY	
Miles of Stream within City	Score
0 – 1	0
1 – 2	1
2 – 3	2
>3	3

TABLE 6 TOTAL STREAM LENGTH IN CITY RESULTS		
Basin Name	Freshwater Stream within City Limits (miles)	Score
Dry Creek	2.41	2
Tumwater Creek	1.69	1
Valley Creek	3.43	3
Peabody Creek	2.46	2
White Creek	1.38	1
Ennis Creek	1.32	1
Ocean 7	0	0
Ocean 8	0	0
Ocean 9	0	0
Ocean 10	0	0
Ocean 11	0	0
Ocean 12	0	0
Ocean 13	0	0
Ocean 14	0	0
Ocean 15	0	0

FORESTED LAND COVER WITHIN STREAM CORRIDOR

In addition to the total forested land cover within the basin, forested land cover specifically within the stream corridor is also important because it provides benefits such as stabilizing eroding banks; providing shade, shelter, and food for fish and other aquatic organisms; providing other critical wildlife habitat; and recreational space for the community (USDA 2022).

Port Angeles Municipal Code (PAMC) defines the stream corridor width dimension for Type 3 and Type 4 streams as 150 feet and 100 feet, respectively, as measured from the seasonal high-water mark or elevation of the stream. Forested land cover within the stream corridor was scored based on the percent of forested land cover within the stream corridor in each basin. Scoring criteria is provided in Table 7 and results for each basin are provided in Table 8.

TABLE 7 FOREST IN STREAM CORRIDOR	
Percent Forest in Stream Corridor	Score
0 – 10	0
10 – 25	1
25 – 65	2
> 65	3

TABLE 8 FORESTED LAND COVER IN STREAM CORRIDOR RESULTS		
Basin Name	Percent Forested Land Cover in Stream Corridor	Score
Dry Creek	54	2
Tumwater Creek	56	2
Valley Creek	53	2
Peabody Creek	65	3
White Creek	76	3
Ennis Creek	66	3
Ocean 7	0 ⁽¹⁾	0
Ocean 8	0 ⁽¹⁾	0
Ocean 9	0 ⁽¹⁾	0
Ocean 10	0 ⁽¹⁾	0
Ocean 11	0 ⁽¹⁾	0
Ocean 12	0 ⁽¹⁾	0
Ocean 13	0 ⁽¹⁾	0
Ocean 14	0 ⁽¹⁾	0
Ocean 15	0 ⁽¹⁾	0

Note:

⁽¹⁾ No freshwater stream exists in these basins.

WETLAND LAND COVER

Research has shown manmade and natural wetlands are effective at reducing nutrients, sediment, organic carbon, and heavy metals from stormwater runoff in urbanized areas (Tilley and Brown 1998). Wetlands also provide habitat for several aquatic species. The percent wetland land cover score was derived from the percentage of each basin that is occupied by wetlands. Wetland land cover data was provided by the City from the City's GIS database; however, the wetland in Ocean Basin 14 was removed, as it represented an industrial settling pond that no longer exists. Scoring criteria is provided in Table 9 and results for each basin are provided in Table 10.

TABLE 9 PERCENT WETLAND LAND COVER	
Percent Wetland Land Cover	Score
0 – 1	0
1 – 2	1
2 – 3	2
> 3	3

TABLE 10 | PERCENT WETLAND LAND COVER RESULTS

Basin Name	Percent Wetland Land Cover	Score
Dry Creek	16.3	3
Tumwater Creek	1.8	1
Valley Creek	0.0	0
Peabody Creek	0.3	0
White Creek	0.0	0
Ennis Creek	0.1	0
Ocean 7	1.2	1
Ocean 8	0.7	0
Ocean 9	0.0	0
Ocean 10	9.1	3
Ocean 11	0.3	0
Ocean 12	0.0	0
Ocean 13	2.4	2
Ocean 14	0.0	0
Ocean 15	0.0	0

INFILTRATION POTENTIAL – SOILS

Using the US Department of Agriculture (USDA) soil classification system, soils in hydrologic soil group “A” have the greatest potential for infiltration. A basin’s greater potential to infiltrate runoff is presumed to correspond to improved water quality (via filtration and adsorption) and reduced peak flow in the downstream receiving water. Additionally, basins with group A soils are more feasible for applying low impact development (LID) practices. Infiltration potential was scored by the percent of each basin with soils in hydrologic group A. Including hydrologic group B and B/D soils was considered for this evaluation, however, adding the additional soil criteria did not produce different results. Scoring criteria is provided in Table 11 and results for each basin are provided in Table 12.

TABLE 11 | INFILTRATION POTENTIAL

Percent of Basin with Type A Soils	Score
0 – 10	0
10 – 20	1
20 – 30	2
>30	3

TABLE 12 INFILTRATION POTENTIAL RESULTS		
Basin Name	Percent of Basin with Type A Soils	Score
Dry Creek	4.2	0
Tumwater Creek	9.5	0
Valley Creek	25.9	2
Peabody Creek	11.3	1
White Creek	25.4	2
Ennis Creek	25.7	2
Ocean 7	44.0	3
Ocean 8	7.4	0
Ocean 9	17.0	1
Ocean 10	11.9	1
Ocean 11	0.3	0
Ocean 12	2.7	0
Ocean 13	19.5	1
Ocean 14	37.2	3
Ocean 15	0.2	0

IMPORTANCE FOR NATURAL PROCESSES AND AQUATIC SPECIES SUMMARY

Table 13 includes a summary by basin of the scores for each metric measuring the level of importance for natural processes and aquatic species. The scores for individual metrics were averaged to determine the final basin scores. The final level of importance score for each basin was then placed along the Importance axis of the prioritization matrix, ranging from low to high, which correlates to the categories “Conservation” to “Highest Protection.” It is important to note these designations are relative only to the metrics chosen for this assessment and to each other. Figure 2 provides a map that shows the relative importance of each basin.

TABLE 13| FINAL BASIN IMPORTANCE SCORES

Basin Number and Name	Documented Fish Presence ¹	Forested Land Cover ²	Total In-City Stream Length ³	Forest Riparian Buffer ^{2,4}	Wetland Land Cover ⁵	Infiltration Potential ⁶	TOTAL AVERAGED SCORE
1 Dry Creek	3	1	2	2	3	0	1.83
2 Tumwater Creek	3	1	1	2	1	0	1.33
3 Valley Creek	3	1	3	2	0	2	1.83
4 Peabody Creek	2	1	2	3	0	1	1.50
5 White Creek	2	2	1	3	0	2	1.67
6 Ennis Creek	3	2	1	3	0	2	1.83
7 Ocean 7	1	1	0	0	1	3	1.00
8 Ocean 8	1	0	0	0	0	0	0.17
9 Ocean 9	1	1	0	0	0	1	0.50
10 Ocean 10	1	0	0	0	3	1	0.83
11 Ocean 11	1	0	0	0	0	0	0.17
12 Ocean 12	1	0	0	0	0	0	0.17
13 Ocean 13	1	0	0	0	2	1	0.67
14 Ocean 14	1	1	0	0	0	3	0.83
15 Ocean 15	1	0	0	0	0	0	0.17

Notes and Assumptions:

1. Fish Presence data was collected from Washington Department of Fish & Wildlife's (WDFW) SalmonScape online mapping tool.
2. Forested Land Cover data was collected from the Multi-Resolution Land Characteristics Consortium, National Land Cover Database (2019). Data provided in raster form with 100'x100' resolution. Land Cover Data was updated using aerial imagery.
3. Stream Length data was provided by the City of Port Angeles from the City's GIS database.
4. Stream Corridor dimensions outlined in Port Angeles Municipal Code were identified based on Stream Type.
5. Wetland Land Cover data was provided by the City of Port Angeles and from the City's GIS database.
6. Infiltration Potential Data was collected from the NRCS Web Soil Survey tool.

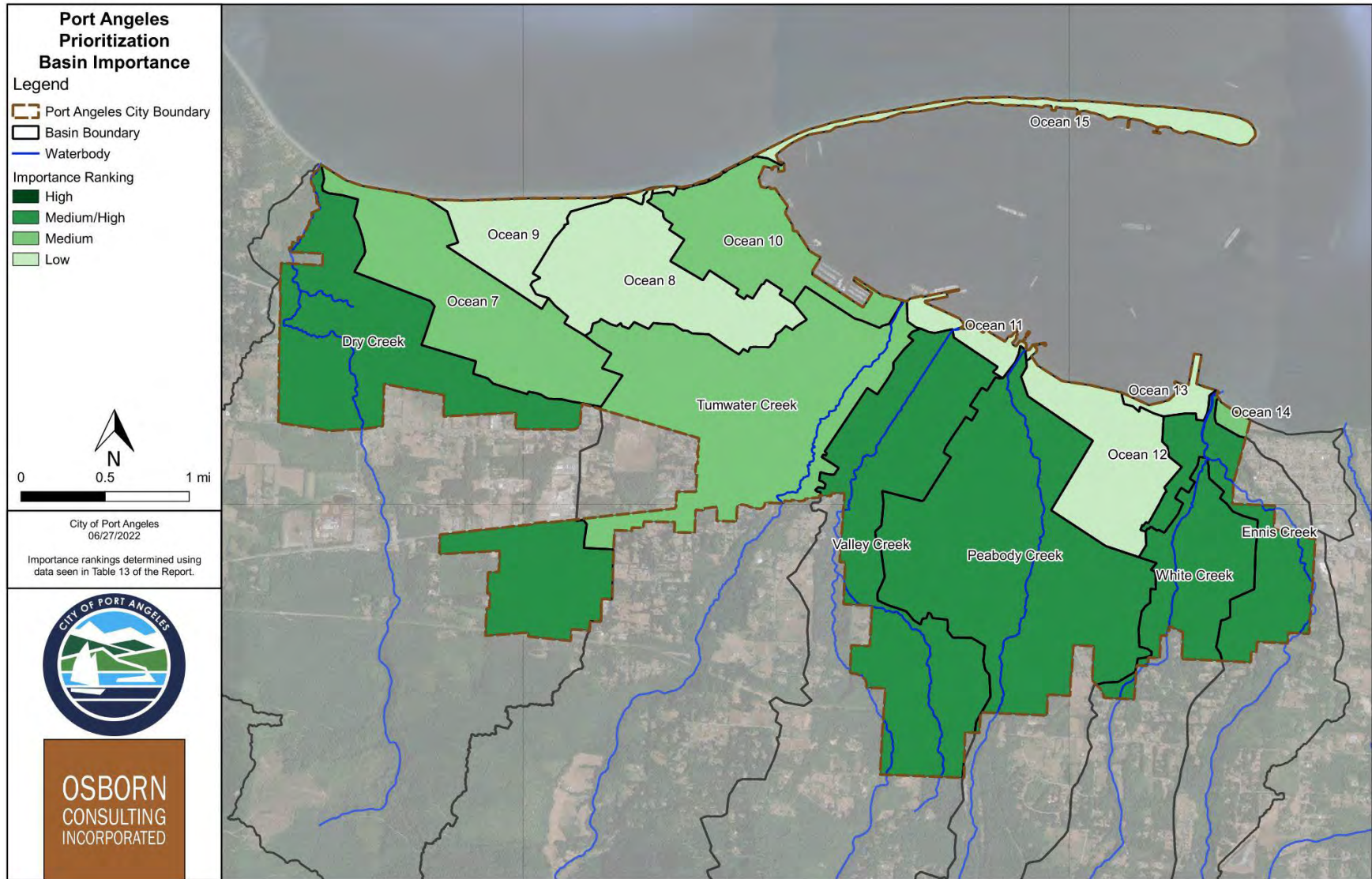


Figure 2: Basin Importance Rankings

DEGRADATION

WATER QUALITY IMPAIRMENT

The Federal Clean Water Act requires each state to perform a water quality assessment on rivers, lakes, and marine water bodies every 2 years. Assessed water bodies get placed into categories that describe the quality of the water and status of any needed cleanup (Ecology 2022). This assessment is used to better allocate state resources by focusing limited resources on the water bodies with greatest impairment. Water quality impairment was scored based on the number of Category 5 constituents in the freshwater creek for creek basins and the number of Category 5 constituents in the downstream receiving waters for ocean basins, according to Ecology’s Water Quality Atlas Online Mapping Tool for Assessed Water/Sediment Impairments and Water Quality Standards. Category 5 indicates the water body has one or more constituents that require a water quality improvement project. Basins with multiple Category 5 constituents scored higher than basins with limited to no Category 5 impairments. Scoring criteria is provided in Table 14 and results for each basin are provided in Table 15.

TABLE 14 WATER QUALITY IMPAIRMENT	
Number of Category 5 Constituents	Score
0	0
1	1
2	2
>2	3

TABLE 15 WATER QUALITY IMPAIRMENT RESULTS		
Basin Name	Number of Category 5 Constituents	Score
Dry Creek	3	3
Tumwater Creek	1	1
Valley Creek	1	1
Peabody Creek	4	3
White Creek	0	0
Ennis Creek	2	2
Ocean 7	0	0
Ocean 8	0	0
Ocean 9	0	0
Ocean 10	0	0
Ocean 11	0	0
Ocean 12	1	1
Ocean 13	4	3
Ocean 14	0	0
Ocean 15	2	2

IMPERVIOUS SURFACE LAND COVER

In general, impervious surfaces within a tributary basin have known adverse impacts on receiving waters. The natural hydrologic cycle is disrupted, runoff volume and peak flow are known to increase, and water quality is degraded through increased stormwater pollutants. An Impervious Cover Model (ICM) was

developed by the Center for Watershed Protection (CWP) to predict the behavior of urban stream indicators, such as increased runoff volume or increased peak discharge, based on the percent impervious cover in the contributing watershed. The model was originally developed with more than two dozen research studies that documented a reasonably strong relationship between watershed impervious cover and various indicators of stream quality. Since model development, the model has been tested by more than 250 research studies and is applicable in the Pacific Northwest; one of the locations where it has been tested. The results of the model indicated that impervious cover in the 1 to 10-percent range has the least influence on stormwater runoff. The influence of impervious cover on stormwater becomes more pronounced within the 10 to 25-percent range and water quality degradation is almost inevitable once basin coverage exceeds 25 percent (Schueler 2003). Stream quality compared to watershed impervious cover as predicted by the ICM is shown on Figure 3.

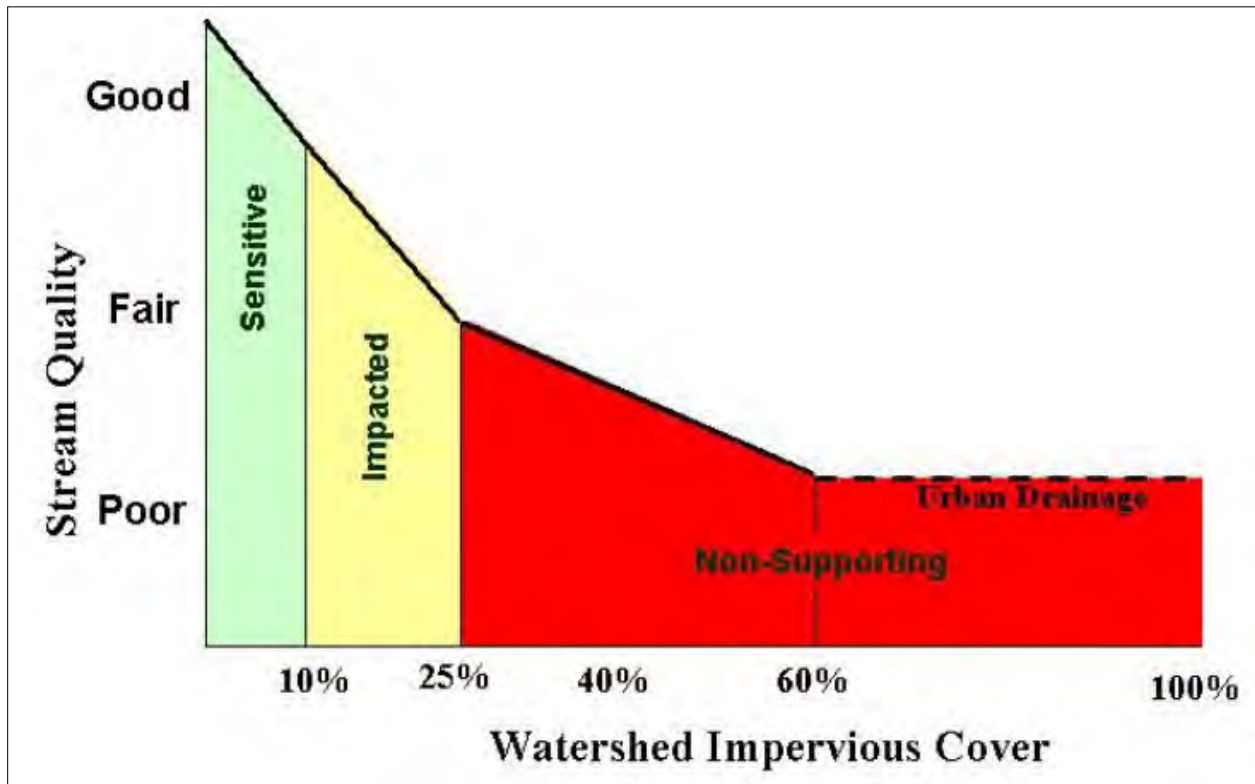


Figure 3: Stream Quality as Predicted by the Impervious Cover Model

Percent impervious surface land cover was scored based on the percent impervious surface in each basin using the percent ranges produced by the ICM. Scoring criteria is provided in Table 16 and results for each basin are provided in Table 17.

TABLE 16 IMPERVIOUS LAND COVER	
Percent Impervious Surface Land Cover	Score
0 – 10	0
10 – 25	1
25 – 60	2
> 60	3

TABLE 17 IMPERVIOUS LAND COVER RESULTS		
Basin Name	Percent Impervious Surface Land Cover	Score
Dry Creek	32	2
Tumwater Creek	53	2
Valley Creek	48	2
Peabody Creek	51	2
White Creek	43	2
Ennis Creek	38	2
Ocean 7	50	2
Ocean 8	56	2
Ocean 9	44	2
Ocean 10	54	2
Ocean 11	85	3
Ocean 12	73	3
Ocean 13	41	2
Ocean 14	52	2
Ocean 15	30	2

MILES OF MAJOR CORRIDORS

Roadway corridors, especially those with high traffic volume, contain impervious surfaces that are associated with increased levels of pollutants, such as suspended solids and heavy metals (Schmidt and Michaud 2020). The City has defined principal arterials in their municipal code as consisting of 40 to 60 percent of travel volume throughout the City. The following streets, or sections of streets, are listed in the PAMC as being principal arterial roadways:

- Front Street from Golf Course Road to Lincoln Street
- First Street from Lincoln Street to east City limits
- Lincoln Street from Front Street to Lauridsen Boulevard
- Lauridsen Boulevard from Lincoln Street to Cherry Street
- State Highway 101 from Cherry Street to west City Limits
- Race Street from Front Street to Mt. Angeles Road

In addition, the City has identified the Tumwater Truck Route, a portion of State Route 117 between State Highway 101 and South Lincoln Street, as a major corridor with high traffic volume. The Tumwater Truck Route was included in this analysis.

The metric of miles of major corridors were scored based on miles of principal arterial and truck route within each basin divided by the total area in acres of each basin within the City limits. Scoring criteria is provided in Table 18 and results for each basin are provided in Table 19.

TABLE 18 MILES OF MAJOR CORRIDORS	
Miles of Major Corridors per Acre	Score
0 – 0.1	0
0.1 – 0.3	1
0.3 – 0.5	2
>0.5	3

TABLE 19 MILES OF MAJOR CORRIDORS RESULTS		
Basin Name	Miles of Major Corridor per Acre	Score
Dry Creek	0.08	0
Tumwater Creek	0.33	2
Valley Creek	0.12	1
Peabody Creek	0.14	1
White Creek	0.24	1
Ennis Creek	0.09	0
Ocean 7	0.00	0
Ocean 8	0.00	0
Ocean 9	0.00	0
Ocean 10	0.00	0
Ocean 11	0.66	3
Ocean 12	0.80	3
Ocean 13	0.00	0
Ocean 14	0.00	0
Ocean 15	0.00	0

STREAM CROSSINGS

As mentioned for the miles of major corridors metric, roadway corridors are associated with increased pollutant loads (Schmidt and Michaud 2020). Road crossings disrupt a stream’s riparian corridor and increase efficiency of runoff delivery to the stream, which increases peak flows. Culverts at stream crossings may also be undersized, creating fish passage barriers. Stream crossings were scored based on number of stream crossings per mile in each basin within the City. Scoring criteria is provided in Table 20 and results for each basin are provided in Table 21.

TABLE 20 STREAM CROSSINGS PER MILE	
Number of Stream Crossings per Mile	Score
0 – 1	0
1 – 2	1
2 – 3	2
> 3	3

TABLE 21 STREAM CROSSINGS PER MILE RESULTS		
Basin Name	Number of Stream Crossings per Mile	Score
Dry Creek	1.2	1
Tumwater Creek	3.0	2
Valley Creek	3.2	3
Peabody Creek	2.8	2
White Creek	2.2	2
Ennis Creek	2.3	2
Ocean 7	0	0
Ocean 8	0	0
Ocean 9	0	0
Ocean 10	0	0
Ocean 11	0	0
Ocean 12	0	0
Ocean 13	0	0
Ocean 14	0	0
Ocean 15	0	0

DEGRADATION SUMMARY

Table 22 includes a summary of the scores for each degradation metric in each basin. The individual metric scores were averaged to determine the final basin scores. The final degradation score for each basin was then placed along the Level of Degradation axis of the prioritization matrix, ranging from low to high, which correlates to the categories Conservation to Development Restoration. It is important to note these designations are relative only to the metrics chosen for this assessment and to each other. Figure 4 provides a map that shows the relative degradation of each basin.

TABLE 22 FINAL BASIN DEGRADATION SCORES					
Basin Number and Name	Number of Category 5 Constituents ¹	Miles of Major Corridors /Acre ²	Number of Stream Crossings/Mile ³	Impervious Land Cover ⁴	TOTAL AVERAGED SCORE
1 Dry Creek	3	0	1	2	1.50
2 Tumwater Creek	1	2	2	2	1.75
3 Valley Creek	1	1	3	2	1.75
4 Peabody Creek	3	1	2	2	2.00
5 White Creek	0	1	2	2	1.25
6 Ennis Creek	2	0	2	2	1.50
7 Ocean 7	0	0	0	2	0.50
8 Ocean 8	0	0	0	2	0.50
9 Ocean 9	0	0	0	2	0.50
10 Ocean 10	0	0	0	2	0.50
11 Ocean 11	0	3	0	3	1.50
12 Ocean 12	1	3	0	3	1.75
13 Ocean 13	3	0	0	2	1.25
14 Ocean 14	0	0	0	2	0.50
15 Ocean 15	2	0	0	2	1.00

Notes and Assumptions:

1. Category 5 Constituents identified in Ecology's 303(d) listings and do include the downstream waterbody (Puget Sound/Port Angeles Harbor), if applicable.
2. Major Corridors include roads identified as Principal Arterials in the Port Angeles Municipal Code and the Tumwater Truck Route identified by City Staff.
3. Stream Crossings counted crossings trafficked by pollution generating vehicles and data was verified using WDFWs Fish Passage Database.
4. Impervious Land Cover Data was collected from Multi-Resolution Land Characteristics Consortium, National Land Cover Database (2019). Percentages were calculated predicated on literature values (Alley & Veenhuis, 1984) for percent impervious for the overlapping Land Zoning designation.

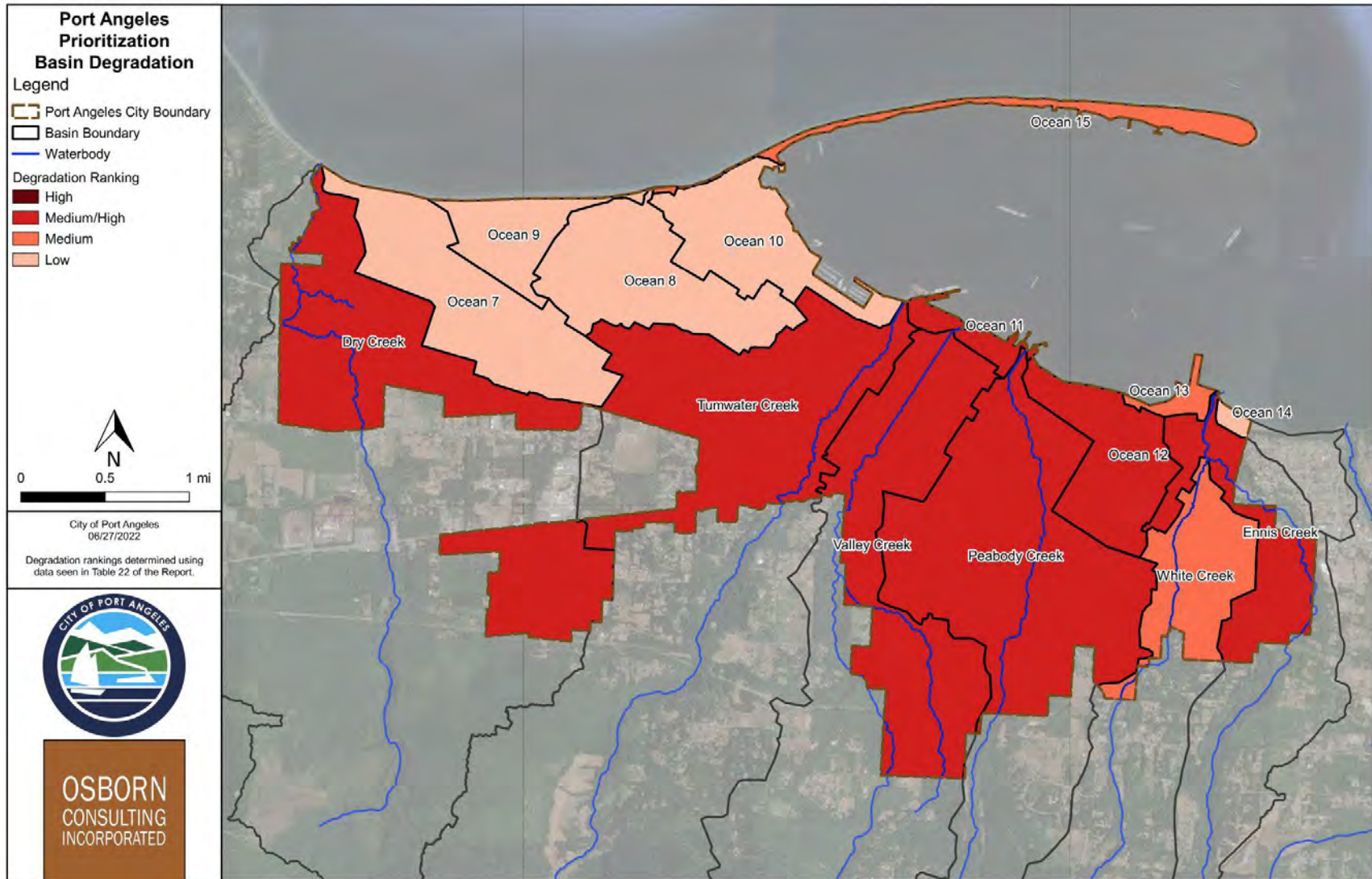
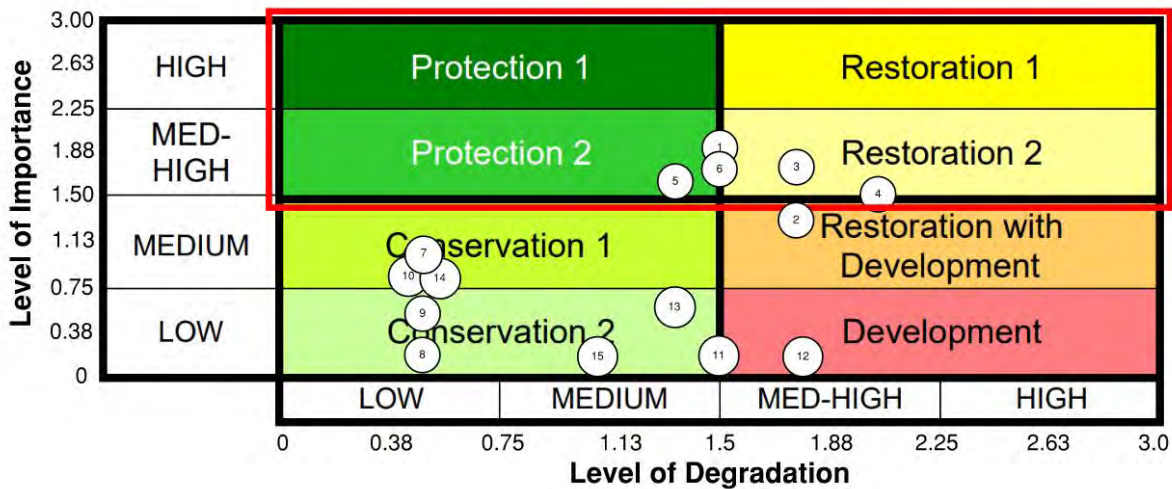


Figure 4: Basin Degradation Rankings

BASIN PRIORITIZATION

RESULTS

The final importance for natural processes and aquatic species scores and degradation from development scores for each basin were used to place the basins on the Prioritization Matrix. Each basin was scored relative to other basins in the City. The results are presented in Figure 5.



Basin names and numbers

1 – Dry Creek	6 – Ennis Creek	11 – Ocean 11
2 – Tumwater Creek	7 – Ocean 7	12 – Ocean 12
3 – Valley Creek	8 – Ocean 8	13 – Ocean 13
4 – Peabody Creek	9 – Ocean 9	14 – Ocean 14
5 – White Creek	10 – Ocean 10	15 – Ocean 15

Figure 5: Prioritization Matrix

As stated in the Methodology Overview, both the SMAP Guidance and BCitR suggest prioritizing basins that fall into the *Protection* and *Restoration* categories for strategic retrofits and land management activities. While the level of importance dictates which basins are ultimately selected for further review, the level of degradation dictates land management and retrofit strategies for the SMAP. For example, protection strategies focus on land management and policy actions, and restoration strategies focus on retrofit projects and education and outreach (E&O) programs.

As shown above, the following drainage basins landed in the *Protection* and *Restoration* quadrants and therefore will be further evaluated for final selection of the high-priority basin:

- Dry Creek (Basin no. 1)
- Valley Creek (Basin no. 3)
- Peabody Creek (Basin no. 4)
- White Creek (Basin no. 5)
- Ennis Creek (Basin no. 6)

BASIN SELECTION

The basins that fall into the *Protection* and *Restoration* quadrants were evaluated in further detail based on the following criteria:

- Extent of the municipality's influence
- Existing water quality treatment and stormwater infrastructure
- Opportunity for retrofits
- Other local or regional projects planned within the basin
- Overburdened communities

Extent of the municipality's influence (percent of total watershed within permittee's jurisdiction) was evaluated in the Receiving Water Conditions Assessment using geographic information systems (GIS) data. Higher priority was given to basins with greater municipality influence.

Existing water quality treatment and stormwater infrastructure were evaluated by interviewing City staff and reviewing City GIS data. The City does not currently have contributing basins mapped for public or privately owned water quality treatment and detention facilities; however, publicly managed facilities are mapped and tracked within the City's asset management system (ArcGIS) and City staff were interviewed to provide insight on the level of treatment and detention occurring within each basin. A rough measurement of contributing area was measured using the City's online stormwater utility map for a basin-to-basin comparison. Higher priority was given to basins that currently have less water quality treatment or detention.

Opportunity for retrofit projects was evaluated using GIS, Google Maps, and historical knowledge from City staff to identify available right-of-way and vacant or City-owned parcels suitable for retrofit projects. Existing water quality treatment and detention facilities were also evaluated in these basins for opportunities to expand contributing area or upgrade the infrastructure for increased level of treatment or detention. Higher priority was given to basins with opportunities for retrofit projects.

Other local or regional projects planned within the basin were identified during City staff interviews. Basins in which there is the potential for leveraging partnerships with other planned projects were prioritized.

Overburdened communities were evaluated in the Receiving Water Conditions Assessment (Osborn Consulting 2022) using the Environmental Justice Screening and Mapping Tool. Demographic and environmental parameters, such as low-income population, people of color population, demographic index, proximity to hazardous waste, proximity to superfund sites, and proximity to traffic were reviewed. Ideally, higher priority would be given to basins with overburdened communities where water quality issues and human health impacts overlap and can, at least in part, be addressed through stormwater management improvements. The demographic and environmental parameters for Port Angeles are fairly consistent across the City; therefore, no basins were prioritized based on overburdened communities.

DRY CREEK

Dry Creek is a seasonal creek that does not flow above ground during the summer months. The City determined that resources would be better spent developing strategic retrofits and land management activities in a basin with a perennial stream where retrofits would provide year-round benefits; therefore, Dry Creek was removed from the remaining portion of the additional analysis and will not be selected as the high-priority basin.

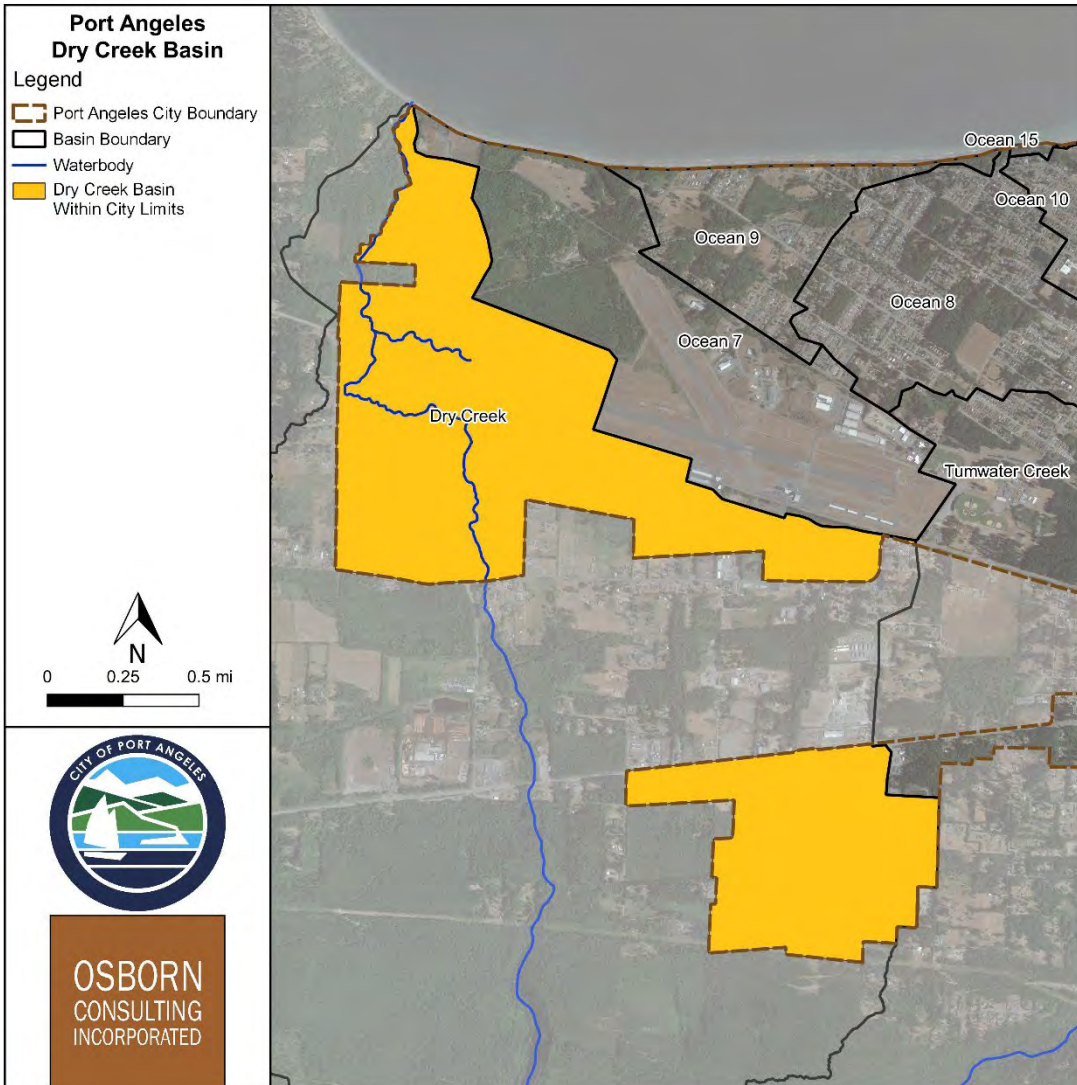


Figure 6. Port Angeles Dry Creek Basin

VALLEY CREEK

With almost one-third (31 percent) of the basin within the City limits, the Valley Creek basin provides the second highest extent of municipality influence among the five basins undergoing further analysis. The majority of runoff from this basin is collected into the MS4 and does not receive water quality treatment nor any measure of flow control. Detention and water quality treatment are provided via a 72-inch

detention pipe and a Filterra unit for a small contributing basin of roadway runoff from W 8th St between S Pine St and S Cherry St. Water quality treatment is also provided along W 1st St at S Valley St via a filtration unit.

The Valley Creek basin lends itself naturally to potential stormwater retrofit projects. This basin is largely developed and is predominantly zoned residential south of W 2nd St. A few multifamily and commercial sections exist along W 8th St. As future development or redevelopment occurs, it will most likely be as single-family residential, which is unlikely to exceed Ecology's current thresholds requiring onsite water quality treatment or flow control. Therefore, a down-stream regional water quality retrofit project would arguably carry more benefit in this basin as opposed to a similar basin with more commercial zoning and room for development under current standards. Additionally, runoff from 200 acres is collected, conveyed, and discharged via two outfalls that are located a block away from each other. In this location, between 2nd and 3rd Streets, there are available City-controlled properties that may be conducive for future retrofit project use. Installing water quality treatment and/or detention in this area would provide the opportunity to treat and detain runoff from a large portion of the basin with only one or two proposed projects.

Currently, the City has several planned improvement projects pertaining to Valley Creek. The City's Capital Facilities Plan (CFP), along with other local and regional planning efforts were reviewed to consider other potential conflicting or complimentary work proposed in this basin. The current 2023 to 2028 Preliminary CFP (Port Angeles 2022) reports that the City proposes to replace the lower reach of the Valley Creek culvert; a 300 foot section from the abandoned industrial waterline to the Valley Creek saltwater estuary (Project # DR0112). The CFP also lists a project to improve a channelized and culverted portion of Valley Creek located adjacent to and under Valley Street between 2nd Street and 9th Street (Project # GG0916). The CFP lists a third project to address a road crossing near 9th Street that has effectively reached the end of its service life (Project # TR0421). If replacement is warranted, the project will replace the Valley Creek Bridge with a new box culvert designed to meet modern fish passage requirements. While all three of these projects are currently unfunded, they attest to the City's attention and concern for this valuable waterway and a desire to make improvements.

Also in the planning phase; Futurewise, the City, and Herrera Environmental Consultants (Herrera) have coordinated *GreenLink Port Angeles* – a watershed-scale planning process for developing an integrated network of multi-benefit green stormwater infrastructure (GSI) projects within the City. The program has received sufficient funding to include development and implementation of the GSI projects identified and recommended in Phase 1 of the program. During Phase 1 of the program, Valley Creek was selected as the focus and Phase 2 of the design work is currently being executed. This may result in an opportunity for the City to partner with the *GreenLink* program to help achieve shared goals as they move forward in the SMAP process.

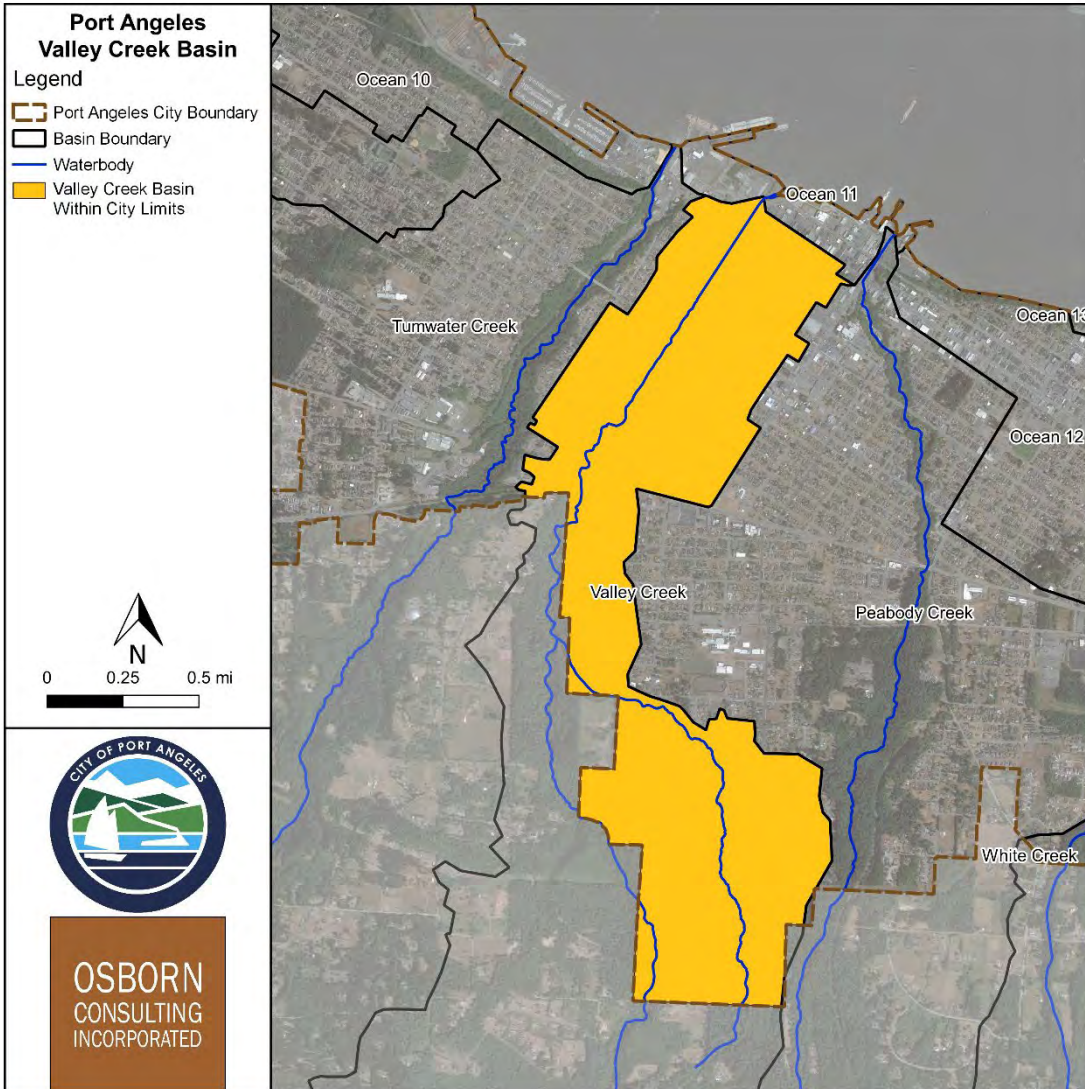


Figure 7. Port Angeles Valley Creek Basin

PEABODY CREEK

With just over half (51 percent) of the basin within the City limits, the Peabody Creek basin provides the highest extent of municipality influence among the five basins undergoing further analysis. The majority of the runoff in the Peabody Creek basin is collected into the MS4, does not receive flow control, and does not receive water quality treatment. Where they do exist, water quality and flow control facilities consist of multiple Filterra units, in-line detention pipes, and engineered outfalls that serve small subbasins scattered throughout the basin.

Retrofit opportunities in the Peabody Creek basin exist but would require a dispersed approach rather than a centralized facility, due to existing infrastructure. Compared to Valley Creek with two main outfalls that serve the majority of the developed basin, the Peabody Creek basin has several smaller discharge points distributed throughout, which discharge to Peabody Creek. Because the basin has several outfalls discharging to the creek, water quality treatment and/or detention retrofit projects would most likely be

additional small facilities scattered throughout the basin. No City-owned parcels were identified as feasible potential retrofit sites.

The City's CFP, along with other local and regional planning efforts were reviewed to consider other potential conflicting or complimentary work proposed in this basin. Per the 2023 to 2028 Preliminary CFP, (Port Angeles 2022) there are two proposed and funded projects (at least, in part) that will directly improve the conditions of Peabody Creek. The Park Avenue Outfall to Peabody Creek project will design and construct a new stormwater outfall to replace the failed existing outfall (Project # DR0322) and the Peabody Street Water Quality Project proposes to install water quality facilities in existing stormwater conveyance to Peabody Street (Project # DR0117). The Peabody Street Water Quality Project is contingent upon being awarded an Ecology grant and is part of a larger ongoing effort to improve downstream water quality in the Peabody Creek basin. Additionally, the City and the WA Dept. of Transportation are working together to improve upon the historical Peabody Creek Culvert which extends from 2nd Street north to the mouth near Hollywood Beach (Project # TR0414)

Similar to the Valley Creek basin, the Peabody Creek basin is predominately residential, and most future development or redevelopment will be below Ecology's thresholds requiring onsite stormwater treatment or flow control.

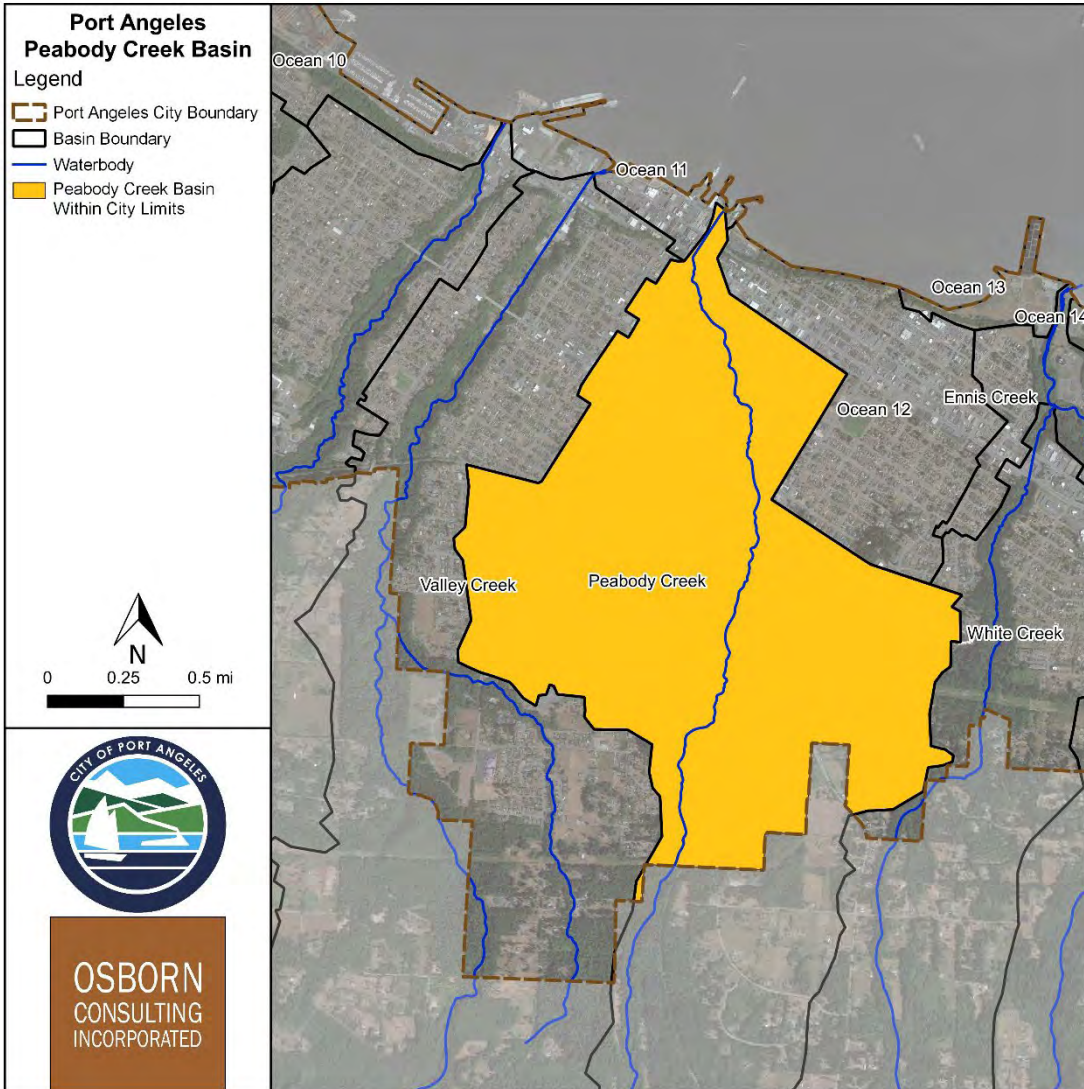


Figure 8. Port Angeles Peabody Creek Basin

WHITE CREEK

With almost a quarter (23 percent) of the basin within the City limits, the White Creek basin provides the third highest extent of municipality influence among the five basins undergoing further analysis. The majority of runoff within the White Creek basin is not detained and does not receive water quality treatment. Compared to the Valley Creek Basin and Peabody Creek Basin, White Creek Basin is less developed. Large parcels within the basin are owned by the Bonneville Power Administration for their transmission lines as well as a privately owned golf course. Because of this, the stormwater system is comparatively more disconnected, already experiences more runoff dispersion through vegetation, and has fewer direct discharges to the creek. Some existing water quality treatment and detention facilities are present in a private housing development along E. Melody Lane.

Opportunities for strategic retrofits are less in this basin than in the Valley Creek or Peabody Creek basins. The few City-owned parcels that could be potential sites for retrofits are on steep slopes and in environmentally sensitive areas. Peninsula College has potential for expansion and, at that time, will be required to meet current water quality treatment and flow-control standards. The 2023 to 2028 Preliminary CFP does not include any proposed projects to improve the conditions of White Creek and other local or regional projects with partnership opportunities to help achieve potential SMAP goals are unlikely. For these reasons, White Creek Basin is not a strong candidate for a SMAP.

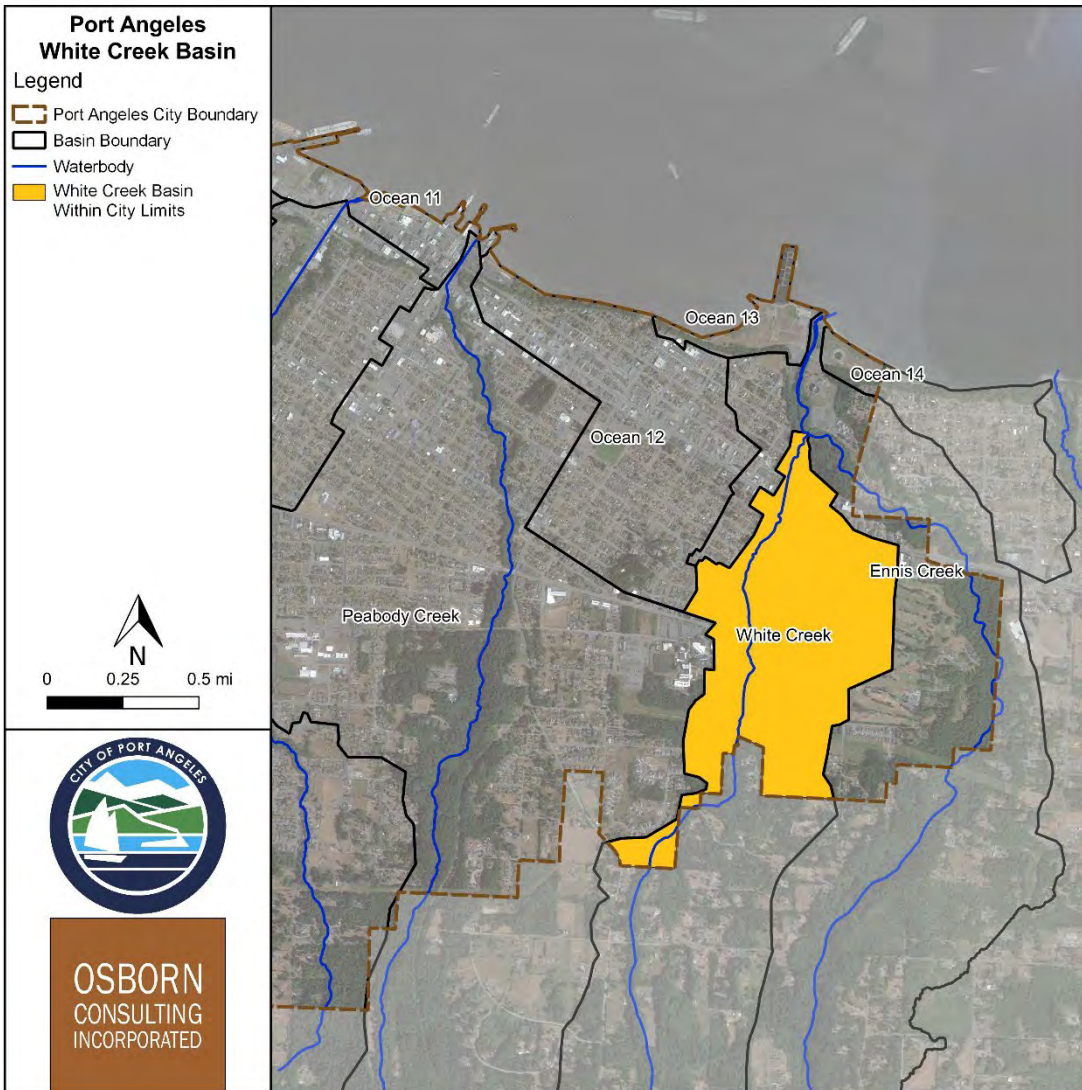


Figure 9. Port Angeles White Creek Basin

ENNIS CREEK

With only six percent of the basin within the City limits, the Ennis Creek basin provides the lowest extent of municipality influence among the five basins undergoing further analysis. The City determined that

resources would be better spent developing strategic retrofits and land management activities in a basin with greater municipality influence; therefore, Ennis Creek was removed from the remaining portion of the additional analysis and will not be selected as the high-priority basin.

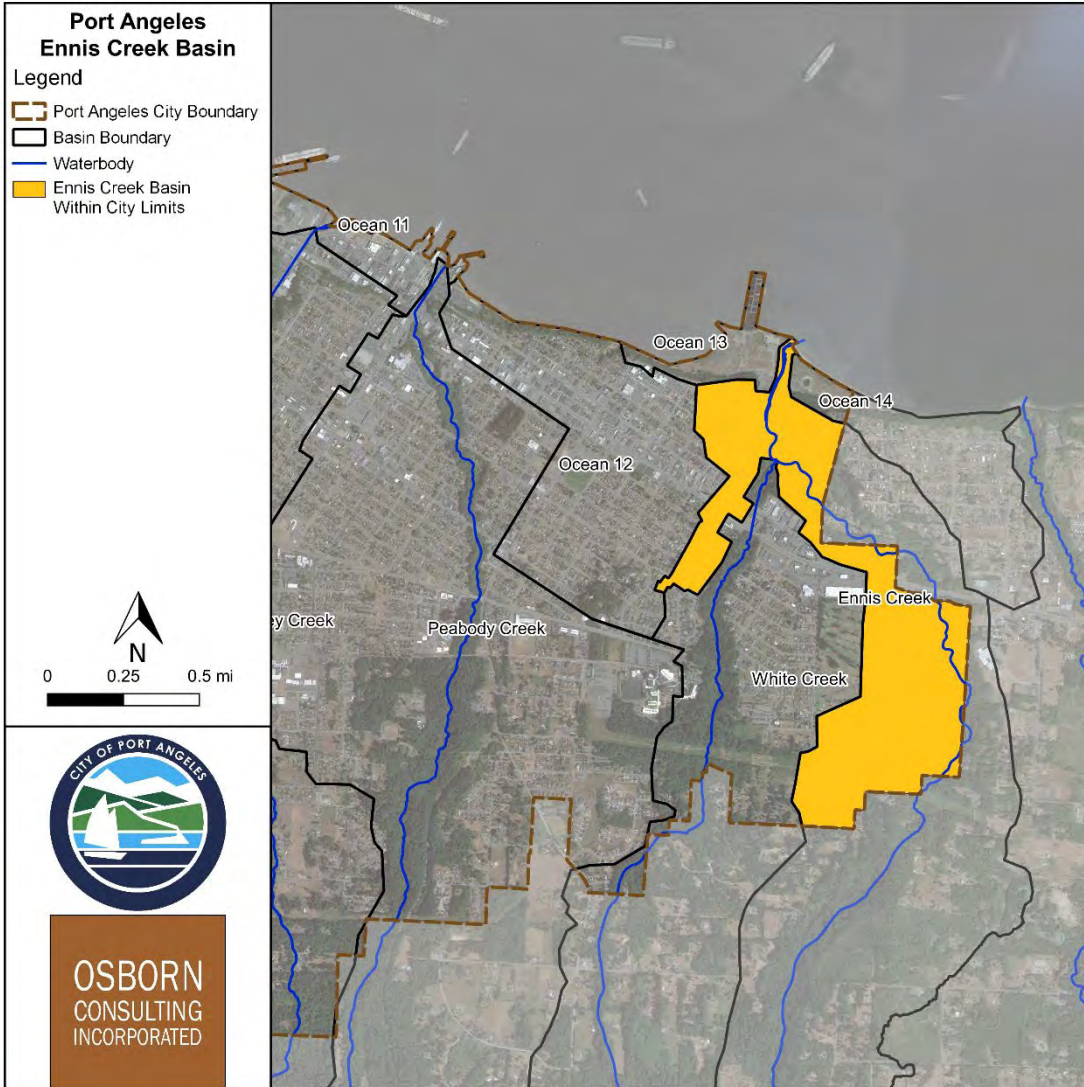


Figure 10. Port Angeles Ennis Creek Basin

DETAILED ANALYSIS SUMMARY

Table 23 is a tabulated summary of the detailed analysis discussed above.

TABLE 23 HIGH PRIORITY BASIN SELECTION SUMMARY		
Basin Name	Notes	Status
Dry Creek	<ul style="list-style-type: none"> Creek runs dry in the summer 	Eliminated
Valley Creek	<ul style="list-style-type: none"> Large portion of basin in City limits Minimal existing water quality and detention facilities Good opportunities for large scale retrofit projects Multiple partnership opportunities 	Top Candidate for High-Priority Basin
Peabody Creek	<ul style="list-style-type: none"> Large portion of basin in City limits Minimal existing water quality and detention facilities Possible opportunities for small scale retrofit projects No known partnership opportunities 	Alternate Candidate for High-Priority Basin
White Creek	<ul style="list-style-type: none"> Small portion of basin in City limits Minimal existing water quality and detention facilities Less opportunities for small scale retrofit projects No known partnership opportunities 	Eliminated
Ennis Creek	<ul style="list-style-type: none"> Only 6 percent of the basin is within City limits 	Eliminated

The detailed analysis of the five basins that fall into the *Protection* and *Restoration* quadrants of the prioritization matrix identified the Valley Creek basin and the Peabody Creek basin as potential high-priority basins. In contrast to Peabody Creek, Valley Creek has apparent opportunities for retrofits that have the potential to treat and detain stormwater from a large portion of the basin, proposed complimentary CFP projects, as well as partnership opportunities with other local stakeholders. For these reasons, this analysis concludes that the Valley Creek basin will experience the greatest benefit from strategic retrofits and land management activities and has been selected as the high-priority basin moving forward to the third phase of this effort: SMAP development.

NEXT STEPS

The Valley Creek Basin has been selected as the high-priority basin in the City of Port Angeles. The next step is to publish this document, along with interactive GIS maps on the City's website for public review and comment. Any feedback received regarding the prioritization process and results will be incorporated into the next and final step of the SMAP process; the creation of a Stormwater Management Action Plan for the Valley Creek Basin.

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City of Port Angeles | 2022 Education and Outreach Tracking

Table 1. Summary of Local Events

2022 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, 2022	Port Angeles High School Gymnasium	Lucio Baack, Vince McIntyre, Joey Bradley, Diana Bagwell	General Public, Developers, Landscapers, & Home Owners	Vmcintyr@cityofpa.us	IDDE Program, LID Rebate Program, Rain Gardens, Natural Yard Care	--- Canceled again Due to Covid-19 Pandemic ---	Focus on Natural Yard Care: Bare Root Plantings from CCD, PSSH materials, SWMP Plan, LID Rebate, LID Guidance Documents, etc.	Scheduled to resume in 2023
Earth Day	April 23rd, 2022	City Pier	Vince McIntyre, Sean Armstrong	General Public	Vmcintyr@cityofpa.us	IDDE Program, LID Rebate Program, Rain Gardens, Pet waste management, SW Program updates	Not tracked	PSSH materials, SWMP Plan, LID Rebate, LID Guidance Documents, etc.	
Local Cinemas	Sept./Oct.	Deer Park and Lincoln Cinemas	Vince McIntyre	General Public	Vmcintyr@cityofpa.us	Pollution Prevention	Re-instated in 2021, Deer Park Cinemas	PSSH Stormwater Awareness paid advertisements	
Clallam County Fair	August	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	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	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. Stats specific to Port Angeles: 29,080 Impressions, 8,470 Initiations, 5,004 Completions, & 35 Clicks.	PSSH Stormwater Awareness online videos and paid advertisements	
Stormwater Rains Newsletter - Vol. 9	October	Mail	Vince McIntyre	General Public	Vmcintyr@cityofpa.us	General Info: What is SW, Prepare for Wet Season, Reporting Spills, Permitting, SW Projects, Reduce Pollution, Upcoming events	Physical distribution to City Residents via Utility Bill approx. 10,500	2-page flier - utility bill insert	
Business Stormwater Education - PPA/SC Program	All-year	Site visits to businesses within the City	Howard Calseen	Local Businesses	Hcalseen@cityofpa.us	Pollution Prevention, Source Control	0 Local Businesses Rachel B. took a new position with the City of Poulsbo in 2021. 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.	

2022 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 2022
 - Additional information is included in the WSSOG 2022 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 2022 Activities Report



VOLUME 9 | OCTOBER 2022

THE CITY OF PORT ANGELES STORMWATER RAINS NEWSLETTER

IMAGE PROVIDED BY MARIAN BODART

Stormwater Source Control Inspections | Beginning January 1st, 2023

Ecology's 2019-2024 Phase II Stormwater Permit contains a new programmatic component for the City to develop and implement: *Source Control for Existing Development*. This is to be an inspection-based program whose goal is to prevent pollutants from ever reaching the City's stormwater system and subsequent downstream receiving waters; in other words, focus on controlling pollutants at their *source*. This approach has been proven to be much more cost effective than trying to remove pollutants from the storm system or receiving water after-the-fact.

Earlier this year, City Council updated municipal code to give the new program structure and define its parameters (PAMC 13.63). Additionally, staff have developed a local business inventory list using business license data from the Dept. of Revenue. Currently, staff are working to contact local businesses by developing an educational mailer and setting up a webpage to receive feedback and contact information.



Which businesses will be included?



Businesses that are considered "commercial, industrial, or institutional," that are physically located within the Port Angeles City limits, and whose activities are included on Ecology's list of *Businesses and Activities that are Potential Sources of Pollutants* will be subject to the program and periodic scheduled visits from the City's Inspector. You can find Ecology's list on the City's website by following the QR code to the left.

What are Source Control Best Management Practices (BMPs)?

Source Control BMPs are physical or operational preventative actions businesses can take to help prevent or reduce pollutants from entering the stormwater system and polluting surface or ground water. The QR code to the right will take you to Ecology's Source Control BMP library.



Spills happen. Help us find them.



The majority of PA's stormwater inlets discharge directly to a creek or the harbor. If you see anything other than stormwater going into an inlet, **REPORT IT**. The City's Illicit Discharge Response Team will investigate and work to clean it up.



Water Pollution
Hotline:
(360) 417-4745
Email:
illicitdischarge@cityofpa.us



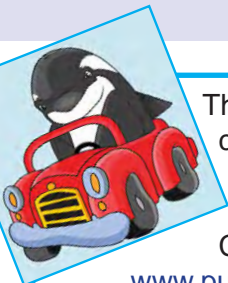
The "N" Street Outfall Improvement Project: **COMPLETED**

This important stormwater capital project, located at the northern tip of "N" Street, has been completed by the contractor (Vet Industrial of Bremerton, WA) and accepted by City Council. The goal of the project was to control long-term bank erosion and protect the City's roadway and buried infrastructure by upgrading a historic stormwater outfall to current engineering standards. The project finished on-time and roughly \$30k below budget. The City plans to upgrade other aging and outdated stormwater outfalls in the near future.

Like it or Not - the Wet Season Approaches

The age-old saying about *an ounce of prevention* applies to a lot in life and stormwater management is no exception. As the seasons change, now is the time to begin preparing for rain. Here are a few reminders:

- Check Stormwater inlets around your property. It doesn't take much for a catch basin to backup and begin to flood. This can become a safety issue for passing traffic as well as cause property damage. Leaves, trash, and debris that can easily be removed from the surface should be disposed of in your solid waste bins. If you observe an obstruction below the grate or have reason to believe the outlet is clogged, notify the City's Stormwater Operations Dept. at: (360) 417-4543. Please do not attempt to remove the grate yourself as they are very heavy.
- Clean out your gutters. A blower can be handy for quickly removing dry debris from your gutters, although it does require a measure of clean-up afterwards. There are many products on the market designed to keep debris from going down into your downspout. These can be very important if your gutters flow into a below grade stormwater system like a drywell or an infiltration trench.
- Collect and dispose leaves and other yard debris. As seasonal winds pick up, you'll have prevented them from being blown into the street and blocking inlets around your neighborhood. The City does not pickup leaves from your curbside so do not rake or blow your leaves out to into the right-of-way. Instead, they should be disposed of in your yard waste bin. If you live near a bluff or other steep slope, do not dump yard waste over the top of a steep slope or bluff. This can lead to serious slope failure as the yard waste pile smothers the vegetation below whose roots are serving to help hold the bank in place.



The *Puget Sound Starts Here* Month campaign continues into October with a mission of raising awareness about protecting our shared local waterways. Check out the PSSH website at <https://www.pugetsoundstartshere.org> to learn more and

ways you can help. For a limited time, you can get a free car wash rebate to keep harmful pollutants out of our streams and the Strait - just click the "Puget Sound Starts with Car Care" banner at the top of the web page.

Local Volunteer Opportunity!

Enjoy the outdoors, water quality, and science? Go to <https://www.clallam.net/sk/> to find out more about our local Streamkeepers Group and the many ways you can participate in monitoring and measuring water quality in local streams.





2022 SUMMARY OF ACTIVITIES

WEST SOUND STORMWATER OUTREACH GROUP

PREPARED BY: KYM PLEGER, EDUCATION AND OUTREACH COORDINATOR, KITSAP COUNTY

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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 NPDES Municipal Stormwater Permit required outreach 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.

Our goal is to work cooperatively to improve water quality and to meet key requirements of the public education and outreach components of the NPDES Phase II Municipal Stormwater Permit (herein referred to as permit). In doing so, we create cost savings and efficiencies and benefit the community through consistent outreach and messaging.



2022 HIGHLIGHTS

In 2022, WSSOG focused on expanding 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. In 2022, WSSOG successfully expanded the program throughout all the jurisdictions.

In addition to expanding this new behavior change campaign, the group focused on maintaining and improving existing programs including our 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.

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.

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.

NPDES Municipal Stormwater Permit – s5.c.2

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

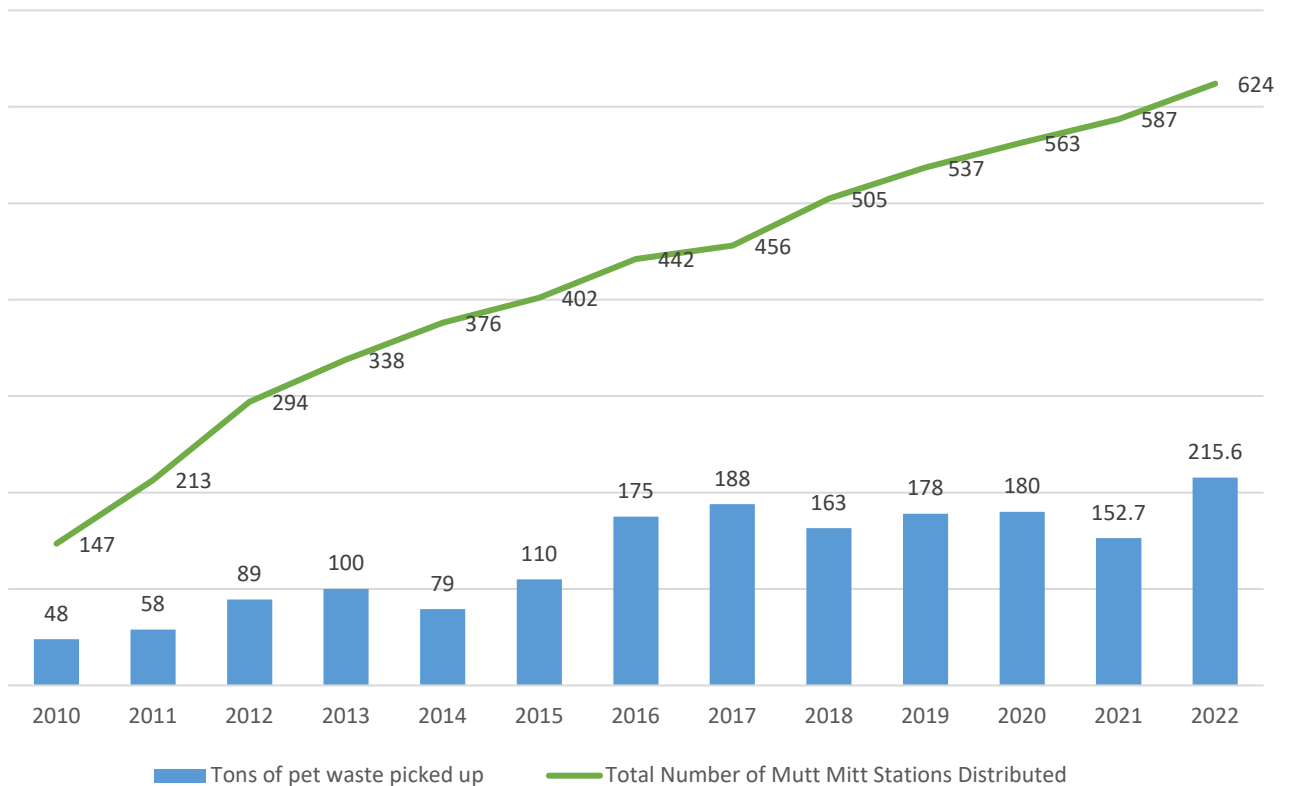
Members of WSSOG continue to meet the requirements of S5.C.2.a.ii through the highly successful Mutt Mitt program including evaluation of the program by the July 1, 2020 permit deadline. Established in 2009, this program focuses on installing and maintaining pet waste bag stations to encourage and facilitate 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 2022, there have been a total of 624 pet waste stations distributed throughout the Kitsap Peninsula, Gig Harbor and Port Angeles. On average, 20-40 stations are added annually. In 2022, Kitsap County along with partner cities and community sponsors distributed over 1,306,000 pet waste bags, resulting in a reduction of 215.6 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 biannual basis. All Mutt Mitt stations were inspected during 2022. Of the stations that were found during their inspection, 83% were stocked. Emails were sent to all sponsors (with working email addresses) that had missing or unstocked stations.

Mutt Mitt Stations and Pet Waste Picked Up



TAKING (AND TOSSING POOP FOR WATER QUALITY

After a brief hiatus during the pandemic, 2022 saw the return 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



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

(Poulsbo and Kitsap County), and the Clallam County Fair (Port Angeles). Port Angeles made contact with approximately 1,800 people at the Clallam County Fair. Kitsap County and Poulsbo spoke with 252 people at PetsWalk in 2022.

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 2,000 residents on proper pet waste pick up and disposal.

NATURAL YARD CARE – NEW BEHAVIOR CHANGE PROGRAM

Section S5.C.2.ii(b) of the permit required permittees to conduct a new evaluation of the effectiveness of an ongoing behavior change campaign (required under the 2013 permit) and 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 per the permit’s behavior change requirements of S5.C2a.ii.(c)3.

The group evaluated the Mutt Mitt program but determined that the program does not need to be expanded and only needs to be sustained at existing levels.

With these decisions made, the group agreed to develop a strategy and schedule for a new audience and BMP. WSSOG hired a communications consultant in 2018, C+C, to help coordinate the selection of a new audience and behavior change. C+C worked with WSSOG to identify Natural Yard Care as the new behavior change program. The priority audience focuses on 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. The selected BMP is the responsible, minimal use and storage of pesticides, fertilizers and/or other chemicals.

WSSOG’s campaign focuses on the use of traditional “weed and feed” products 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 our 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 chemical fertilizers 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; 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.

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.

Campaign Implementation Strategy and Schedule (January 2022 -present)

In 2022, the 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.

2022 Campaign by the Numbers:

- 123,360 people reached on Facebook
- 14,350 direct mail impressions
- 3,391 link clicks on Facebook
- 318 webinar registrations
- 139 webinar attendees
- 70 coupons redeemed in-store
- Continued successful partnership with Master Gardeners

Moving forward in 2023, the WSSOG will use lessons learned from the past two years to continue the webinars and a product discount. A detailed campaign report for 2022 has been included in Appendix A.

The next key activity for the permit is evaluation and reporting no later than March 31, 2024. WSSOG is contracting with a consultant in 2023 to begin to identify the evaluation mechanisms and is on track to complete all required elements of the permit.

REPORTING SPILLS

All WSSOG jurisdictions have a publicly listed hotline, telephone number and/or app for reporting spills and other illicit discharges. Kitsap County and 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 billing offices and public spaces.
 - Bainbridge Island offers *Spills Happen* magnets and hotline stickers at their City Hall front counter displays or upon request.
 - Bainbridge Island shared information at the Bainbridge Island Farmers Market in September 2022.
 - 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 2022 *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.

SPILLS REPORTING CALLS

A total of 83 spill complaints were received by Kitsap1. 25 spills related calls were received by Kitsap1 to the phone number, 36 spill complaints were received via the Kitsap1 email, and 22 were reported through the SeeClickFix app or online reporting form in 2022. (Bainbridge Island – 2, Bremerton – 45, Poulsbo – 4, Port Angeles – 7, Port Orchard – 8 spill complaints reported through SeeClickFix and 26 ERTS reports. (S5.C.3.d.ii).

TRAINING PROGRAM

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 2022:

- Bainbridge Island – Provided training as needed to new employees. A total of three employees completed the training in 2022.
- Bremerton – A total of 21 employees completed the online training called "Municipal Storm Watch" consisting of a video and quiz became mandatory for all city employees. Four employees completed online training "IDDE: A Grate Concern" consisting of a video and quiz.
- Kitsap County – Trainings were conducted both online and in person. A total of 89 Kitsap County Sheriff’s officers completed the online training in 2022. An additional 94 county staff were trained, for a total of 183.
- Port Angeles – Provided training to all new employees. Port Angeles has also hired a new Pollution Prevention Assistance and Source Control Specialist to help manage the program.
- Port Orchard – In 2022 the City provided stormwater awareness training and IDDE training to new public works employees within 4-6 months of employment. Specialized trainings for stormwater staff also include IDDE, Illicit Connection Identification, stormwater good housekeeping, Hazmat awareness, Spill management/reporting procedures and construction inspection training depending on staff roles and responsibilities. These are conducted as needed or if staff or NPDES permits change.

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 7,986 Puget Sound Starts Here-branded items in the hands of West Sound residents and visitors.

Jurisdiction	Coasters	Coffee Sleeves	Pencils	Leash Bag Holders	Leash Bag Holder Refills	Bike Safety Lights	Tote Bags	TOTAL Impressions
Bainbridge Island	100			200				400
Bremerton	20		5	15				40
Gig Harbor								-
Kitsap County	2,250			750				3,000
Port Angeles			133	680	167	90	355	1,425
Port Orchard		2,600		81				2,681

Poulsbo	-
	TOTAL IMPRESSIONS 7,986

Jurisdictions also shared the Puget Sound Starts Here message at local events.

- Port Angeles hosted a booth at the City Pier for Earth Day. They also participated in the City’s Halloween event, where they gave out swag and provided information about the proper disposal of pet waste.
- Bainbridge Island included a PSSH article in the weekly City Manager’s e-newsletter each Friday in September. They were also highlighted in the City Manager’s video to accompany the e-newsletter.

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. The digital campaign’s goals were to drive people to the PSSH [website landing page](#) and encourage them to fill out a form to receive a free car wash coupon. 350 people throughout the region requested car wash coupons. The website provided actions that individuals can take to reduce stormwater pollution from their cars including inflating tires, using commercial car washes, and fixing leaks.



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.

The campaign resulted in 6.4 million impressions across the digital ad placement platform, Facebook, and YouTube. An impression is the number of people who saw the ad. The videos that were used in the ads were played over 1.1 million times.

Jurisdiction	Impressions (# of times an ad was viewed)
Bainbridge Island	18,447
Bremerton	30,734
Gig Harbor	23,045
Kingston	2,643
Port Angeles	22,261
Port Orchard	27,370
Poulsbo	9,856
Silverdale	5,299
Total Impressions	139,655



Tami Allen, Harbor Master and Stella Collier, Stormwater Management Program Coordinator, accept the PSSH Proclamation for Bainbridge Island

PUGET SOUND STARTS HERE MONTH PROCLAMATION

The Bainbridge Island City Council issued a proclamation declaring September to be Puget Sound Starts Here Month.

Kitsap County’s Board of Commissioners also declared the month of September as Puget Sound Starts Here Month through a proclamation. The Commissioners proclaimed, in part, *“Kitsap County will join with 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.”*

PUGET SOUND STARTS HERE THEATRE ADVERTISING

Port Angeles continued their practice of running on-screen cinema ads featuring PSAs about stormwater best management practices. Port Angeles movie ads were run on eight screens at Deer Park 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 THE PUBLIC

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

- Bainbridge Island participated in several one-time events including the Bainbridge Island Farmers Market, annual beach clean-up event, and a Kitsap Solid Waste hazardous waste collection event hosted on Bainbridge Island.
- Bainbridge Island continues to support quarterly watershed council meetings and a salmon monitoring program.
- Bremerton participated in Salmon Tours in November, a Sinclair Inlet Clean Up event in September, and Kids Fishing Day in April.



Sarah Wilson, City of Bremerton, at Kids Fishing Day event

- Bremerton provided educational information to a classroom at Kitsap Lake Elementary School about the path of stormwater from catch basins.
- Kitsap County conducted their fourth annual Art for Clean Water event at Olympic College. Kitsap County partnered with the city of Bremerton to coordinate this year's event. This event features an art contest for the public. Five designs were selected, and artists painted large 10 by 10-foot murals at the Bremerton campus of Olympic College. Two of the five designs were painted by Olympic College staff and students.
- Port Angeles supports Streamkeepers of Clallam County; a volunteer organization that performs water quality monitoring in Tumwater, Peabody, Valley, White, Ennis, and Dry Creeks. Over the last two years, the program has seen approximately 32 volunteers come and go with varying levels of commitment. The City funds the program's wet weather and dry weather sampling efforts within the City limits and, this year, was able to additionally support a Benthic macroinvertebrate sampling program in four of the creeks.
- Poulsbo held 15 work parties in Fish Park for restoration, planting, and clean-up, totaling 1,631.5 volunteer hours! Work party activities include riparian and upland plant/landscape maintenance and planting, as well as trail maintenance and garbage pick-up.
- Poulsbo hosted a site for Kitsap Salmon Tours and had approximately 350 people visit.
- Port Orchard continues to participate in the West Sound Partners for Ecosystem Recovery, Benthic macroinvertebrate sampling in Blackjack Creek and is continuing to develop a program with South Kitsap High School for stream and watershed monitoring.

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 2022, Kitsap staff provided input at STORM's quarterly meetings, within workgroups, and at the 2022 STORM Symposium. Significant accomplishments of the STORM group are summarized in their annual report (included as Appendix B).

WORK GROUPS

Kitsap staff participated in several work groups under STORM's umbrella in 2022 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.

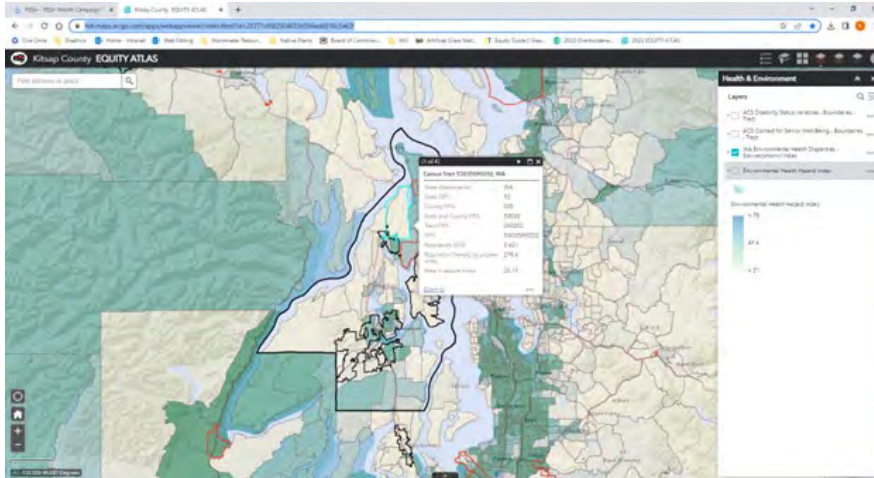


STORM STEERING COMMITTEE & PUGET SOUND STARTS HERE COMMITTEE

Kitsap County continues to represent the County and 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 2022 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 (a permit requirement). Two of the three deliverables of the grant were achieved in 2022, with the third one planned for the first part of 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 determine 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.

PLANNING FOR 2023

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. The 2023 work plan is in Appendix C

In 2023, WSSOG will begin work towards evaluating and reporting on the Natural Yard Care campaign. The permit deadline to report on the campaign is March 31, 2024.

Lastly, the GROSS grant includes one final deliverable to evaluate existing outreach programs and identify strategies to reach underserved communities. A consultant has been hired to complete this work in the first quarter of 2023.



12/22/2022

WSSOG NATURAL YARD CARE SOCIAL MARKETING PROGRAM

FINAL REPORT 2022



Prepared by: [Kym Pleger](#)

KITSAP COUNTY PUBLIC WORKS – STORMWATER DIVISION

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2 EXECUTIVE SUMMARY

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. 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, the campaign was expanded to include all WSSOG jurisdictions. Four webinars were hosted by WSU Kitsap County Extension Master Gardeners; an organic fertilizer discount was offered at five locations; and campaign communications included a postcard mailer, Facebook ad campaign and local government delivery channels.

3 2022 CAMPAIGN BY THE NUMBERS

3.1 2022 CAMPAIGN RESULTS

- 123,360 people reached on Facebook
- 14,350 direct mail impressions
- 3,391 link clicks on Facebook
- 318 webinar registrations
- 139 webinar attendees



- 70 coupons redeemed in-store
- Continued successful partnership with Master Gardeners

4 CAMPAIGN HISTORY (2018 – 2021)

4.1 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:

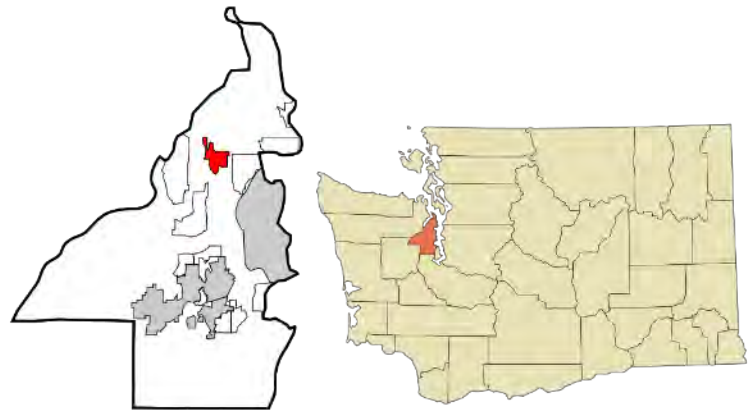
1. Background, Purpose, and Focus
2. Situation Analysis
3. Priority Audience
4. Desired Behavior Objectives & Goals
5. Priority Audience Barriers, Benefits, Motivators, Competition, and Influential Others

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.

4.2 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:

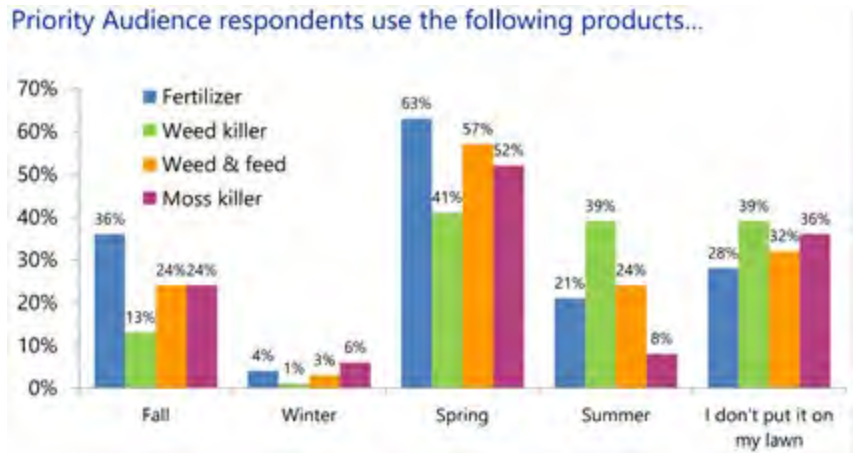
- Live in Kitsap County, Poulsbo, Bremerton, Port Orchard, Gig Harbor, Bainbridge Island, or Port Angeles
- Own a single-family home, townhouse, or duplex
- Have grass on their property
- Maintain the grass themselves
- Have at least one child under 18 years of age living in their household OR have a 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.



4.3 CREATIVE DEVELOPMENT AND TESTING (APRIL - JUNE 2019)

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

4.4 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.

4.5 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.

4.6 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.

4.6.1 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.

4.6.2 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.



4.6.3 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 CAMPAIGN EXPANSION IN 2022

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.

5.1 VIRTUAL EVENTS WITH THE MASTER GARDENERS

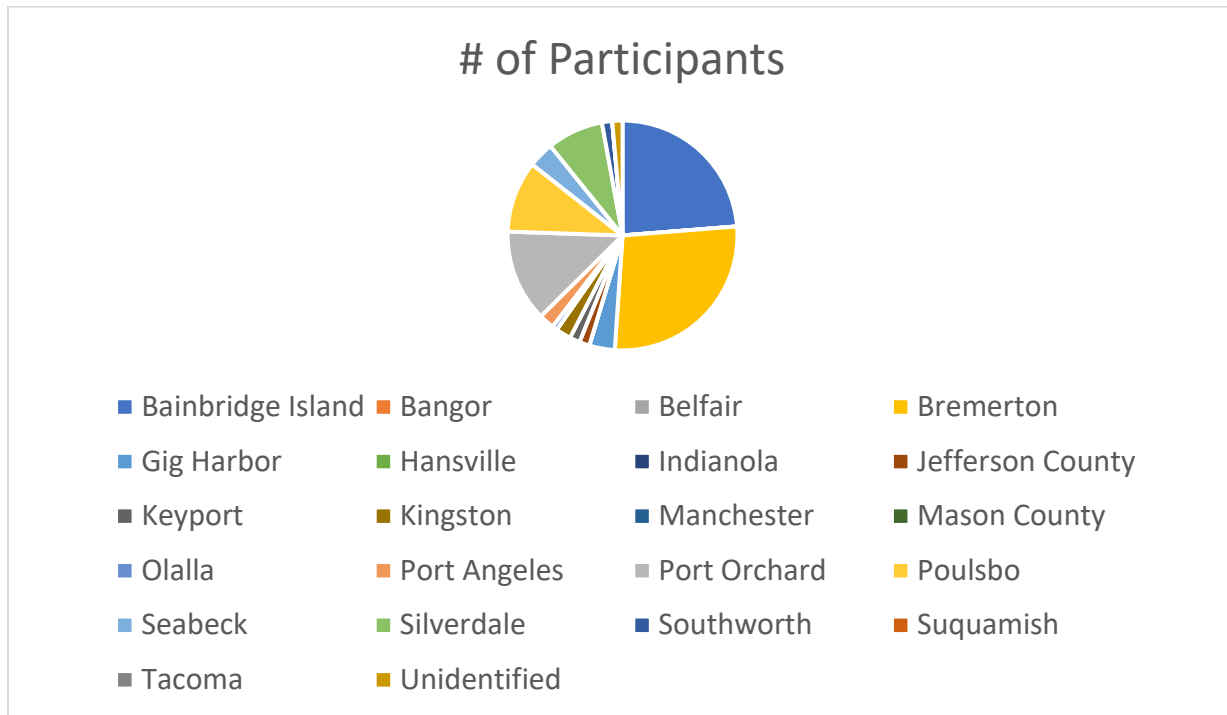
In 2022, two Master Gardeners volunteered to offer two different webinars. The topics selected were “Lawn Alternatives” and “Nature Friendly Gardening for Beginners.” Each topic was offered twice, for a total of four webinars.

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

5.2 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.”

5.3 OUTREACH MECHANISMS

5.3.1 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

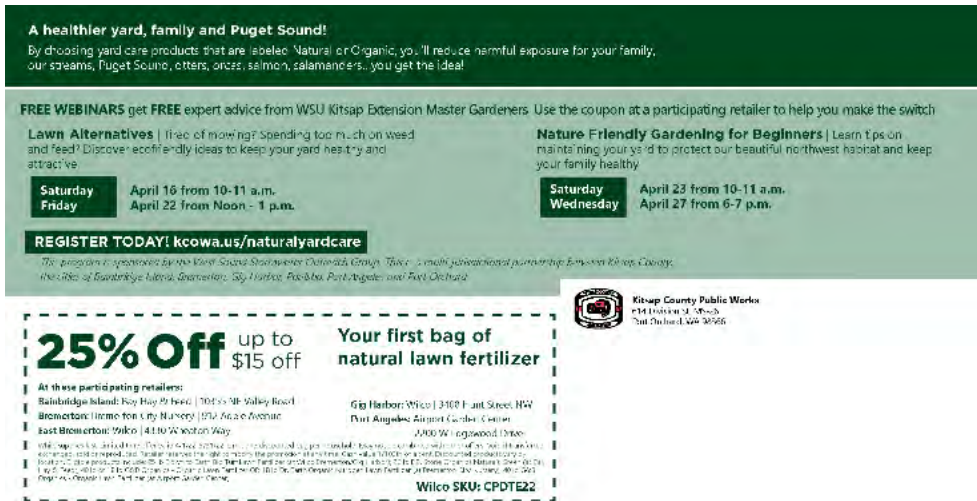


Figure 4 Back of postcard

5.3.2 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/naturallyardcare) 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.

5.3.3 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.

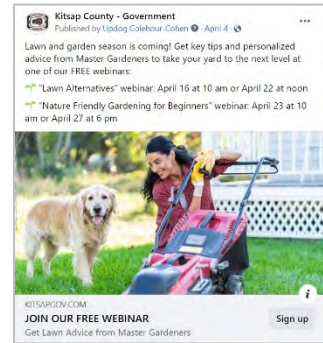
The 2022 campaign utilized the same imagery as the 2021 pilot, with updated text to reflect the 2022 campaign events, coupon, and other parameters.

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:

Webinar Ad (April 1, 2022, to April 26, 2022)

- 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



General Campaign/Coupon Ad (April 1, 2022, to May 24, 2022)

- 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*

Ad Comparison While Both Ads Were Running (April 1, 2022 – April 26, 2022)

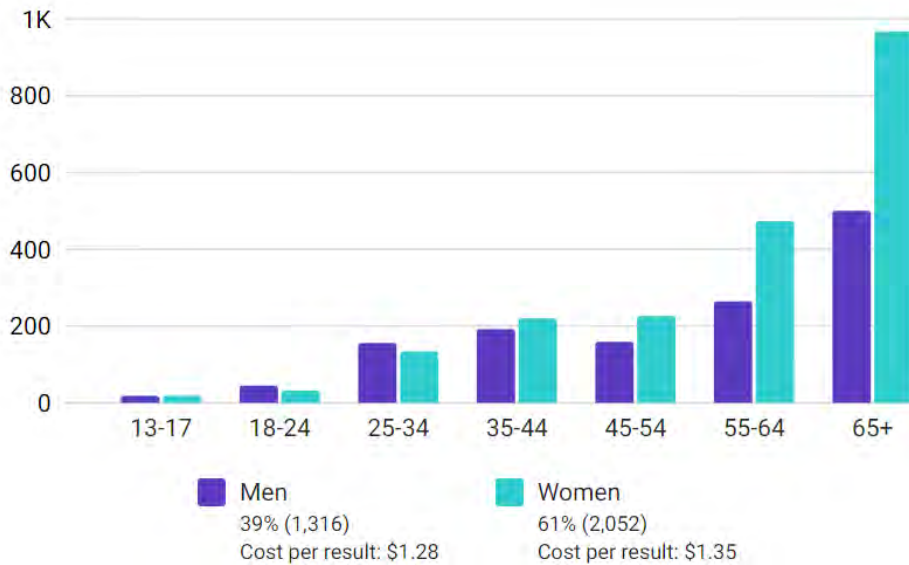
The webinar ad run time was a few weeks shorter than the general campaign/coupon ad since the campaign ended later than the last webinar. While both ads were running, the general campaign/coupon ad had a slightly stronger performance than the webinar ad.

- 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.



6 POST-CAMPAIGN EVALUATION RESULTS

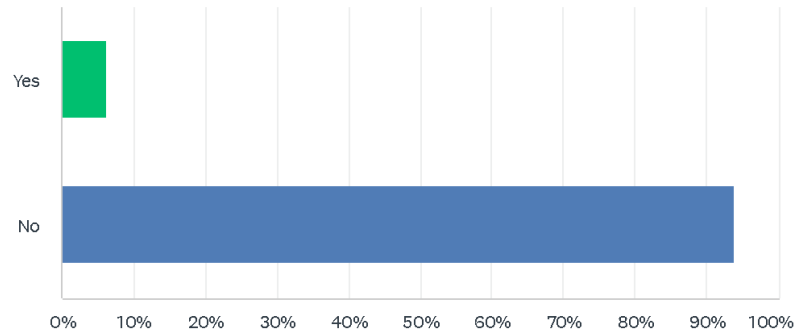
In September 2022, approximately three months after the campaign’s conclusion and to coincide with the summer gardening season, a qualitative post survey was distributed to all registrants, regardless of whether they had attended a webinar or not. There was a total of 19 respondents, made up primarily 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

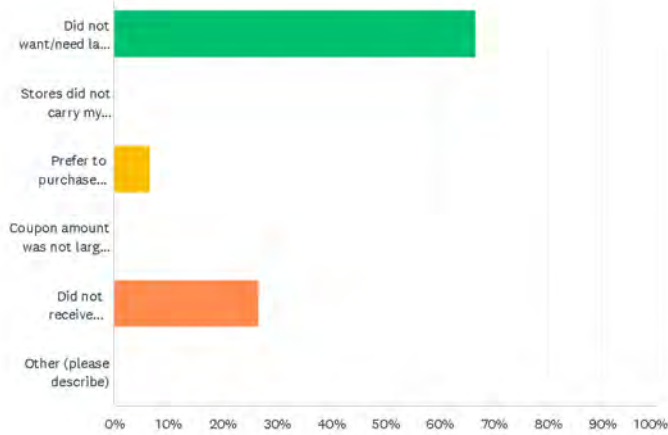


ANSWER CHOICES	RESPONSES	
Yes	6.25%	1
No	93.75%	15
TOTAL		16

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

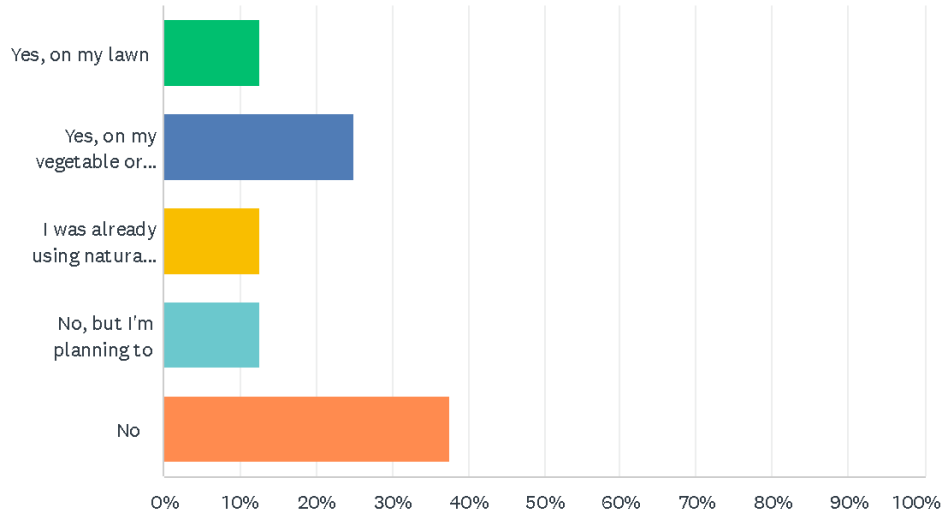


ANSWER CHOICES	RESPONSES	
Did not want/need lawn fertilizer	66.67%	10
Stores did not carry my preferred brand of fertilizer	0.00%	0
Prefer to purchase fertilizer elsewhere	6.67%	1
Coupon amount was not large enough to be worth my while	0.00%	0
Did not receive coupon/do not remember receiving coupon.	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% of 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

7 APPENDIX

7.1 A. POST CAMPAIGN SURVEY FOLLOW UP



STORMWATER OUTREACH FOR REGIONAL MUNICIPALITIES

2022 ANNUAL REPORT

STORM is celebrating 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

Laurie Devereaux, Bellevue
Mary Rabourn, King County
Kym Pleger, Kitsap County
Anne Melrose, Washington Stormwater Center

Susan McCleary, Olympia
Katherine Straus, Seattle
Paige Scheid, Burien

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 outreach requirements from the federal Clean Water 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 by advancing broad-scale behavior change.

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.



STORM by the Numbers

2022

250 attendees at STORM sponsored events



700 cumulative steering committee hours dedicated to STORM

1349 downloads from the Resource Reservoir



6 experts hosted by STORM for professional development

A New Face on the Steering Committee

Anne Melrose, Statewide Municipal Stormwater Education & Outreach

Anne joined the Washington Stormwater Center (WSC) in October 2022 in the newly created position of Statewide Municipal Stormwater Education & Outreach Coordinator.



An Environmental Studies graduate, Anne spent time working in the solar world in Southern CA. After earning a Single Subject Science Teaching Credential, she went on to teach 7th-9th grade science in the L.A. Public School System. Following that, she spent 8 years as part of the Public Participation team working for the Extension Service in CA, representing a forest study in the Sierra. The goal of that project was to share study findings with a variety of different stakeholders. Anne also spent time writing and managing grants for a Resource Conservation District, as well as working for the Air Pollution Control District in Fresno.

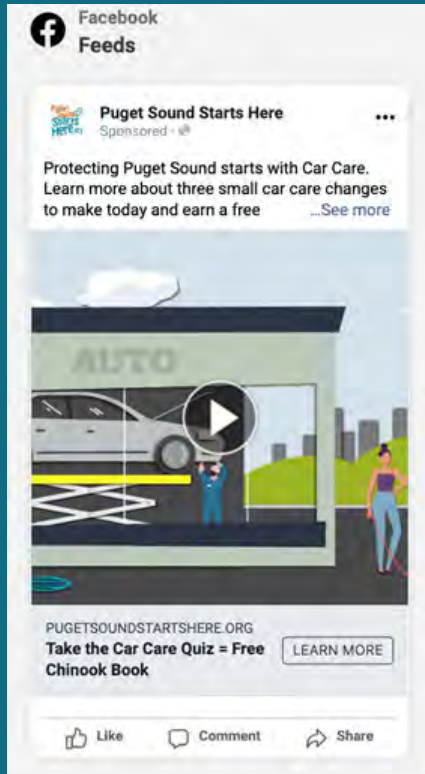
Anne is looking forward to working with STORM, helping members meet their education and outreach needs.

You can reach Anne at anne.melrose@wsu.edu.



Puget Sound Starts Here Month Recap

PSSH Month went into high drive with the completion of a two-month digital ad campaign focused on raising awareness around car care actions. Additionally, Governor Jay Inslee issued a proclamation for PSSH Month in September encouraging all people in our state to support clean water and healthy habitat.



Jurisdictions contributed \$66,000 to the Puget Sound Starts Here regional awareness campaign. The campaign collectively reached over 6.5 million total media impressions, which covered our participating STORM consortium zip codes across digital and social media - including relevant local and national publishers to sensitive populations in four languages. This year's regional media campaign:

- Delivered over 24K clicks to the website for Car Care specific information
- Saw a YTY 110% increase in ad-to-website click through rate (CTR) and a YTY 19% increase in video views
- Efficiencies created a 91% decrease in cost per clicks (CPC) YTY
- Saw that campaign optimizations over a longer period create more media efficiency opportunities. This showed that lengthening the PSSH campaign creates paid media efficiencies for all our jurisdiction collective dollars

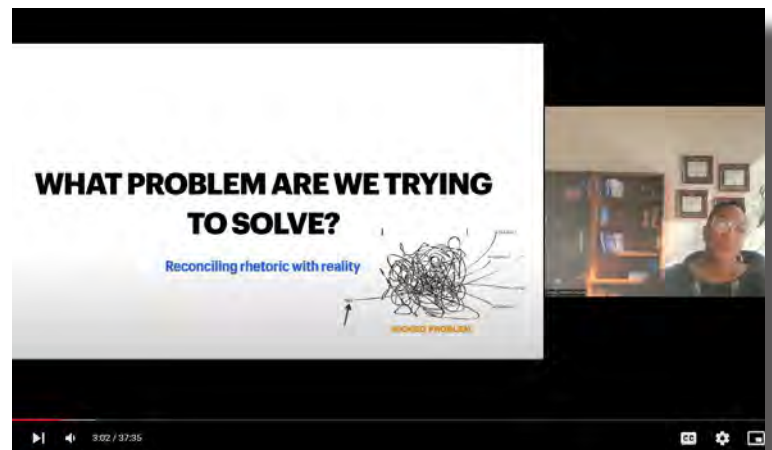
Collectively, we were able to provide far more reach and key media performances across the region, which increases the reach in our jurisdictions, too. Together we achieved much more than we could have alone.

2022 STORM Symposium

The 2022 STORM Symposium was held virtually for the 3rd year in a row. We had over 85 STORM members join us for the 2 day event!

This symposium welcomed several engaging speakers on day one. Warren Kagarise with King County presented on [how to use social media](#) to engage directly with your community, Amielle DeWan with Impact by Design presented on how to [evaluate behavior change programs](#) and provided best practices for evaluating impact, and Dr. Sonja Martin Poole presented on [how to manage a social marketing program](#) through an anti-racist lens.

On day two we heard from Carrie McCausland with the City of Olympia around how to create an [effective communications strategy](#), and we got an update from Julia Burke at GA Creative about the [PSSH NEP grant work](#). Both days of the symposium held breakout sessions to network with STORM peers and hear about success stories and challenges jurisdictions are facing when implementing education and outreach programs.



Long Term Funding Committee Closes Up Shop

In late 2018 a handful of dedicated STORM members came together to form the Long Term Funding Committee (LTFC). Their goal was to explore different potential funding models for STORM and to secure dedicated funding for a STORM Coordinator, which until that point had been pieced together through various grants.



From 2018-2022 the LTFC conducted an intensive process of identifying various funding options as well as interviewing key stakeholders and STORM members to determine what kind of support they most needed to meet their E&O requirements.

In the beginning of 2022 the LTFC coordinated with the Washington Stormwater Center to finalize a workplan for the new Statewide Municipal E&O Coordinator. This brought to a close many years of hard work by the group to secure funding for STORM administrative support. This was essential in ensuring the long term sustainability of STORM. Hats off to the team for all their hard work and perseverance!

With the onboarding of Anne Melrose in October of 2022, STORM now has ongoing support for administrative duties, so STORM can continue its vital role of providing outreach and engagement resources and assistance to municipal stormwater permittees to meet NPDES outreach requirements.

National Estuary Program (NEP) Grant Supports Regional Messaging

Despite serious delays from COVID impacts on King County contracting staff, the Puget Sound Starts Here grant rolled out a digital ad campaign in 2022. The campaign expanded on the regional efforts of Puget Sound Starts Here Month. A Request for Proposal had one response from GA Creative and Rich Marketing. Together with the PSSH team, they put together a strategy to reach English, Spanish, Korean and Vietnamese speakers about the tire pollutant 6PPD.

The team learned many lessons along the way! 2023 will continue with testing and refining campaign messaging, as the team learns online audience survey techniques. For more information or to join the team, contact [Mary Rabourn](#), King County.

Puget Sound 시작
자동차 관리

3가지 작은 변화

우리가 자동차를 운전하고 관리하는 방법에 세 가지 작은 변화를 주면 개울, 호수, 강 및 Puget Sound(푸젯 사운드)의 오염을 막을 수 있습니다. 우리의 작은 행동들이 모여서 Puget Sound, Salish Sea(샬리시해) 및 해양 동물에 미치는 큰 차이를 만듭니다.

비가 오면 자동차의 오염 물질이 빗물 배수구로 흘러 들어간 뒤 곧바로 지역 시내, 호수, 강, 및 Puget Sound로 흘러 들어갑니다. 자동차 오일, 세차용 비누와 화학 물질 및 미세 타이어 가루와 같은 오염 물질은 수질에 악영향을 미치며 생존을 위해 깨끗한 물에 의존하는 연어와 범고래와 같은 야생 동물과 사람에게 해를 끼칩니다.

2022 STORM Work Group Accomplishments

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.

Business Inspection Group (BIG): BIG is a collaborative work group serving over a hundred members representing 60 jurisdictions across the region. BIG members met 6 times in 2022. Meeting presentations and discussions focused on topics to help prepare Phase 2 jurisdictions to launch their source control programs in January of 2023. BIG members also provided technical support for the SAM Source Control Guidance Manual and trainings. In 2023, BIG is inviting jurisdictional staff doing any stormwater related inspections to join the group. For more information or to be added to BIG's distribution list contact [Laurie Larson-Pugh](#), WSC.

Adopt-a-Drain (AAD): AAD Washington launched in October 2021 and is already at 13 jurisdictions and still growing! In 2022, 288 of the volunteers reported cleanings. That is 30% of all volunteers. Collectively, 983 adopters reported collecting



11,363 lbs. of debris from 1,729 drains. AAD is also working to adapt the campaign for other languages and cultures. The current focus is on developing a Spanish Language Digital Media

Campaign using social science principles. For more information email [Susan Harper](#), City of Seattle.

Green Stormwater Infrastructure (GSI): In 2022, the GSI work group finalized the GSI Guidebook. This publication is a tool for managers, planners, and other agency staff to update or create a GSI Assistance Program. The guidebook reviews 17 Western Washington GSI Assistance Programs that use technical assistance and/or financial incentives to support GSI installations on private property. Staff from these programs were

interviewed and their guidance for developing, implementing, and evaluating GSI Assistance Programs is collated into the guidebook. Look for the guidebook on the STORM Resource Reservoir and the Washington Stormwater Center's E&O Library in early 2023. For more information, contact [Alison Schweitzer](#), King County or [Christie Lovelace](#), Shoreline.

Dumpster Outreach Group (DOG): The focus of the Dumpster Lid Program is to help commercial businesses keep dumpster lids shut to protect surface water quality.



In 2022, DOG produced the 2021 Pilot Summary. Over 30 jurisdictions reached nearly 150 businesses throughout Puget Sound with educational materials and tools in 2021. The Pilot Summary shares the remarkable results, including that dumpster lid closure significantly improved from our efforts. The percentage of lids closed rose from 49% during the baseline evaluation to 77% during the final evaluation. The final lid closure rate for businesses participating in the pilot rose 57% over baseline observations.

In 2022, new dumpster sticker and sign art were created, including a translated version. The art, 2021 Pilot Summary, 2020 Dumpster Summit Social Marketing Plans and more are available on DOG's page on the [Washington Stormwater Center website](#).

DOG will meet as needed in 2023. To be added to the contact list, email [Laurie Devereaux](#), City of Bellevue, or [Susan McCleary](#), City of Olympia.

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)



CITY OF
BAINBRIDGE ISLAND

PROCLAMATION

A PROCLAMATION by the City Council of the City of Bainbridge Island, Washington, declaring September 2022, as “Puget Sound Starts Here Month.”

WHEREAS, we resolve to protect Puget Sound and its tributaries which are the source of our communities’ well-being, health, economy, and quality of life; and

WHEREAS, we acknowledge that we are on the land of the “People of the Clear Salt Water” (Suquamish People), 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.

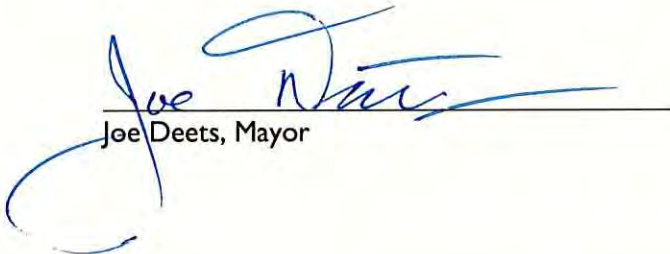
NOW, THEREFORE, I, Joe Deets, Mayor of City of Bainbridge Island, on behalf of the City Council, do hereby proclaim September 2022, as

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!

DATED, this 13th day of September, 2022





Joe Deets, Mayor

City of Port Angeles

Contact: Vince McIntyre, (360) 417-4701

Billable limit for 2022	\$ 12,209.00
2022 Expenditures (Q1 & Q2)	\$ 2,535.61
Est. Remaining in Budget (Q3-4) =	\$ 9,673.39

Item	Unit	Amount	\$/Unit	Cost	Notes
PSSH Pet Waste Bag Dispenser (Green)	Each	100	\$ 2.85	\$ 285.00	"Mix up to 4 assorted colors available at no additional charge (with 200 plus orders)."
PSSH Pet Waste Bag Dispenser (Purple)	Each	100	\$ 2.85	\$ 285.00	
PSSH Pet Waste Bag Dispenser (Pink)	Each	100	\$ 2.85	\$ 285.00	
PSSH Pet Waste Bag Dispenser (Black)	Each	100	\$ 2.85	\$ 285.00	
PSSH Bike Safety Light (Black w/ Wt. LED)	Each	100	\$ 3.25	\$ 325.00	
PSSH Bike Safety Light (Red w/ Red LED)	Each	100	\$ 3.25	\$ 325.00	
*Subtotal =				\$ 1,790.00	

*Plus shipping and added costs for additional imprints

Estimated Remaining in budget =	7,883.39
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We're proud to support the mission of Puget Sound Starts Here by offering this selection of promotional products. The items have been selected to help promote education and awareness to reduce human impact on local waterways.



PSSH BEVERAGE COASTERS

Each carton includes 4 different designs with double-sided printing. People are encouraged to color in the outlines and share on Facebook. The coasters are printed using paper board stock (40% post-consumer), agri-based inks, are reusable, and are biodegradable. Conveniently packaged in sleeves of 125 for easy distribution.

New "coloring book" designs generate engagement in the PSSH messaging.

ITEM: PSSH-BC
Includes Double-sided printing, 4 different coasters. Shipping additional.

Quantity	Lot Price
500 (mini carton)	\$ 125.00
2500 (1 carton)	\$ 395.00
5000 (2 cartons)	\$ 495.00
10000 (4 cartons)	\$ 925.00
20000 (8 cartons)	\$ 1,695.00
50000 (16 cartons)	\$ 3,855.00

500 quantity min. order.



PSSH COFFEE SLEEVES

The coffee sleeves are reusable, recyclable and are biodegradable. They're also a great way to get the PSSH message out to the community. PSSH Coffee Sleeves fit most 12-20 oz. cups and are pre-assembled. Each carton contains 4 different sleeves each with different PSSH messaging.

ITEM: PSSH-CS
Includes 2-color spot printing. Shipping additional

Quantity	Lot Price
1300 (1 carton)	\$ 250.00
2600 (2 cartons)	\$ 395.00
5200 (4 cartons)	\$ 695.00
10400 (8 cartons)	\$ 1,095.00
10400 (16 cartons)	\$ 2,095.00
26000 (20 cartons)	\$ 2,495.00

1300 quantity min. order.

Sleeves are displayed flat to show messaging. Actual product ships folded and glued-ready to use.

To order call us toll-free at 1.877.423.2627 or email sales@adcoasters.com

Don't see what you're looking for? Our Promotional Products Division has access to over 750,000 products. Give us a call and we'll help you find the right item.

Terms & Conditions:

- Subject to 10 percent +/- billable.
 - Production Turn: 20 to 30 business days depending on product availability.
 - Rush Service Available: Please call or email for information and pricing.
 - Packaging: Bulk carton.
 - Prices subject to change without notification. Shipping additional.
- REV0120



Disclaimer: Any reference obtained from this document to a specific product, process, or service does not constitute or imply an endorsement by Puget Sound Partnership (PSP) nor Puget Sound Starts Here (PSSH) of the product, process, or service, or its producer or provider. The views and opinions expressed in any referenced document do not necessarily state or reflect those of the PSP or PSSH.



We're proud to support the mission of Puget Sound Starts Here by offering this selection of promotional products. The items have been selected to help promote education and awareness to reduce human impact on local waterways.



PSSH PET WASTE BAG DISPENSER

The refillable 600D nylon construction features a compartment with 20 biodegradable disposable bags. The pet bag dispenser attaches to any backpack, belt loop or leash with a swivel plastic clip. Choose from 8 stock colors: black, blue, green, lt. blue, orange, pink, violet, red. Mix up to 4 assorted colors available at no additional charge (with 200 plus orders).

ITEM: PSSH-WD
Includes 1-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price	Quantity	Unit Price
100 - 199	\$ 3.50	200 - 399	\$ 3.00
400 - 799	\$ 2.85	800 - 999	\$ 2.75
1000 - 2499	\$ 2.65	2500 plus	\$ 2.55

100 quantity min. order.

PSSH COFFEE CUP

Reusable 16 oz. double-wall insulated coffee cup with silicone comfort grip and twist-on lid. BPA-free plastic. Support the Northwest's coffee addiction while reducing landfill waste.

White cup/black lid with blue PSSH logo.



ITEM: PSSH-CC
Includes 1-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price
100 - 249	\$ 4.75
250 - 499	\$ 4.60
500 - 999	\$ 4.45
1000 plus	\$ 4.30

100 quantity min. order.

PSSH STICKER

6" x 4" oval sticker (decals) with the PSSH logo/url. Manufactured out of durable vinyl with permanent adhesive for exterior applications. Great giveaways for as low as 30 cents per unit.



ITEM: PSSH-DC
Includes 2-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price
250 - 499	\$ 1.60
500 - 999	\$ 1.25
1,000 - 1499	\$ 0.85
1500 - 2499	\$ 0.55
2500 - 4999	\$ 0.40
5000 plus	\$ 0.35

250 quantity min. order.

PSSH PEN

Manufactured from 65% pre-consumer recycled plastic and imprinted with the PSSH logo/url. Retractable, blue medium point ink.



ITEM: PSSH-PE
Includes 2-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price
300 - 499	\$ 1.25
500 - 999	\$ 1.10
1000 - 2499	\$ 1.05
2500 - 4999	\$ 0.95
5000 plus	\$ 0.90

300 quantity min. order.

PSSH UMBRELLA

Foldable with storage sleeve and 40-inch arc. Choose from three stock colors: navy blue, red or black. Or, get all three colors when you order 180 or more.



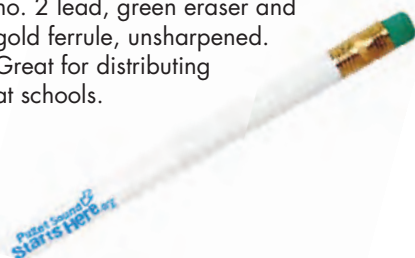
ITEM: PSSH-UB
Includes 1-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price
60 - 119	\$ 5.25
180 - 499	\$ 5.15
500 - 999	\$ 5.00
1000 plus	\$ 4.90

60 quantity min. order.

PSSH PENCIL

Manufactured from recycled newspaper (95% post-consumer) and imprinted with the PSSH logo/url. Standard length, no. 2 lead, green eraser and gold ferrule, unsharpened. Great for distributing at schools.



ITEM: PSSH-PN
Includes 1-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price
500 - 999	\$ 0.35
1000 - 2499	\$ 0.30
2500 - 4999	\$ 0.28
5000 - 9999	\$ 0.26
10000 plus	\$ 0.25

500 quantity min. order.

Don't see what you're looking for? Our Promotional Products Division has access to over 750,000 products. Give us a call and we'll help you find the right item.



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A Division of Harriman Creative, Inc. PO Box 12667 Portland, Oregon 97212 USA 877.423.2627 TF 503.796.1813 TEL 503.241.9475 FAX

PSSH SPORTS/BIKE BOTTLE

20 oz. sport bottle is earth friendly and great for the gym or cycling. BPA-free food grade polyethylene. Blue bottle and white lid with white PSSH logo. Just think of all the disposable water bottles this item will save while supporting bike commuting.



ITEM: PSSH-SB
Includes 1-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price
150 - 249	\$ 1.50
250 - 499	\$ 1.40
500 - 999	\$ 1.30
1000 plus	\$ 1.25

150 quantity min. order.

PSSH SHOPPING TOTE

Reusable 190 denier polyester t-shirt style bag that folds into a 6" x 5.5" interior pocket. 12W" x 7" x 23"H dimensions when open. Ships open. Choose from four stock colors: black, blue, lime green, violet. Or, get all four colors when you order 400 or more.



ITEM: PSSH-ST
Includes 1-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price
150 - 249	\$ 3.25
250 - 499	\$ 2.80
500 - 999	\$ 2.65
1000 plus	\$ 2.60

150 quantity min. order.

PSSH BIKE SAFETY LIGHT

Support those brave souls who have moved from four wheels to two. Two bright LED bulbs with steady, flash, slow flash modes. Mount with silicone strap, water resistant, and batteries are included. Choose from black with white LED, blue with white LED, white with white LED, or red with red LED.



ITEM: PSSH-BL
Includes 1-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price
100 - 499	\$ 3.25
500 - 2499	\$ 3.00
2500 - 4999	\$ 2.75
5000 plus	\$ 2.50

100 quantity min. order.

PSSH MAGNET

3" x 2" oval magnet with the PSSH logo/url. Manufactured out of 20 mil, recycled material. Great giveaways for as low as 15 cents per unit.



ITEM: PSSH-MG
Includes 1-color, 1-location imprint, set-up. Shipping additional.

Quantity	Unit Price
500 - 999	\$ 0.50
1000 - 2499	\$ 0.40
2500 - 4999	\$ 0.30
5000 - 9999	\$ 0.20
10000 plus	\$ 0.15

500 quantity min. order.

PSSH T-SHIRT-DTG (Direct to Garment) Printed

The shirts are white, 4.5 oz., pre-shrunk 100 percent cotton (youth sizes are 5.2 oz.) and DTG printed on both the front and the back. Perfect giveaways for group events. Each carton contains 50 shirts (5 youth medium, 5 adult small, 10 adult medium, 20 adult large and 10 adult x-large) configured for typical audience distribution.

ITEM: PSSH-TS
Includes 2-color, 2-location imprint, set-up. Shipping additional.

Quantity	Lot Price
50 (1 carton)	\$ 500.00
100 (2 cartons)	\$ 900.00
200 (4 cartons)	\$ 1,550.00
400 (8 cartons)	\$ 2,600.00

50 quantity (1 carton) min. order.



PSSH CAP

100% cotton twill baseball-style cap with PSSH logo/url embroidered on the front. Structured with mid-profile design. One-size-fits-all, hook and loop closure. Available in royal blue or burnt orange with white embroidery. Or, get both colors when you order 48 or more.

ITEM: PSSH-CP
Includes 1-color, 1-location decoration, set-up. Shipping additional.

Quantity	Unit Price
24 - 47	\$ 6.95
48 - 287	\$ 6.50
288 plus	\$ 5.50

24 quantity min. order.



To order call us toll-free at 1.877.423.2627 or email sales@adcoasters.com



Terms & Conditions:
 • Subject to 10 percent +/- billable.
 • Production Turn: 10 to 20 business days depending on product availability.
 • Rush Service Available: Please call or email for information and pricing.
 • Packaging: Bulk carton.
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City of Port Angeles Public Works & Utilities
2.6K followers • 7 following

Intro


- Page · Government organization
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- cityofpa.us
- Open now
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The City of Port Angeles is updating its...
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 **City of Port Angeles Public Works & Utilities**
September 19, 2022 · 🌐


September is [#PugetSoundStartsHere](#) Month! [Puget Sound Starts Here](#) is an awareness campaign for best practices that help to improve water quality and ultimately protect our local waterways and the wildlife that call it home.

This year's campaign is focused on car care. With three small changes to how we drive and maintain our cars, we can keep pollution out of our creeks, lakes, rivers, the Puget Sound and Strait of Juan de Fuca.

Visit www.pugetsoundstartshere.org to learn... See more



Together, we can protect Puget Sound

 **Puget Sound Starts Here**
September 1, 2021 · 🌐

It's September and you know what that means. Happy [#PugetSoundStartsHere](#) Month! 🌍🌊
Join us all monthlong as we raise awareness about the small actions you can t... See more

👍 2

👍 Like 💬 Comment ➦ Share

 **City of Port Angeles Public Works & Utilities**
September 21, 2022 · 🌐

Washing your car in the driveway rinses harmful pollutants like oil, grease and soaps straight into our creeks, rivers, the Puget Sound and Strait of Juan de Fuca. Instead, take your car to a commercial car wash or wash your car on a grassy area.
Remember, [#PugetSoundStartsHere!](#)




**WASH
RIGHT**

Keep wash water
out of the street
and storm drains.

 Puget Sound
Starts Here

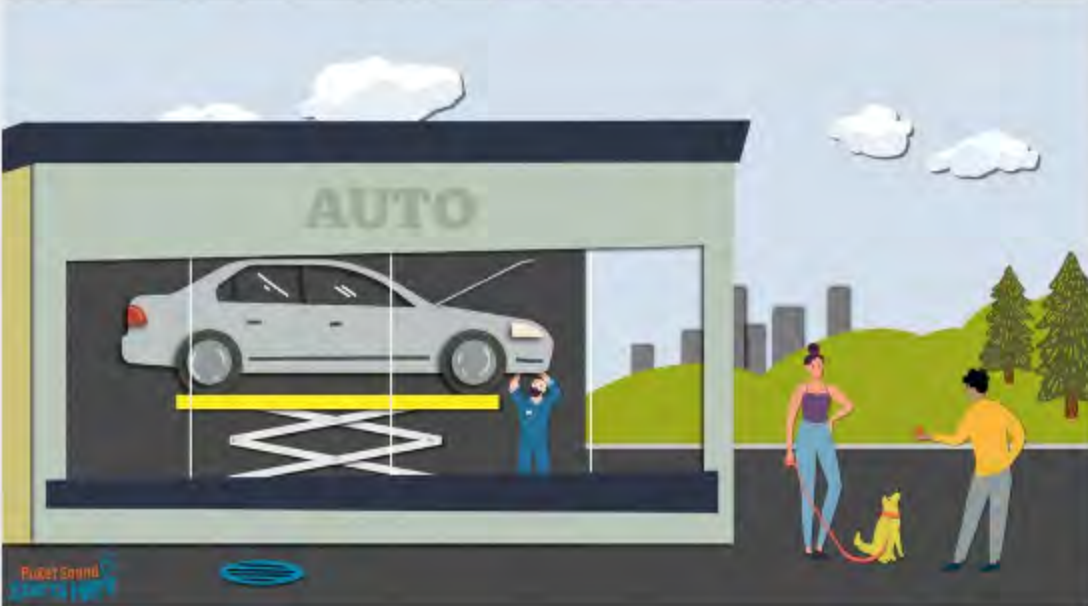
👍 1 2 shares



 Like  Comment  Share

 **City of Port Angeles Public Works & Utilities**
September 27, 2022 · 🌐




Oil and other petroleum products are toxic to people, wildlife and plants. Keep them out of our waterways and dispose of used motor oil by bringing it to your local auto shop for recycling. Remember, [#PugetSoundStartsHere!](#)

Learn more at www.pugetstartshere.org



👍 4

 Like  Comment  Share

 **City of Port Angeles Public Works & Utilities**
September 29, 2022 · 🌐

As we drive, tires wear down, leaving tiny bits of rubber and plastic on our roads. The chemicals in those bits are toxic to fish. Regularly rotate and inflate your tires to prevent pollution and protect wildlife, because [#PugetSoundStartsHere](#).

Learn more: www.pugetsoundstartshere.org



 3  1 share

 Like  Comment  Share

2022 Stormwater Outreach | Earth Day at the Pier



PORT ANGELES EARTH DAY
CELEBRATION, INFORMATION, INSPIRATION
April 23, 2022
11 am - 1 pm

23 MAY 2022, APRIL 23, 2022 AT 11 AM - 1 PM
Earth Day Celebration & Call to Action | Port Angeles, WA
1081 Instagram, 144 YouTube, 115 WordPress, 100 Email, 51 Facebook, 888 Facebook

About Discussion

Details

- 29 people responded
- Event by Save Our Wild Salmon and Clallam Marine Resources Committee
- Port Angeles City Pier, 315 North Lincoln St, Port Angeles, WA 98362
- Duration: 2 hr
- Public - Anyone on or off Facebook

Celebrate Earth Day, 2022 at the City Pier in Port Angeles! 🌍
Hear calls to action for endangered salmon and orcas from Jamestown S'Klallam Tribe Chairman Ron Allen and confront... See more

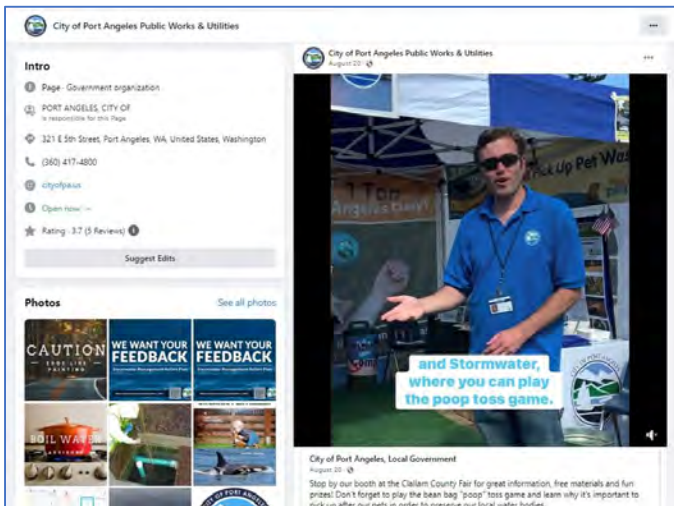
Guests

16
13

Share to Groups

- Family Holiday Planning!!
Private group · 3 members
- In Memory of Derek Brown
Public group · 275 members
- Purple European Vacation!!!
Private group · 35 members

2022 Stormwater Outreach | Clallam County Fair



City of Port Angeles 2022 Clallam County Fair Plaza 123-124

	Thursday, August 18	Friday, August 19	Saturday, August 20	Sunday, August 21
9:00am - 11:00am	1 Leena Ellis 2 Woo Haskins 3 Vince McIntyre 4 Allen Coleman - 911	1 Vince McIntyre 2 Woo Haskins 3 Susan Craig - 911 4 Jordon Lemon - 911	1 Sean Armstrong 2 Katie Butler- PD records 3 Erica Murray- PD records 4	1 Sean Armstrong 2 Allen Coleman - 911 3 Jordon Lemon - 911 4
11:00am - 1:00pm	1 Vince McIntyre 2 Leena Ellis 3 Lacey Ingraham (Becca) 4 Allen Coleman - 911	1 Vince McIntyre 2 Rebecca Wells 3 Susan Craig - 911 4 Jordon Lemon - 911	1 Sean Armstrong 2 Rebecca Wells 3 Erica Murray- PD records 4 Carla Jacobi - PAPD	1 Sean Armstrong 2 Jordon Lemon - 911 3 Allen Coleman - 911 4
1:00pm - 3:00pm	1 Allen Coleman - 911 - 2p 2 Holden Fleming 3 Pat Bartholick 4	1 Eric Walrath 2 Pat Bartholick 3 Susan Craig - 911 4 Jordon Lemon - 911	1 Olivia Hatton - PD records 2 Erica Murray- PD records 3 Glenn McFall 4	1 Jordon Lemon - 911 2 Allen Coleman - 911 3 4
3:00pm - 5:00pm	1 Jessica Straits 2 Norm Gollub 3 Jack Nieborsky 4 Jonathan Boehme	1 Aubrianna Howell 2 Zach Trevino 3 Susan Craig - 911 4 Katie Sprock - 911	1 Erica Murray- PD records 2 Olivia Hatton - PD records 3 Mary Rife - 911 4	1 Vince McIntyre 2 Rob Feller 3 Carla Jacobi-PAPD 4 Sherry Curran
5:00pm - 7:00pm	1 Rob Feller 2 Norm Gollub 3 Allen Coleman - 911 -6p 4 Abbi Fountain	1 Zach Trevino 2 Susan Craig - 911 3 Katie Sprock - 911 4 Olivia Hatton - PD records	1 Rob Feller 2 Mary Rife - 911 3 Olivia Hatton - PD records 4	1 Vince McIntyre 2 Rob Feller 3 Carla Jacobi-PAPD 4 Sherry Curran
7:00pm - 9:00pm	1 Rob Feller 2 Kari Martinez-Bailey 3 Allen Coleman - 911 4 Abbi Fountain	1 Susan Craig - 911 2 Carla Jacobi - PAPD 3 Olivia Hatton - PD records 4	1 Rob Feller 2 Mary Rife - 911 3 Olivia Hatton - PD records 4	

City Booth - SW Tally Sheet

	Thurs	Fri	Sat	Sun
Subtotal	452	589	424	351
Total	1816			

Most Interactions in a single hour!

1st	105	Friday	12:00-1:00,	Jordon, Woo, Becca, Susan, & Vince
2nd	101	Friday	1:00 - 2:00,	Eric, Pat, Jordon, & Susan
3rd	75	Sunday	1:00-2:00,	Allen & Jordon

Congratulations Team!

Clallam County Fair 2022 | Stormwater Outreach Tracking Sheet (pg. 2 of 2)

Saturday, August 20			
Sean & Erica <i>Kate</i>	9:00 - 10:00		1
	10:00 - 11:00		30
	11:00 - 12:00		63
	12:00 - 1:00		53
Erica & Olivia	1:00 - 2:00		23
	2:00 - 3:00		50
Erica, Olivia, & Mary	3:00 - 4:00		65
	4:00 - 5:00		22
Rob, Olivia, & Mary	5:00 - 6:00		31
	6:00 - 7:00		35
	7:00 - 8:00		31
	8:00pm - 9:00pm		20
Total for the Day =		~420	424

Sunday, August 21			
Sean, Allen, & Jordan	9:00 - 10:00		6
	10:00 - 11:00		26
	11:00 - 12:00		73
	12:00 - 1:00		58
Allen & Jordan	1:00 - 2:00		75
	2:00 - 3:00		28
Vince, Sherry & Rob	3:00 - 4:00		27
	4:00 - 5:00		32
	5:00 - 6:00		17
6:00 - 7:00		9	
7:00 - 8:00	XXXXXXXXXX		
8:00pm - 9:00pm	Closed / Clean-up		
Total for the Day =			351

Clallam County Fair 2022 | Stormwater Outreach Tracking Sheet (pg. 1 of 2)



Thursday, August 18			
Vince & Leena	9:00 - 10:00		12
	10:00 - 11:00		49
	11:00 - 12:00		38
	12:00 - 1:00		53
Pat & Holden	1:00 - 2:00		55
	2:00 - 3:00		47
JB & Jack	3:00 - 4:00		60
	4:00 - 5:00		53
Rob & Abbi	5:00 - 6:00		27
	6:00 - 7:00		18
	7:00 - 8:00		31
	8:00pm - 9:00pm		12
Total for the Day =		~450	452

Friday, August 19			
Vince, Woo, & Becca	9:00 - 10:00		16
	10:00 - 11:00		60
	11:00 - 12:00		70
	12:00 - 1:00		105
Eric & Pat	1:00 - 2:00		101
	2:00 - 3:00		74
Zach & Susan	3:00 - 4:00		29
	4:00 - 5:00		31
Susan, Olivia, & Carla	5:00 - 6:00		23
	6:00 - 7:00		42
Susan, Olivia, & Carla	7:00 - 8:00		20
	8:00pm - 9:00pm		13
Total for the Day =		~535	589





2022 Overburdened Communities Assessment

Kitsap County, WA
November 16, 2022

Kitsap County seeks to establish a process for inclusion of overburdened communities. Once established, this interactive, data-rich tool will guide the County and partner agencies toward meaningful, inclusive, and equitable outreach.

The NPDES Western Washington Phase II Municipal Stormwater Permit for Western WA identifies the need to include overburdened communities in engagement activities associated with permit compliance, specifically public education and outreach to build general awareness and create opportunities for public involvement and participation (Special Conditions S.5.C.2.a.i and S.5.C.3.a). The permit defines overburdened communities as:

"...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."

Methods

This analysis compares 23 demographic, socioeconomic, health, and environment metrics from 9 Federal, State and private (Esri) sources.

Data Sources

- 2016 – 2020 (5-yr) American Community Survey (ACS)
- 2022 Esri Unemployment Rate
- 2020 Department of Housing and Urban Development (HUD) Location Affordability Index
- 2018 Centers for Disease Control (CDC) Social Vulnerability Index
- 2020 Washington Department of Health
- 2018 HUD Environmental Health Hazards Index
- Bureau of Indian Affairs (BIA)
- Esri Tapestry Segmentation (market profiles)

Metric Categories

All metrics include geographic indicators, allowing the County to analyze this information through interactive maps. These

maps allow the County and respective cities to explore the human geography prior to and during the execution of stormwater activities and define populations that *potentially experience disproportionate environmental harms and risks*.



About the Equity Atlas

In 2022, this tool was redesigned as an atlas for exploration in two formats: a scroll-through option that allows users to review data one metric at a time, and a new, separate Equity Atlas application that allows for simultaneous map layer viewing.

How to use this information

Option 1: Scroll through the sections below to explore maps and data, one metric at a time. Click any location to view statistics in a pop-up window. Use the map buttons to interpret and navigate: **legend** (lower left); **search** for locations (upper left); switch to a **full-screen** map (upper right); **zoom / home** (lower right).

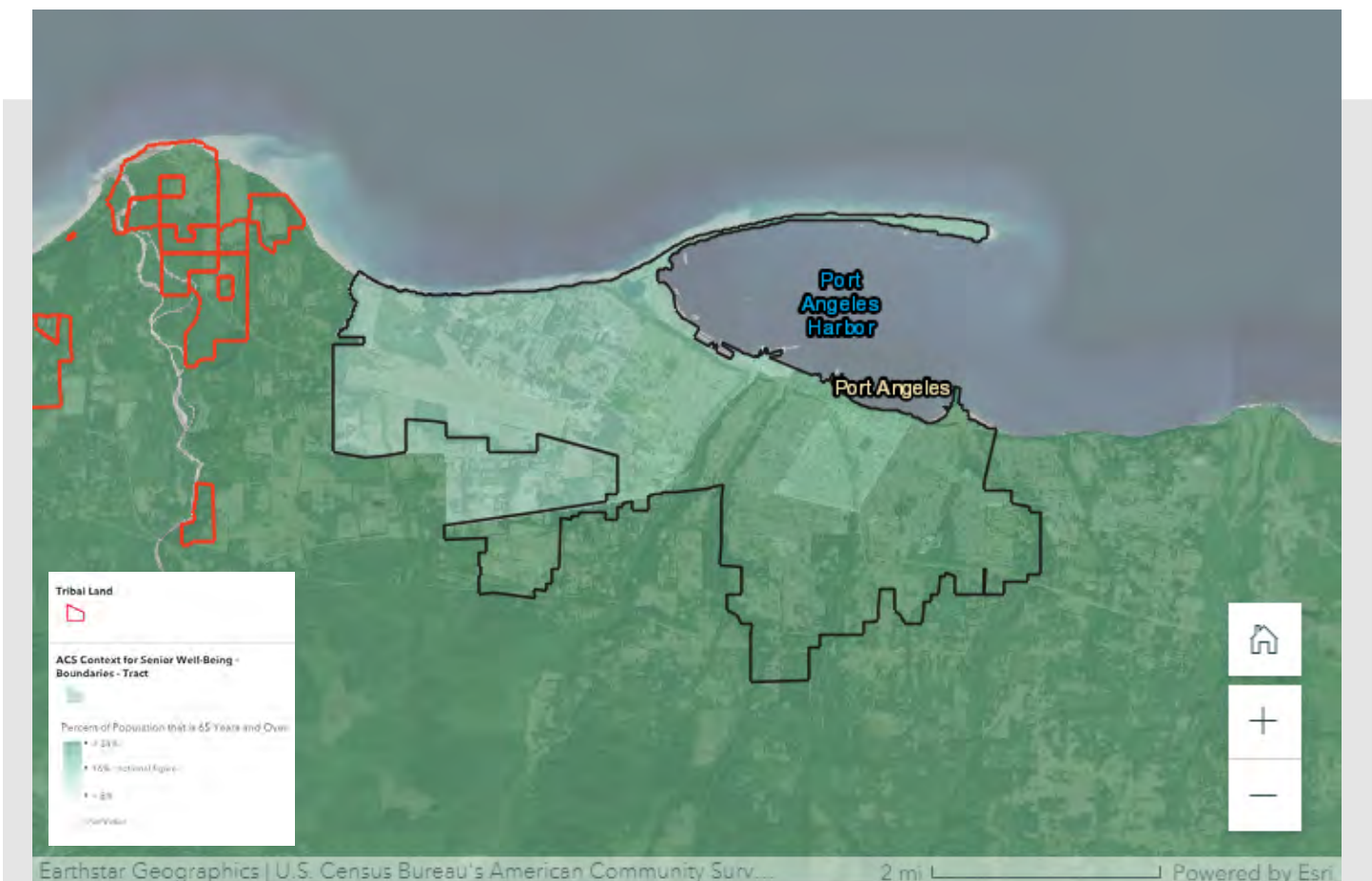
Links to GIS data sources are provided for each indicator. This information can be used in independent analyses outside this platform. *While the following information provides an overview of Kitsap County and neighboring jurisdictions, the County will*

combine various datasets to identify the unique needs of the community on a per-project basis.

Option 2: Explore multiple map layers at one time using the Equity Atlas application.



NEW: Equity Atlas application for simultaneous map layer viewing.



Demographics

Age: Seniors 65+

Data Source: 2020 (5-yr) ACS Context for Senior Well-Being

Understanding the age breakdown of a community is one of the first steps necessary in determining a community's unique challenges and needs, and how agencies can develop an issue-focused engagement strategy.

Nationally, 17% of the population is 65 years or older. Census Tract 725.07 within Gig Harbor (Pierce County) is home to 1,446 people over 65, which is the highest per capita at 44%.

When evaluating age, it is also important to consider other factors. Complimentary metrics, such as Health and Ability, Income and Employment can help determine if older communities are overburdened.

Zoom To:

[⊕ Bainbridge Island](#)

[⊕ Bremerton](#)

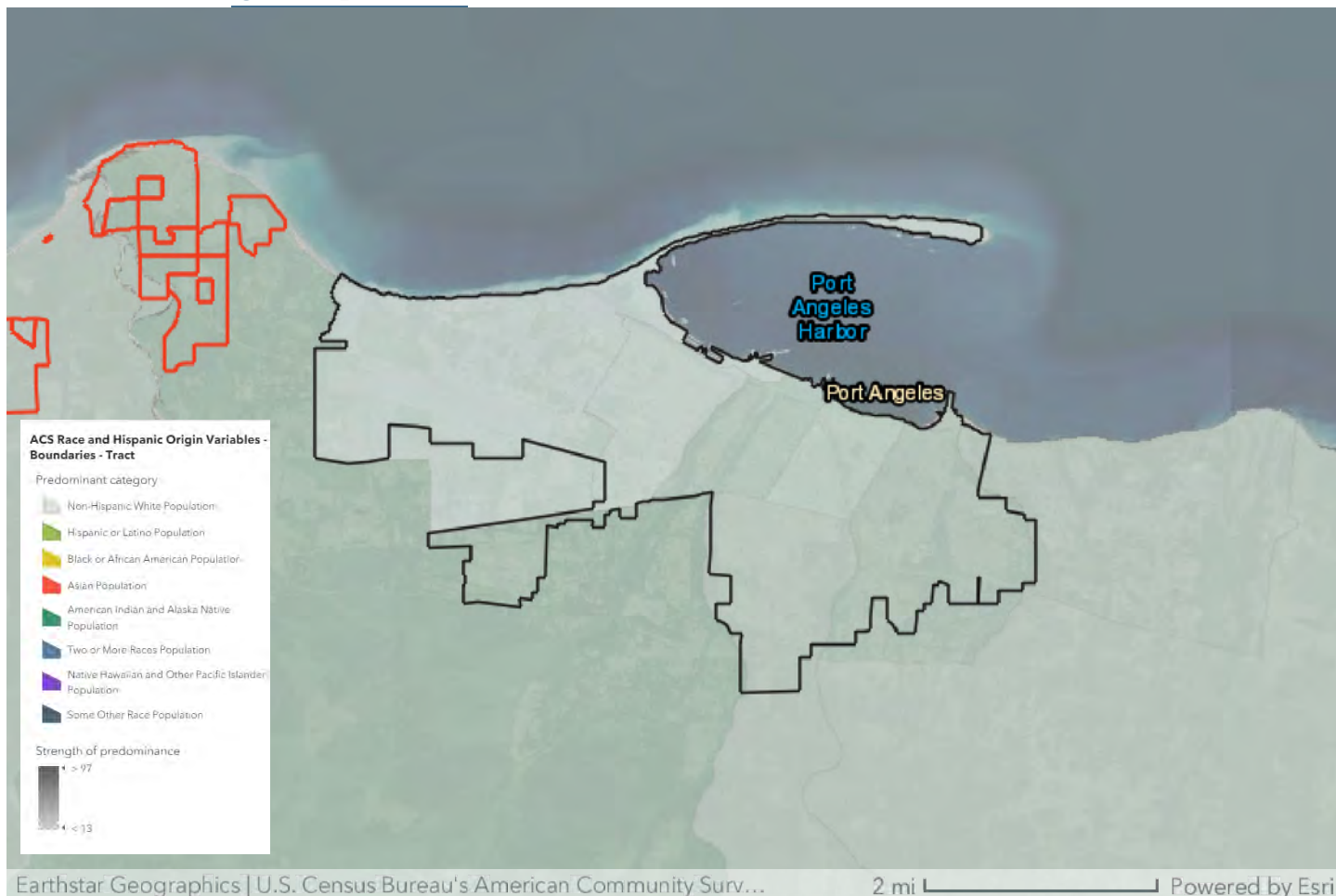
[⊕ Gig Harbor](#)

[⊕ Port Orchard](#)

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[⊕ Port Angeles](#)

⊕ Kitsap County



Race / Ethnicity

Data Source: 2020 (5-yr) ACS Race and Hispanic Origin

To best understand the racial and ethnic diversity of communities, click on areas of the map to see the predominance of the following races/ethnicities:

- White alone, not Hispanic or Latino population
- Hispanic or Latino population
- Black or African American alone, not Hispanic or Latino population
- Asian alone, not Hispanic or Latino population
- American Indian and Alaska Native alone, not Hispanic or Latino population
- Two or more races, not Hispanic or Latino population

- Native Hawaiian and Other Pacific Islander alone, not Hispanic or Latino population
- Some Other Race alone, not Hispanic or Latino population

Zoom To:

Bainbridge Island

Bremerton

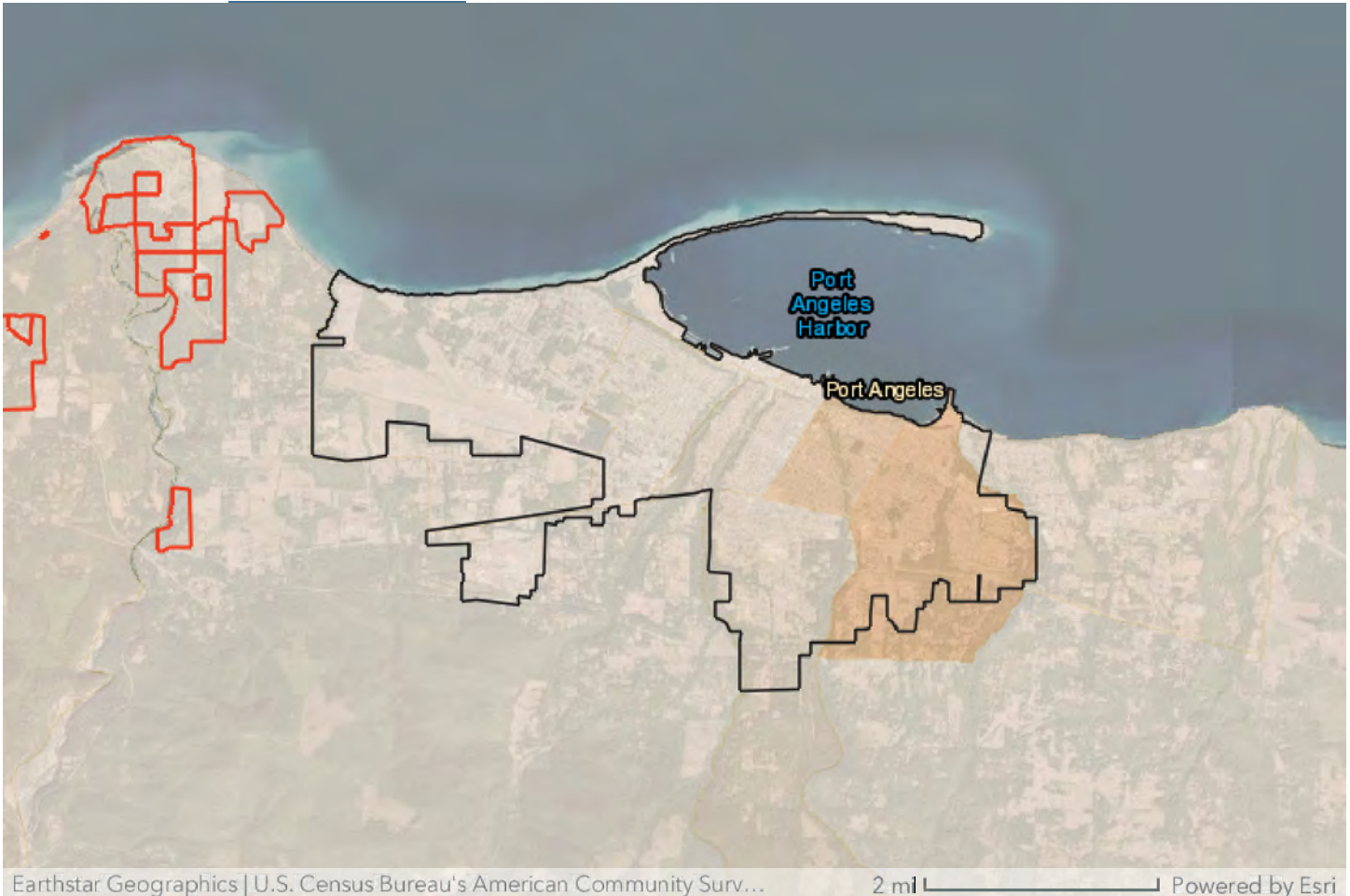
Gig Harbor

Port Orchard

Poulsbo

Port Angeles

Kitsap County



Language / English Proficiency

Data Source: 2020 (5-yr) ACS English Ability and Linguistic Isolation

A limited English-speaking household is one in which all members 14 years old and over have at least some difficulty with English. Identifying areas of linguistic isolation is essential when considering projects that require public input and participation. In addition to providing information for all people in all necessary languages, identifying communal spaces where information can be shared (places of worship, cultural centers, etc.) will help amplify two-way communication.

The area with the highest linguistic isolation falls within Bremerton. Census Tract 801.02 is home to approximately 4,646 people over 18 years old, 627 (13.5%) of those have limited English ability—predominantly speaking Spanish and Asian/Pacific Island languages.

Zoom To:

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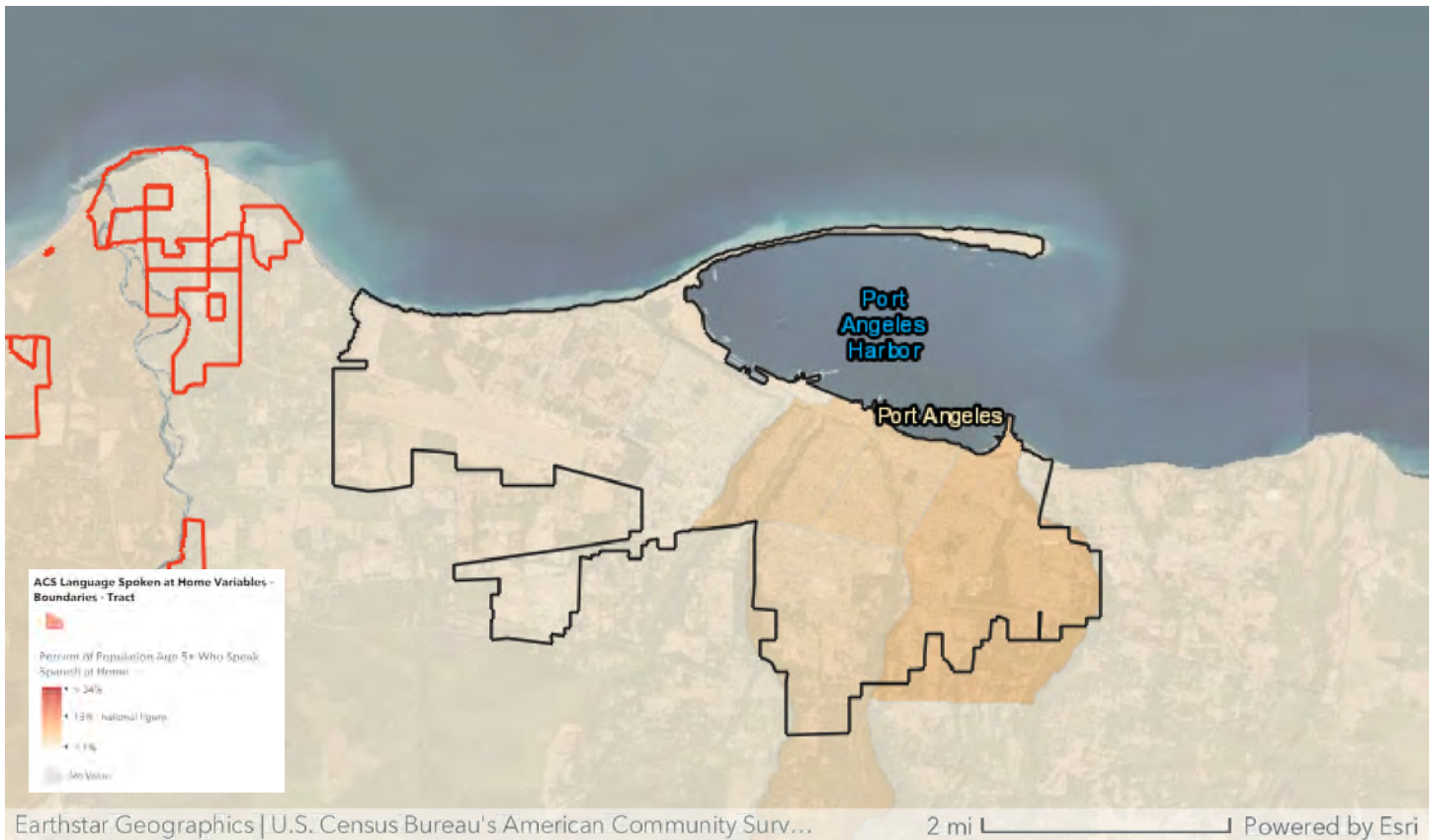
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[⊕ Kitsap County](#)



Language Spoken at Home

Data Source: 2020 (5-yr) ACS Language Spoken at Home

Identifying the various languages spoken at home informs communication strategies needed to overcome barriers and reach culturally diverse audiences.

Across all census tracts, the count of people aged 5+ who speak a language other than English at home does not exceed the national average of 15%. Higher concentrations of these households are located in:

Poulsbo Census Tract 905.02

- Spanish 10.8%
- Indo-European language: 0.8%
- Asian or Pacific Islander language: 3.6%
- Some Other language: 0.4%

Bremerton Census Tract 801.02

- Spanish 10.2%
- Indo-European language: 0.7%
- Asian or Pacific Islander language: 10.1%
- Some Other language: 1.8%

Port Angeles Census Tract 12

- Spanish 6.6%
- Asian or Pacific Islander language: 2.9%

Zoom To:

[⊕ Bainbridge Island](#)

[⊕ Bremerton](#)

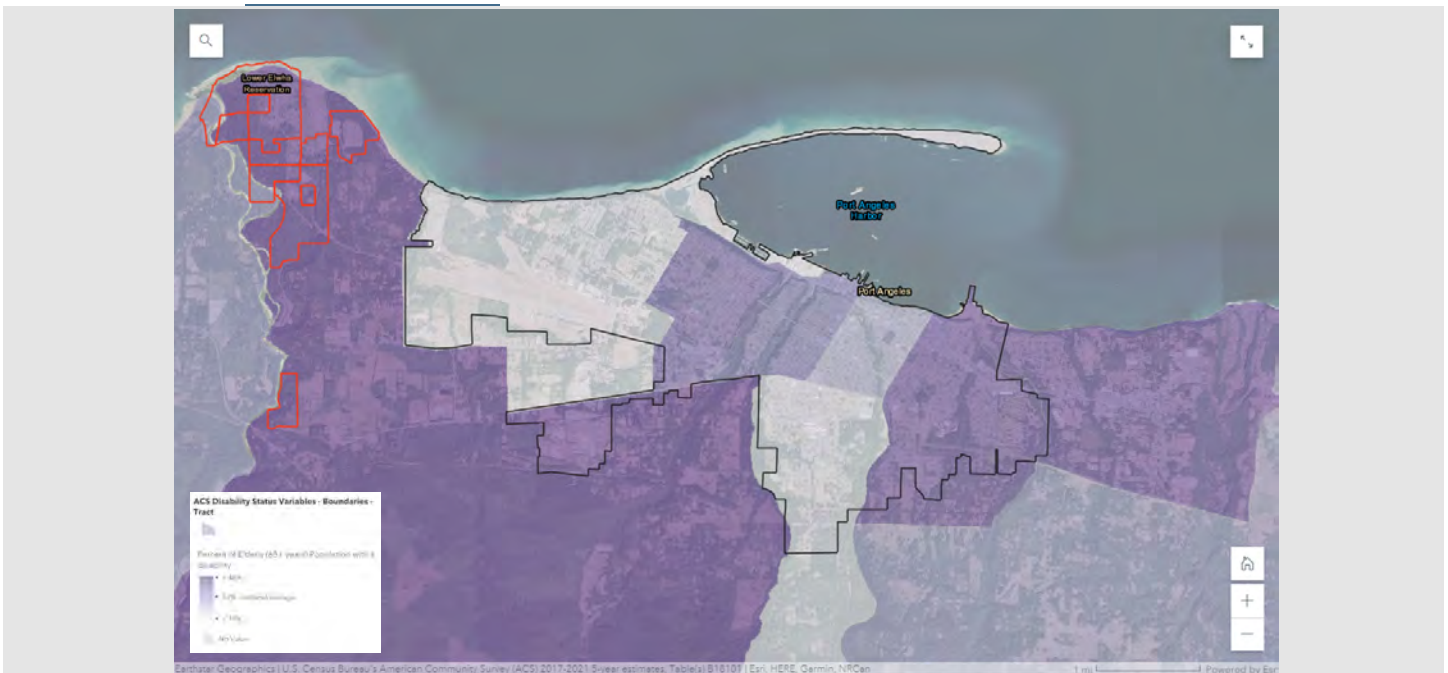
[⊕ Gig Harbor](#)

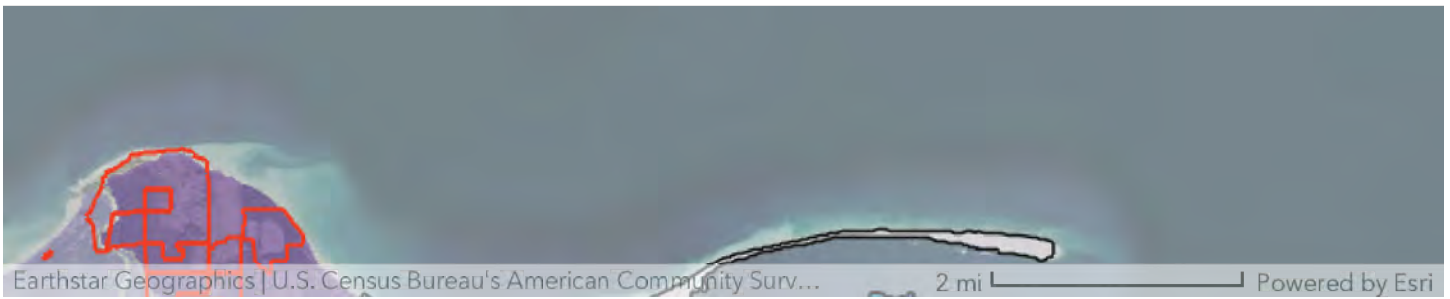
[⊕ Port Orchard](#)

[⊕ Poulsbo](#)

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Health and Ability

Data Source: 2020 (5-yr) ACS Disability by Type

Understanding a community's unique health needs and abilities allows agencies to anticipate and prioritize public concerns and needs. Visualizing this data by type, rather than a percentage, will help agencies see the range of disabilities and determine other metrics to compare. Age, transportation access, or housing affordability are metrics that could be analyzed to determine if community members are disproportionately burdened.

Zoom To:

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[⊕ Bremerton](#)

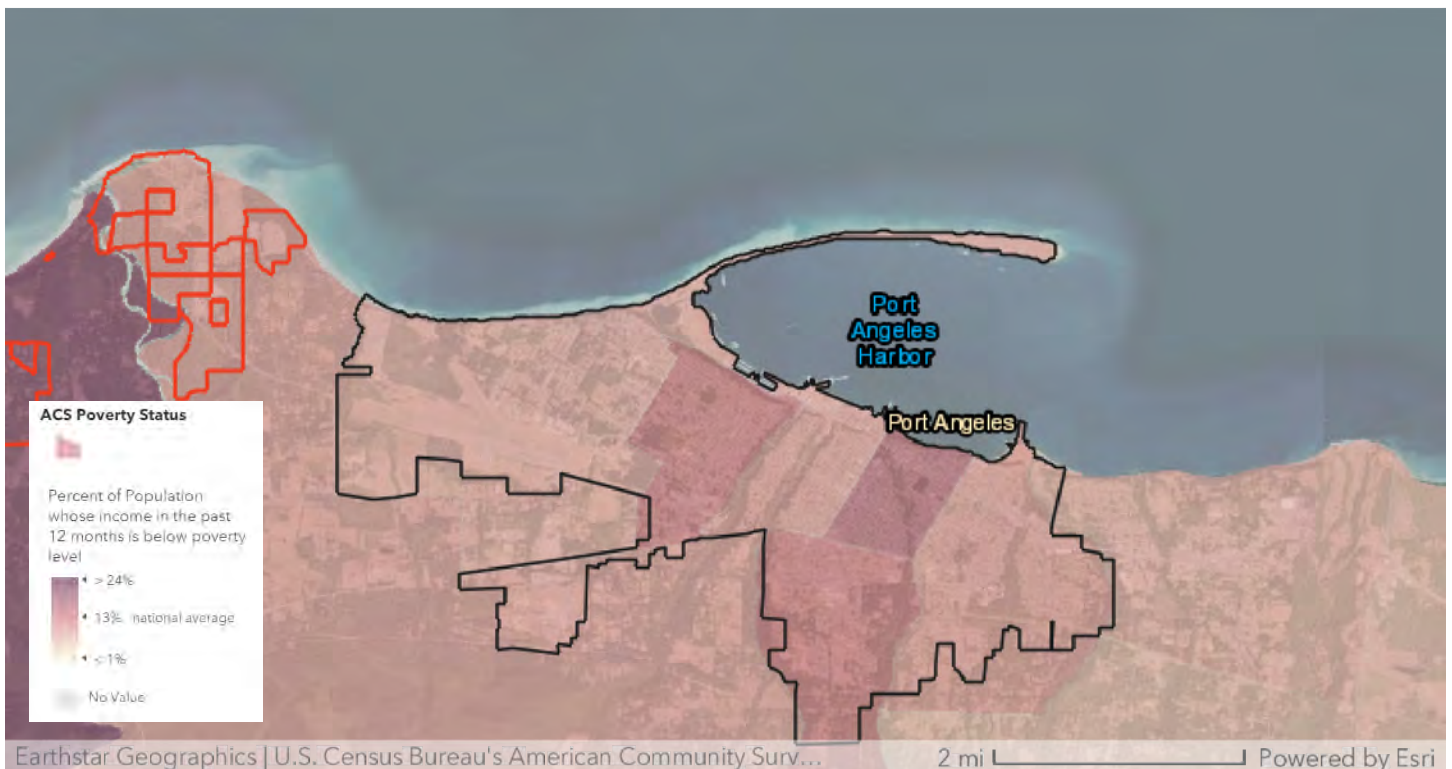
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Socioeconomics

When coupled with demographic data, social and economic metrics provide insight into a community's quality of life. With this information, agencies can explore the intersection of demographics and socioeconomic factors to reveal overburdened areas.

Income

Data Source: 2020 (5-yr) ACS Poverty Status

This map represents the population (all ages) whose income in the past 12 months is above, at, and below the national poverty level (13%).

While many areas are near the national figure, the areas of highest poverty fall within Bremerton, Port Angeles, and Port Orchard.

Bremerton Census Tract 811

23.6% poverty

Bremerton Census Tract 810

19.7% poverty

Port Angeles Census Tract 10

18.3% poverty

Port Orchard Census Tract 922

21.2% poverty

Zoom To:

[⊕ Bainbridge Island](#)

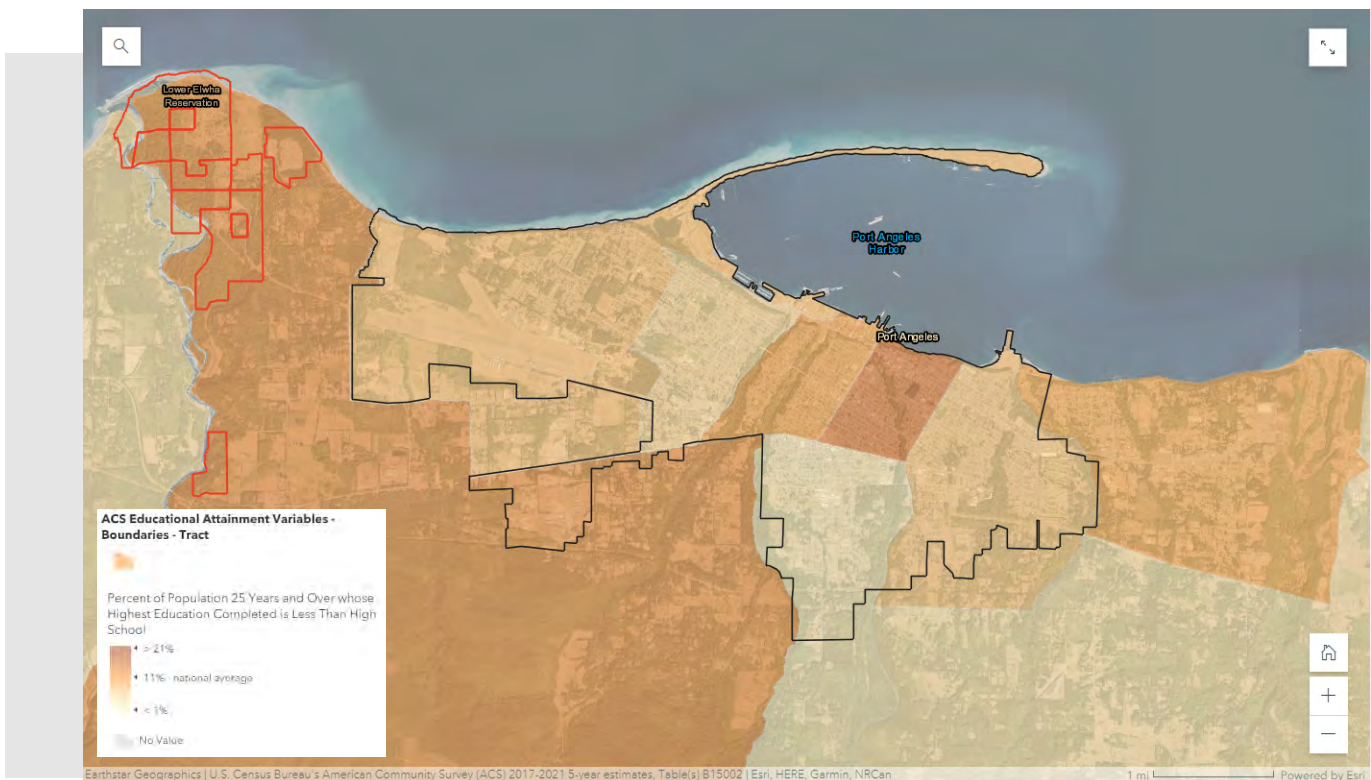
[⊕ Bremerton](#)

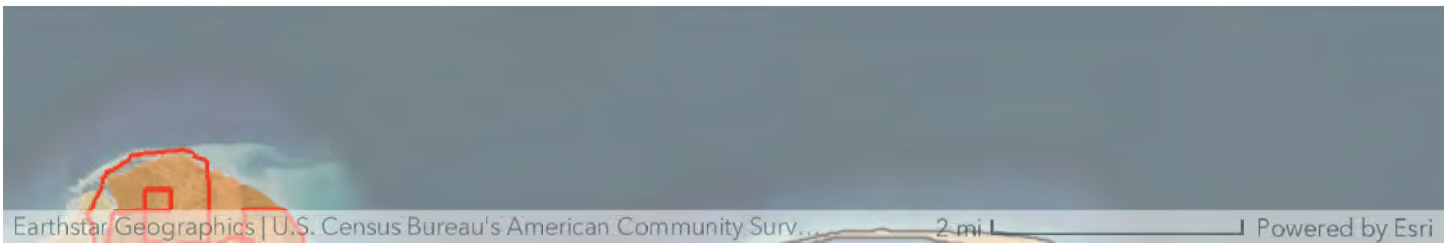
[⊕ Gig Harbor](#)

[⊕ Port Orchard](#)

[⊕ Poulsbo](#)

[⊗ Port Angeles](#)





Education

Data Source: 2020 (5-yr) ACS Educational Attainment

Educational attainment, or the highest level of education a person has received, is not indicative of intelligence – but should be evaluated prior to engaging a community as it informs communication strategies and techniques to reach communities in meaningful ways.

The national average for percent of population without a high school degree is 12%. Within Kitsap County, much of the population has completed high school or is close to that average.

Unincorporated areas, such as Port Angeles, generally have lower educational attainment.

Port Angeles Census Tract 12

15.5% of adults are not high school graduates

Zoom To:

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[⊕ Bremerton](#)

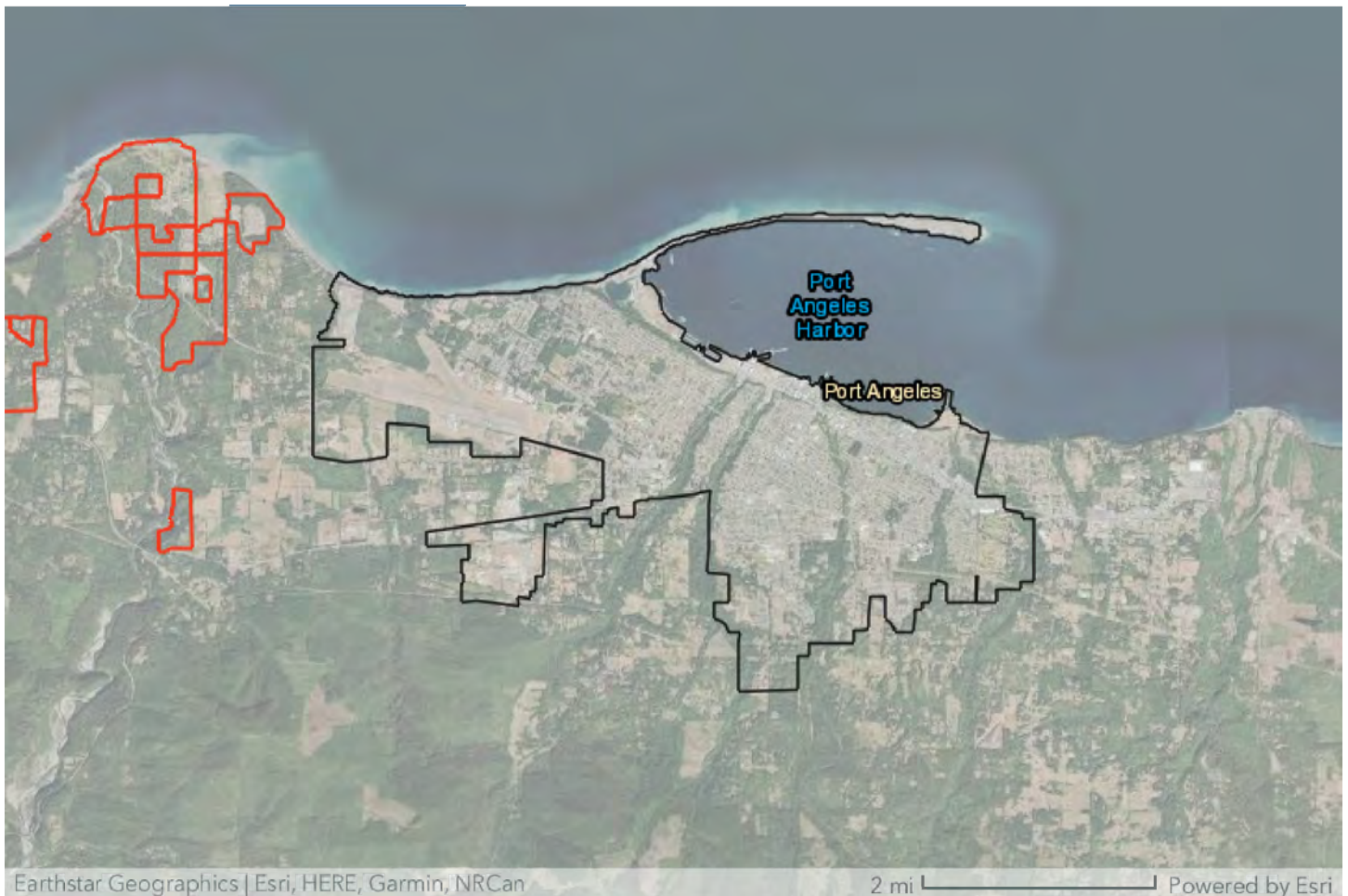
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[⊕ Port Orchard](#)

[⊕ Poulsbo](#)

⊗ Port Angeles

⊕ Kitsap County



Employment

Data Source: 2020 ACS Employment Status

For most, income is contingent on employment. As the global economy recovers after business closures and mass layoffs due to COVID-19, it is important to evaluate past and future employment conditions. Understanding employment impacts across communities exposes those who have recently or continue to face the challenges associated with unemployment.

In 2020, the national unemployment average was 5.4%. Areas notably above this average include:

Bremerton Census Tract 918

11.0% unemployment

Silverdale Census Tract 912.06

10.1% unemployment

Port Angeles Census Tract 8

10.3% unemployment

Zoom To:

[⊕ Bainbridge Island](#)

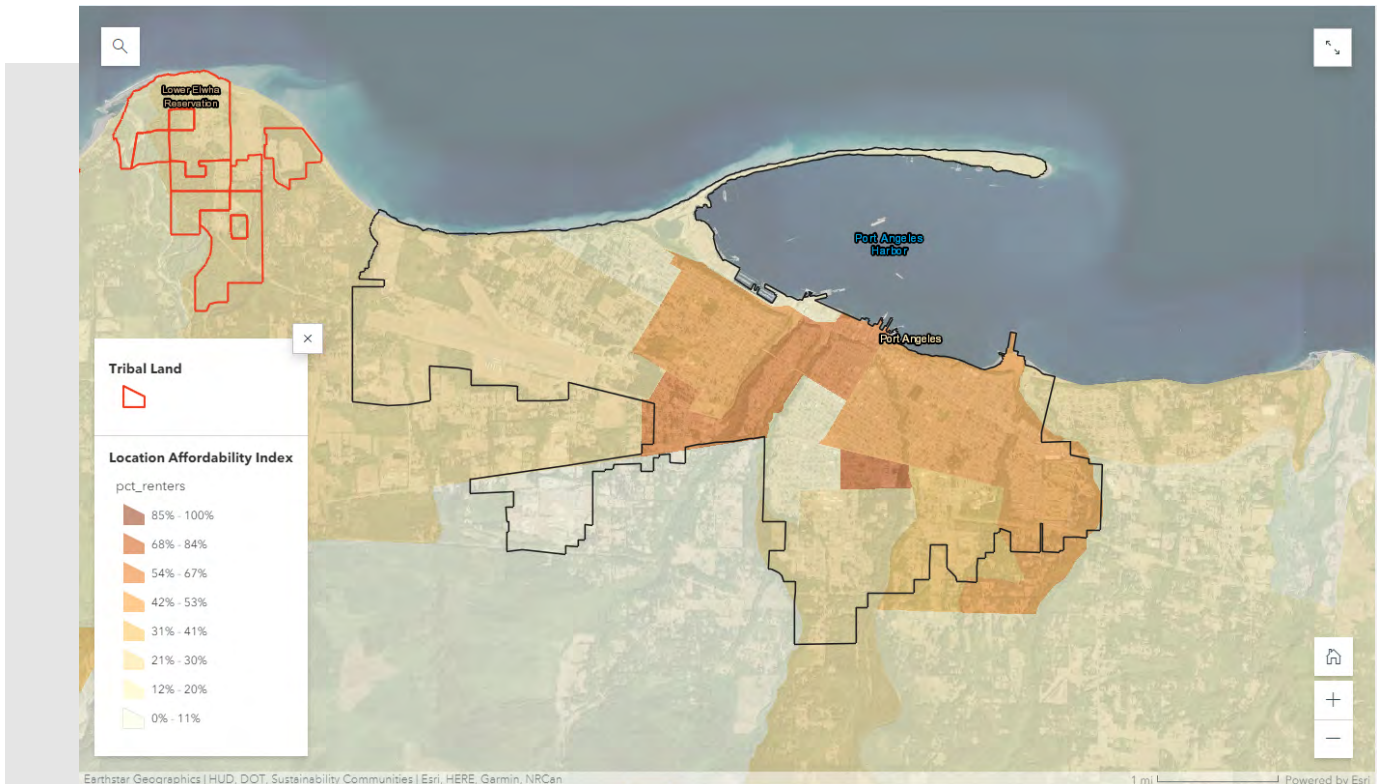
[⊕ Bremerton](#)

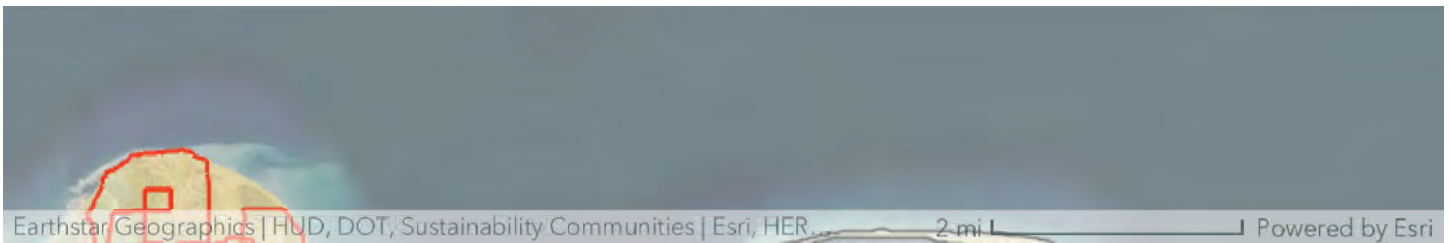
[⊕ Gig Harbor](#)

[⊕ Port Orchard](#)

[⊕ Poulsbo](#)

[⊗ Port Angeles](#)





Housing Affordability

Data Source: 2020 HUD Location Affordability Index

The US Department of Housing & Urban Development uses 24 variables to determine the affordability of a neighborhood (census tract). This information is used to create an index of housing affordability for eight different types of households (varying by income, size and commuters). Two of the largest expenses when defining the affordability of an area: the cost to occupy housing (mortgage or rent) and the associated cost of transportation.

Zoom To:

[⊕ Bainbridge Island](#)

[⊕ Bremerton](#)

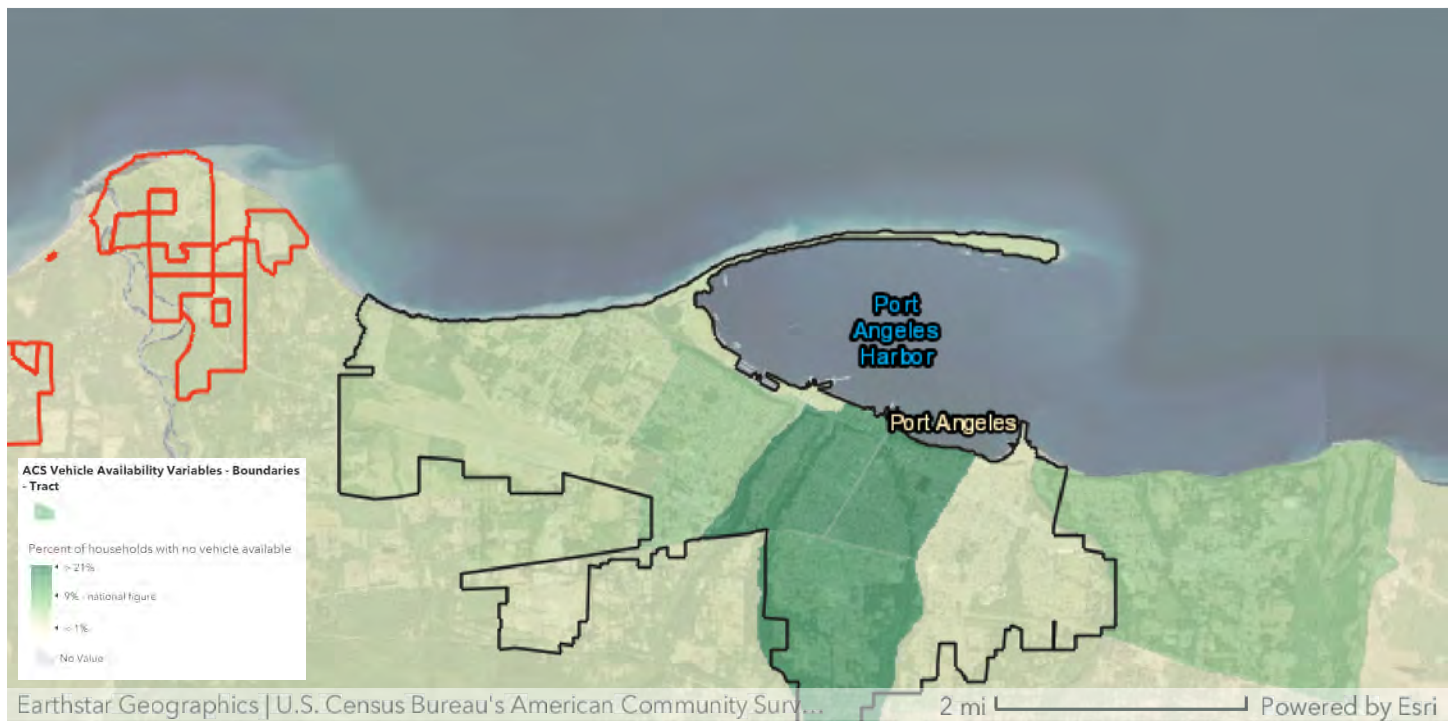
[⊕ Gig Harbor](#)

[⊕ Port Orchard](#)

[⊕ Poulsbo](#)

[⊗ Port Angeles](#)

[⊕ Kitsap County](#)



Transportation Access

Data Source: 2020 (5-yr) ACS Vehicle Availability

Across the US, nine percent of households do not own a vehicle. Within Kitsap County, this percentage ranges from 0% to 20%, with areas of lowest vehicle ownership having access to public transit via bus or ferry.

Outside Kitsap County, there are vehicle disparities in places like Port Angeles, particularly Census Tract 9, where 24.5% (344 households) do not have a vehicle.

Zoom To:

[⊕ Bainbridge Island](#)

[⊕ Bremerton](#)

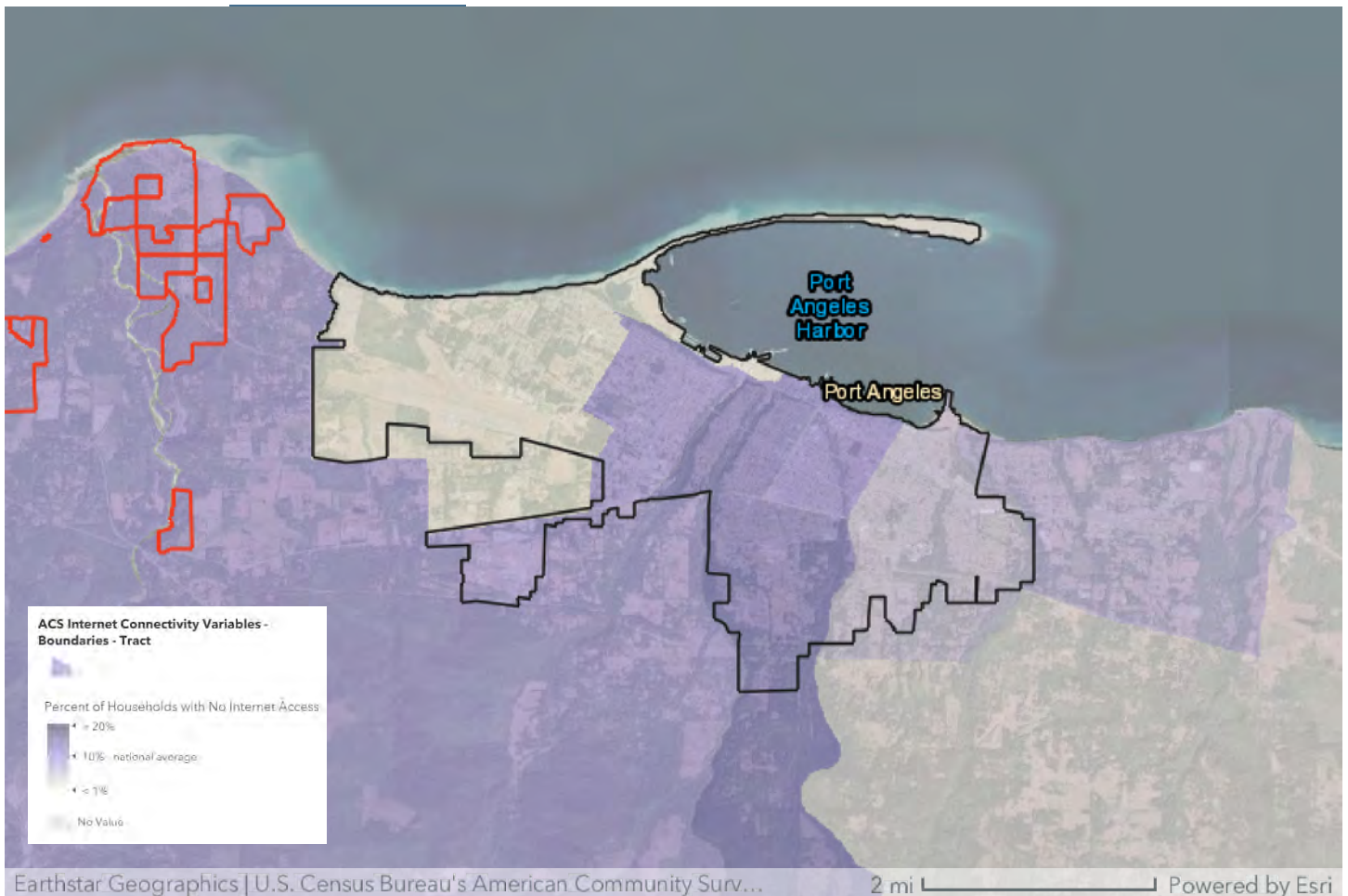
[⊕ Gig Harbor](#)

[⊕ Port Orchard](#)

⊕ Poulsbo

⊗ Port Angeles

⊕ Kitsap County



Internet Access

Data Source: 2020 (5-yr) ACS Internet Connectivity

Agencies distributing information online has become a common, if not expected practice. Simply putting information online does not guarantee it will be accessible by those who benefit most from that information. For this reason, it is important to understand where neighborhoods have fewer people obtaining information online.

Overall, people across Kitsap County have access to the internet – neighborhoods without traditional internet

subscriptions appear to utilize cell phone data to stay connected online. The cities of Poulsbo, Bremerton, and Port Orchard include areas where connectivity ranges from 100% to 88% of households.

Zoom To:

[⊕ Bainbridge Island](#)

[⊕ Bremerton](#)

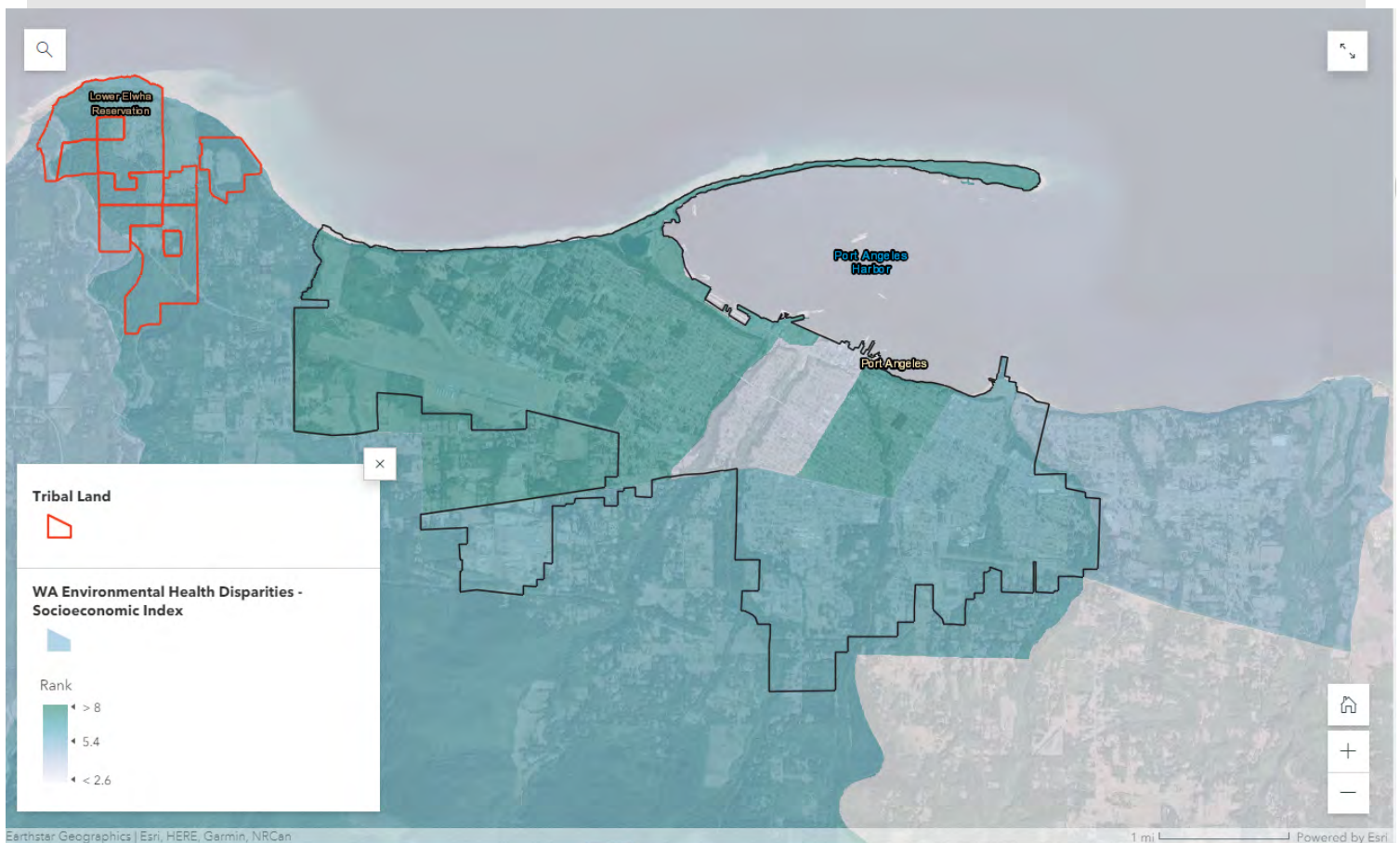
[⊕ Gig Harbor](#)

[⊕ Port Orchard](#)

[⊕ Poulsbo](#)

[⊗ Port Angeles](#)

[⊕ Kitsap County](#)



WA DOH Environmental Health Disparities Socioeconomic Index

Data Source: 2020 WA DOH Environmental Health Disparities Index

The Washington Environmental Health Disparities Map is an interactive mapping tool that compares communities across our state for environmental health disparities.

This index map combines the following 2017 socioeconomic data:

- ACS Limited English Proficiency
- No High School Diploma
- People of Color (Race/Ethnicity)
- Population Living in Poverty
- Transportation Expense
- Unaffordable Housing

To view additional public health, environmental exposure and effect data, click the button below to launch the WA DOH map tool.

[View DOH Map Tool](#)

Zoom To:

[⊕ Bainbridge Island](#)

[⊕ Bremerton](#)

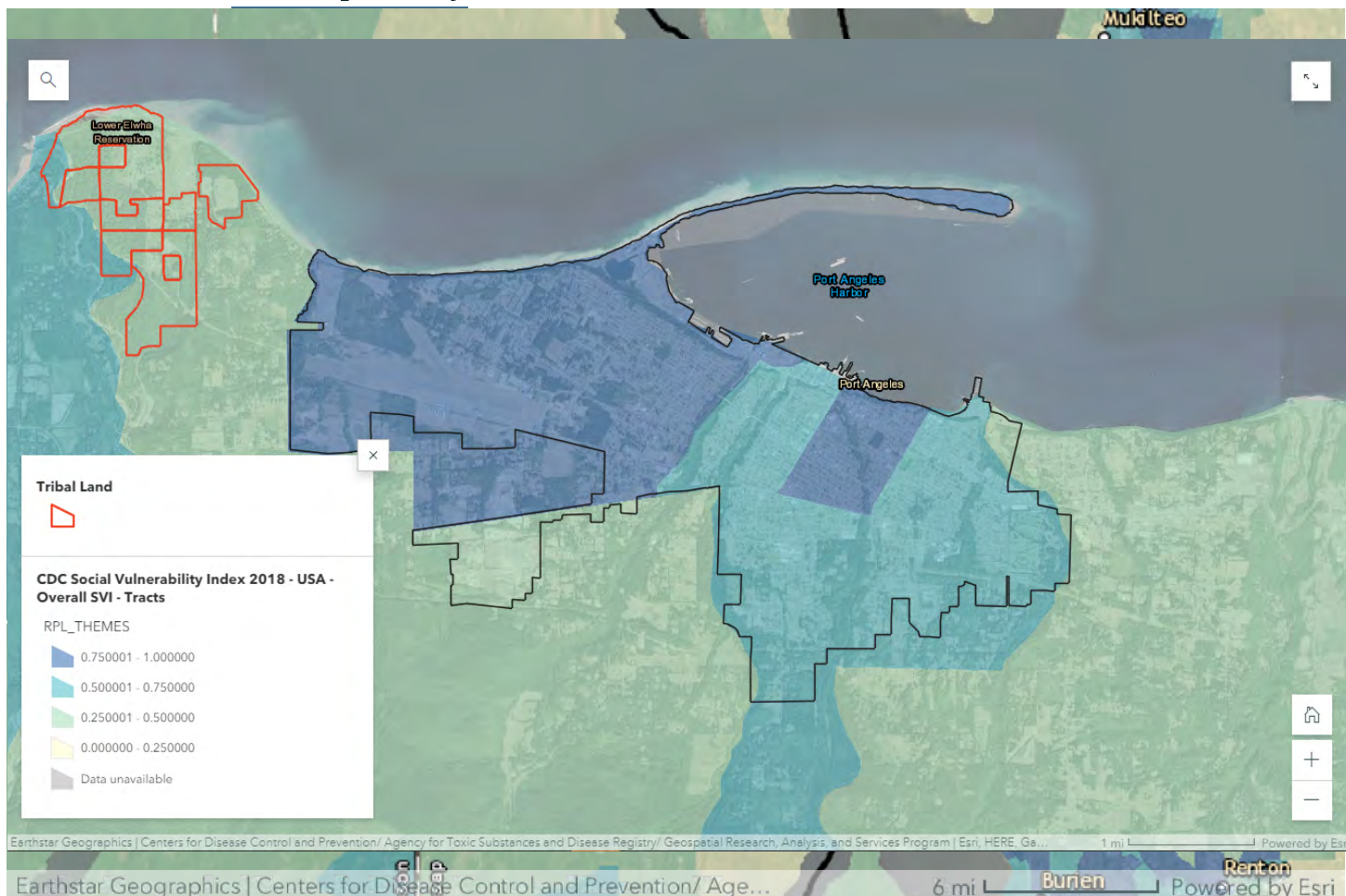
[⊕ Gig Harbor](#)

[⊕ Port Orchard](#)

[⊕ Poulsbo](#)

[⊗ Port Angeles](#)

[⊕ Kitsap County](#)



Composite Socioeconomic Factors

Data Source: 2018 CDC Social Vulnerability Index

The Social Vulnerability Index helps agencies develop emergency response plans. Using 15 variables, the agencies prioritize neighborhoods that would need support through the life of a hazardous event.

Counties in the top 10%, i.e., at the 90th percentile of values, are given a value of 1 to indicate high vulnerability. Counties below the 90th percentile are given a value of 0. The index is created by ranking four major themes: socioeconomic

conditions, household composition, minorities, and housing or transportation. Explore the data to best understand how these communities rank across the four major themes.

Zoom To:

[⊕ Bainbridge Island](#)

[⊕ Bremerton](#)

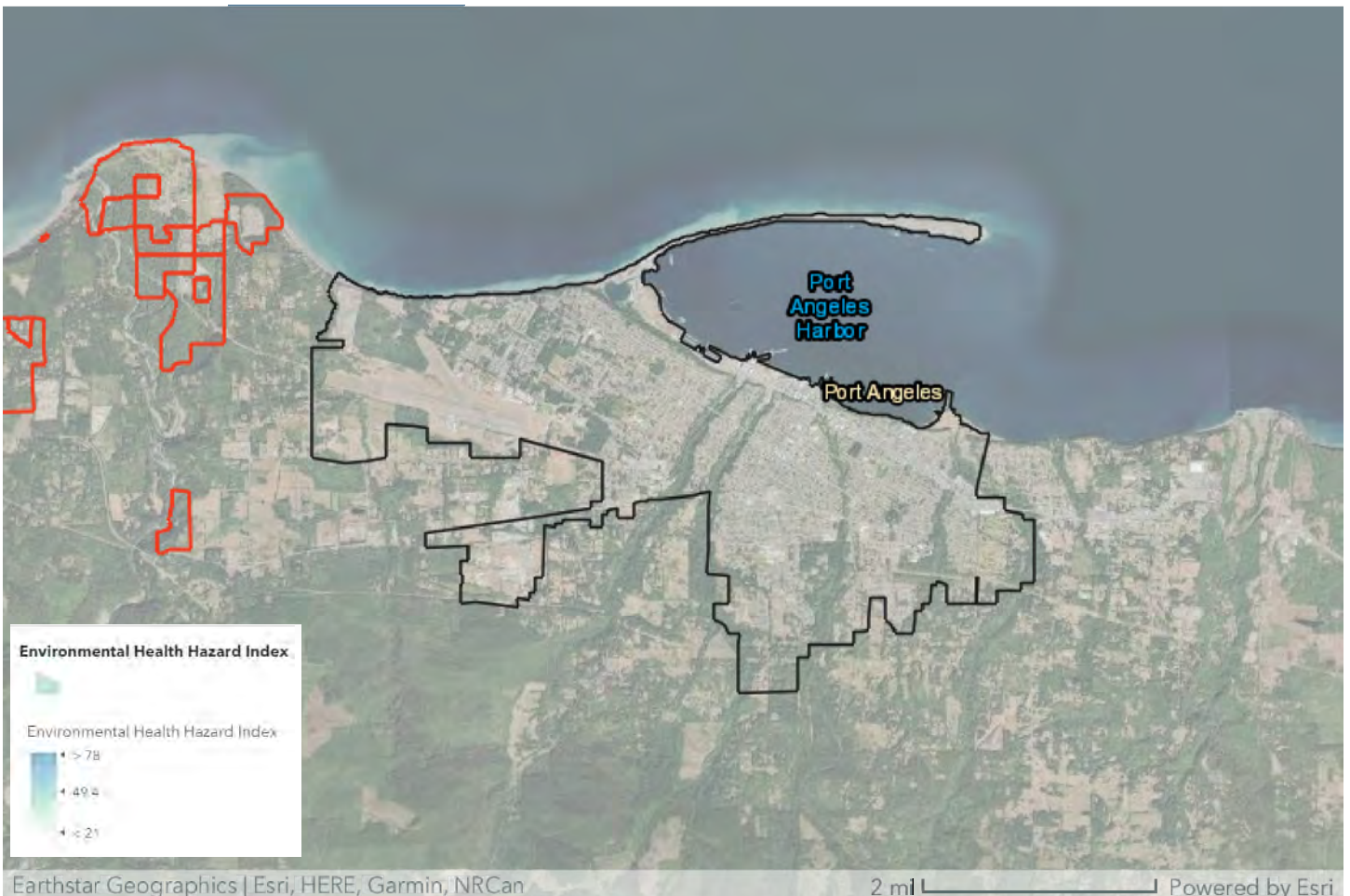
[⊕ Gig Harbor](#)

[⊕ Port Orchard](#)

[⊕ Poulsbo](#)

[⊕ Port Angeles](#)

[⊕ Kitsap County](#)



Health & Environment

With a general understanding of a community's demographic and socioeconomic conditions, agencies can evaluate the ways communities are impacted by health disparities or environmental impacts.

Environmental Health Hazard Index

Data Source: 2018 HUD Environmental Health Hazard Index

The EPA has developed an index compiling air quality, respiratory, and neurological hazards to display a neighborhood's risk of exposure to harmful toxins.

Values range from 0 to 100. The higher the index value, the less exposure to toxins harmful to human health. Therefore, the higher the value, the better the environmental quality of a neighborhood, where a neighborhood is defined as a census block-group.

Areas with the most risk to harmful toxins are located within Bremerton and Gig Harbor with areas indexed as low as 15.

Zoom To:

[⊕ Bainbridge Island](#)

[⊕ Bremerton](#)

[⊕ Gig Harbor](#)

[⊕ Port Orchard](#)

[⊕ Poulsbo](#)

[⊗ Port Angeles](#)

⊕ Kitsap County

Health status can change daily.

1. Zoom in and click on a beach or marine area for information about its **health status**. Click beaches for **harvesting seasons**.
2. Visit the [Department of Fish & Wildlife's website](#) for statewide harvest rules including **size restrictions, bag limits, site specific information, and additional rules**.
3. Beach locations are approximate. Never harvest on private tidelands without permission.

[Mobile Friendly Version](#)

Go

Washington State Department of Health
Shellfish Safety Information

Legend Links S

Last Update: Thu, 23 Mar 2023 03:00:55 PDT

Washington shellfish resources are managed by both the DOH (safety and water quality) and WDFW (harvest regulations).

Beach Status

All areas are closed for recreational (sport) harvest of scallops due to biotoxins.

View options

Abbotsford Okano an

Skagit Okano an

Snohomish Chocoma

Seattle King Kittitas

Pierce

Pacific Lewis 12 Yakima

Last Update: Thu, 23 Mar 2023 03:00:55 PDT

Shellfish Harvesting Safety

Communities reliant on shellfish beaches for food harvesting can be severely impacted by beach closures. With this data, agencies can explore the current conditions of commercial shellfish growing areas and recreational shellfish beaches.

Use the WADOH map tool to explore current closures. The link below provides this information in a list format (PDF).

[Current Closures](#)

Communications Strategies

After exploring and defining overburdened communities, it is important to implement communication plans that will go above and beyond standard engagement methods.

The following analysis and recommendations were developed to provide the County and respective jurisdictions a range of communication strategies to reach various overburdened communities.

Local and Regional Data Comparisons

The following Comparison Table includes 64 demographic and socioeconomic indicators that could help to identify overburdened populations.

The table compares Bainbridge Island, Bremerton, Gig Harbor, Port Angeles, Port Orchard, Poulsbo, and unincorporated Kitsap County with benchmarks that include county, state, and national averages.

[Download Comparison Table](#)

General Community Descriptions

Esri Tapestry Segmentation data provides a general overview of all populations within a jurisdiction.

Tapestry is a geodemographic segmentation system that integrates consumer traits with residential characteristics to classify U.S. neighborhoods. Neighborhoods with the most similar characteristics are grouped together, while neighborhoods with divergent characteristics are separated. Tapestry Segmentation combines the *who* of lifestyle

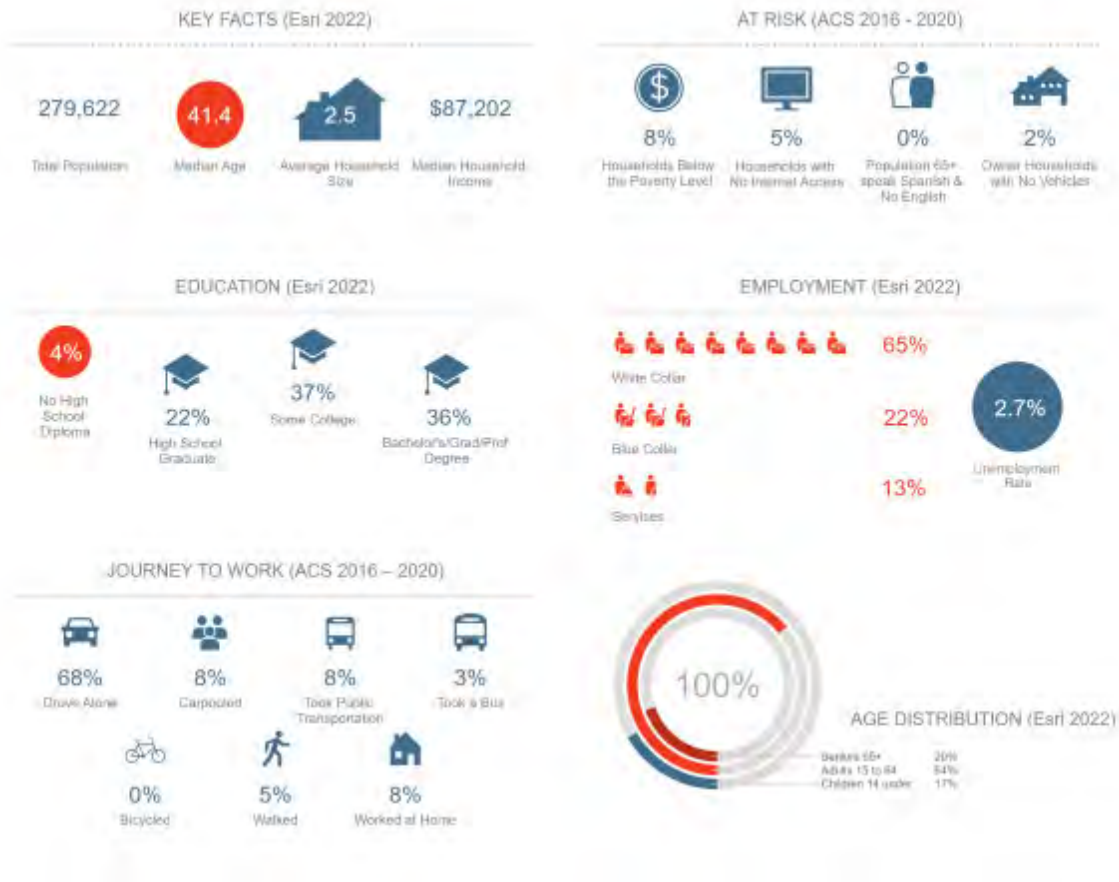
demography with the *where* of local geography to create a classification model with 67 distinct behavioral segments, based on demographics and socioeconomic characteristics..

People have unique needs. Understanding the uniqueness of different personas geographically can help plan outreach strategies.

The Top 3 Tapestry Segments are presented here for each jurisdiction. These descriptions characterize *the general population* and may serve as a reference. *They are not specific to potentially overburdened groups.*

Kitsap County Profile & Core Strategies

With a population of approximately 280,000 people, there are four jurisdictions and numerous unincorporated communities within Kitsap County. The median age is 41 years old, with 40% of those people having a bachelor's degree or higher. Across the County, the median income is \$87,000 with an average home value of \$443,000 and a household size of 2.5 people.



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomic statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

Infographic Profile

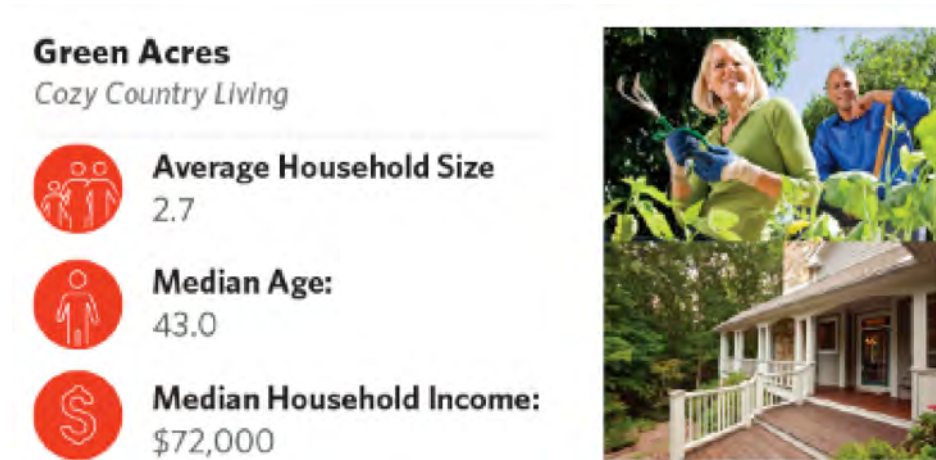
General Population

Top 3 Tapestry Segments - Kitsap County

1. Green Acres: 13.8%

"The Green Acres lifestyle features country living and self-reliance. They are avid do-it-yourselfers, maintaining and remodeling their homes, with all the necessary power tools to accomplish the jobs. Gardening, especially growing vegetables,

is also a priority, again with the right tools, tillers, tractors, and riding mowers. Outdoor living also features a variety of sports: hunting and fishing, motorcycling, hiking and camping, and even golf. Self-described conservatives, residents of Green Acres remain pessimistic about the near future yet are heavily invested in it."



Source: [Esri Tapestry Segmentation](#)

2. The Great Outdoors: 12.8%

"These neighborhoods are found in pastoral settings throughout the United States. Consumers are educated empty nesters living an active but modest lifestyle. Their focus is land. They are more likely to invest in real estate or a vacation home than stocks. They are active gardeners and partial to homegrown and home-cooked meals. Although retirement beckons, most of these residents still work, with incomes slightly above the US level."

The Great Outdoors

Cozy Country Living



Average Household Size

2.44



Median Age:

47.4



Median Household Income:

\$56,400



Source: [Esri Tapestry Segmentation](#)

3. Front Porches: 7.0%

"Front Porches blends household types, with more young families with children or single households than average. This group is also more diverse than the US. More than half of householders are renters, and many of the homes are older town homes or duplexes. Friends and family are central to Front Porches residents and help to influence household buying decisions. Households tend to own just one vehicle but used only when needed. Income and net worth of these residents are well below the US average."

Front Porches

Middle Ground



Average Household Size

2.57



Median Age:

34.9



Median Household Income:

\$43,700



Source: [Esri Tapestry Segmentation](#)

Overburdened Population

To reach overburdened communities, agencies should focus on creating inclusive, accessible opportunities to provide information and collect input that prioritizes:

- Messages that resonate with each audience
- Fun, welcoming opportunities to engage and use participants' time efficiently
- Stipends or incentives for participation
- Contracting or partnering with trusted leaders or organizations in the target communities

The following suite of core strategies and tools can inform your plans to reach overburdened communities in compliance with permit requirements.

Recommended Core Tools and Strategies for All Jurisdictions

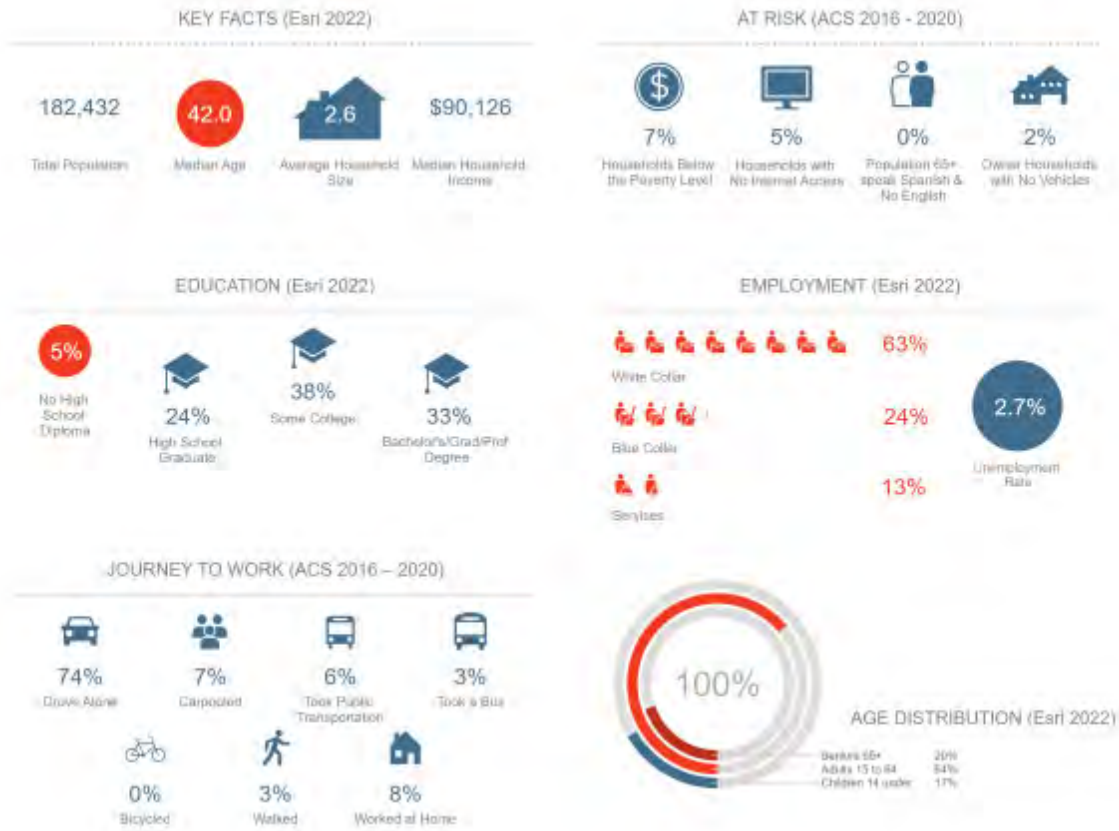
- **Canvassing:** Canvass impacted areas by visiting businesses, residents, and transit stops to provide information and gather input.
- **Community engagement liaison partnerships:** Contract with trusted grassroots community leaders or non-profits who reflect and identify with the community. Liaison services range from recruiting participants to co-creating effective messages, to facilitating in-language focus groups.
- **Materials:** Create visual materials that use plain language. Focus messaging on: "Why should community members care?", "How does this affect them?" and "How can they related to this?" Mail printed materials to impacted areas to reach seniors or those who do not have access to computers or internet service. Online materials should be mobile-friendly and accessible to everyone, including those who have disabilities.

- **Newspaper and radio advertisements:** Advertise project information and events in local newspapers, community calendars, and on the radio to reach seniors or those who do not have computers or internet service.
- **Public meetings and events:** Create welcoming, fun community events with project information sharing and gathering as the secondary activity. Select venues that are transit-accessible, familiar, and comfortable. Provide child-care and activities that get kids involved, a meal, and information on other relevant projects and services to create a one-stop-shop event. Be mindful of all religious holidays.
- **Property manager coordination (multi-unit dwellings):** Coordinate with property managers to distribute materials or host small gatherings for impacted residents.
- **Reach people where they are:** Make participation convenient by meeting people where they already are. Host information tables and post information in high-traffic areas frequented by key audiences such as grocery stores, farmers' markets, churches, laundromats, community centers, medical facilities, social services agencies, and libraries.
- **School outreach:** Host student-friendly public meetings and distribute information to students to later share with parents, grandparents, and other family members.
- **Stakeholder emails and text messages:** Send emails and text messages via stakeholder lists. Provide links to translated materials as needed.
- **Social media:** Post information and engage on community-specific pages on NextDoor or Facebook.

Unincorporated Kitsap County Profile

Approximately 65% of people living within Kitsap County live in unincorporated areas. The primary demographic and

socioeconomic composition of communities in unincorporated areas is very similar to those seen across the entire county; with nominal differences in median age, income, home values, education and 2022 unemployment.



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomic statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

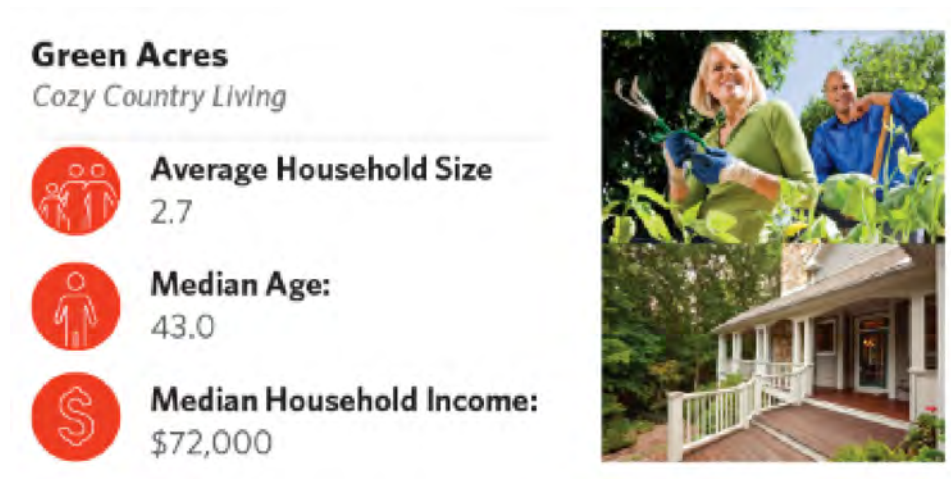
[Infographic Profile](#)

General Population

Top 3 Tapestry Segments - Unincorporated Kitsap County

1. Green Acres: 23.0%

"The Green Acres lifestyle features country living and self-reliance. They are avid do-it-yourselfers, maintaining and remodeling their homes, with all the necessary power tools to accomplish the jobs. Gardening, especially growing vegetables, is also a priority, again with the right tools, tillers, tractors, and riding mowers. Outdoor living also features a variety of sports: hunting and fishing, motorcycling, hiking and camping, and even golf. Self-described conservatives, residents of Green Acres remain pessimistic about the near future yet are heavily invested in it."



Source: [Esri Tapestry Segmentation](#)

2. The Great Outdoors: 16.7%

"These neighborhoods are found in pastoral settings throughout the United States. Consumers are educated empty nesters living an active but modest lifestyle. Their focus is land. They are more likely to invest in real estate or a vacation home than stocks. They are active gardeners and partial to homegrown and home-cooked meals. Although retirement beckons, most of these residents still work, with incomes slightly above the US level."

The Great Outdoors

Cozy Country Living



Average Household Size

2.44



Median Age:

47.4



Median Household Income:

\$56,400



Source: [Esri Tapestry Segmentation](#)

3. Comfortable Empty Nesters: 9.3%

"Residents in this large, growing segment are older, with nearly half of all householders aged 55 or older; many still live in the suburbs where they grew up. Most are professionals working in government, health care, or manufacturing. These Baby Boomers are earning a comfortable living and benefitting from years of prudent investing and saving. Their net worth is well above average (Index 314). Many are enjoying the transition from child-rearing to retirement. They value their health and financial well-being."

Comfortable Empty Nesters

GenXurban



Average Household Size

2.52



Median Age:

48.0



Median Household Income:

\$75,000



Source: [Esri Tapestry Segmentation](#)

Overburdened Population

There are several neighborhoods (Census Tracts) within Unincorporated Kitsap County that are disproportionately impacted by environmental and socioeconomic conditions. These communities would qualify as overburdened based on the following criteria:

Socioeconomic

- ACS Poverty Status (several areas slightly above the national average of 13%)
- CDC Social Vulnerability Index (areas of highest concentration north of Bremerton and Silverdale)
- ACS Vehicle Availability
- ACS Internet Connectivity (Census Tract 924 near South Kitsap Regional Park is above the national average of 14%)
- 2022 Unemployment (as high as 21%)

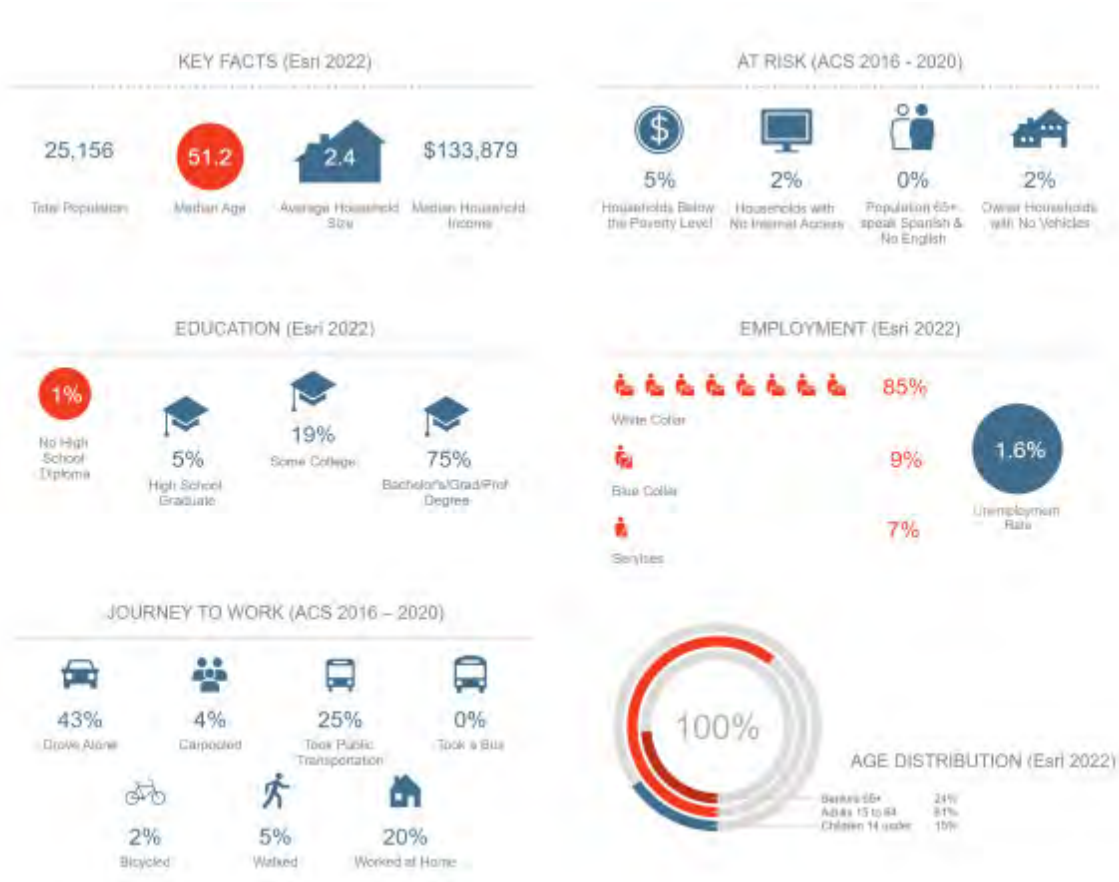
Health & Environment

- Polluted Waters
- Flood Hazard Areas
- WA Environmental Health Disparities Socioeconomic Index

Due to the size of this study area, the community types most overburdened in Unincorporated Kitsap County varies and will require location-specific analysis during each permitting process.

Bainbridge Island Profile & Strategies

A city within Kitsap County and home to approximately 25,000 people, Bainbridge Island is the wealthiest (2022 median income: \$134,000), most educated (75% of people have a bachelor's degree or higher) and oldest (median age: 51.2) population within Kitsap County. Additionally, this city faces the lowest unemployment (1.6%).



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomic statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

Infographic Profile

General Population

Top 3 Tapestry Segments - Bainbridge Island

1. Exurbanites: 31.0%

"Ten years later, Exurbanites residents are now approaching retirement but showing few signs of slowing down. They are active in their communities, generous in their donations, and seasoned travelers. They take advantage of their proximity to

large metropolitan centers to support the arts, but prefer a more expansive home style in less crowded neighborhoods. They have cultivated a lifestyle that is both affluent and urbane."

Exurbanites Affluent Estates



Average Household Size
2.50



Median Age:
51.0



Median Household Income:
\$103,400



Source: Esri Tapestry Segmentation

2. Golden Years: 21.1%

"Independent, active seniors nearing the end of their careers or already in retirement best describes Golden Years residents. This market is primarily singles living alone or empty nesters. Those still active in the labor force are employed in professional occupations; however, these consumers are actively pursuing a variety of leisure interests—travel, sports, dining out, museums, and concerts. They are involved, focused on physical fitness, and enjoying their lives. This market is smaller, but growing, and financially secure."



Source: [Esri Tapestry Segmentation](#)

3. Top Tier: 19.3%

"The residents of the wealthiest Tapestry market, Top Tier, earn more than three times the US household income. They have the purchasing power to indulge any choice, but what do their hearts' desire? Aside from the obvious expense for the upkeep of their lavish homes, consumers select upscale salons, spas, and fitness centers for their personal well-being and shop at high-end retailers for their personal effects. Whether short or long, domestic or foreign, their frequent vacations spare no expense. Residents fill their weekends and evenings with opera, classical music concerts, charity dinners, and shopping. These highly educated professionals have reached their corporate career goals. With an accumulated average net worth of over 3 million dollars and income from a strong investment portfolio, many of these older residents have moved into consulting roles or operate their own businesses."

Top Tier*Affluent Estates***Average Household Size**

2.84

**Median Age:**

47.3

**Median Household Income:**

\$173,200

Source: [Esri Tapestry Segmentation](#)

Overburdened Population

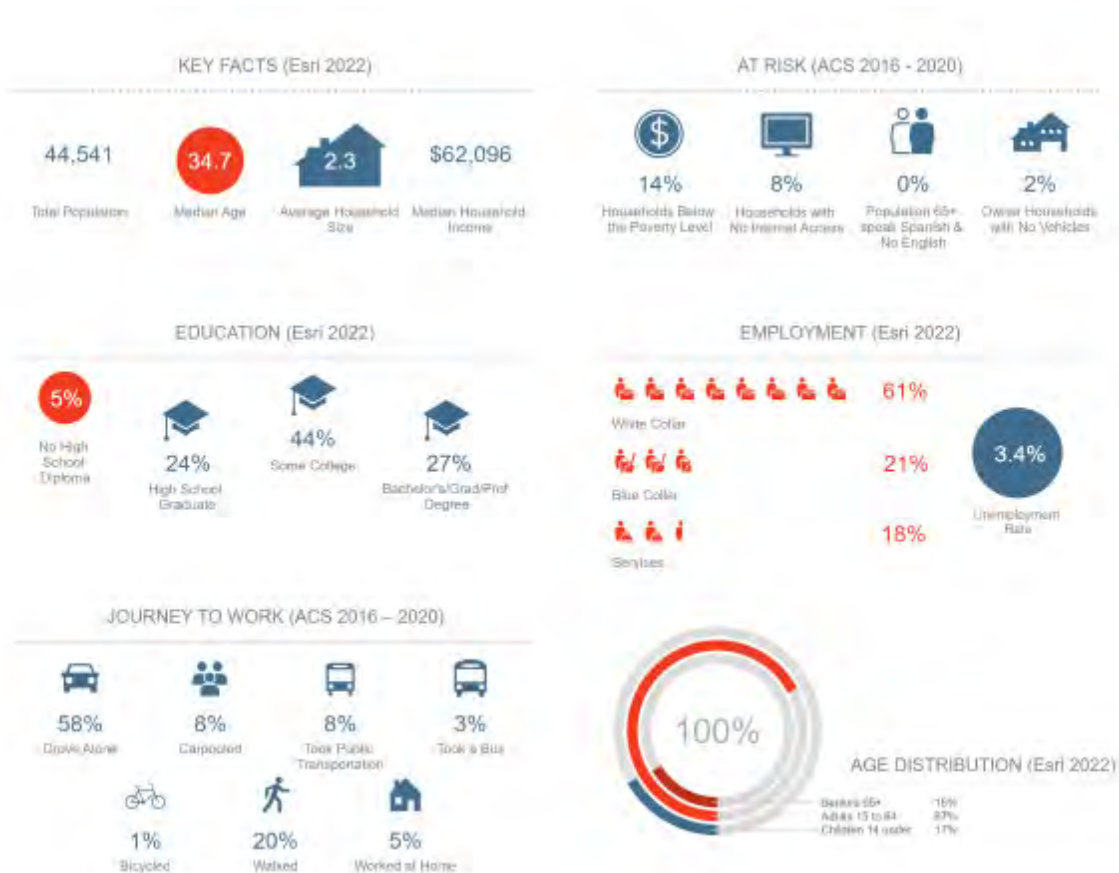
When reviewing demographic and socioeconomic data within Bainbridge, "overburdened" communities requiring extensive and diverse communication techniques were not discovered. Conversely, the people that live in this community are traditionally more engaged in the public involvement process, as they are often more familiar with permitting processes due to education, wealth, and time/ability to access information.

Reaching the General Community in Bainbridge

- Brief, in-person one-on-one meetings, if possible
- Be concise
- May not attend public meetings
- Offer online input opportunity and/or mobile input
- Provide information through schools: backpack stuffers, electronic information sent through school newsletters, etc.
- Send information via text message
- Use the latest technology
- Use privacy protection when possible
- Customized letters
- Expect to spend more money to reach these individuals
- Use more visual images than text in materials
- Reach out through local apps like NextDoor

Bremerton Profile & Strategies

With approximately 45,000 residents, Bremerton is the most populated city within Kitsap County. When exploring demographic and socioeconomic data, Bremerton exhibits great diversity throughout the community, which indicates a holistic communication strategy is essential to reach the populations that are statistically overburdened.



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomic statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

[Infographic Profile](#)

General Population

Top 3 Tapestry Segments - Bremerton

1. Front Porches: 24.9%

"Front Porches blends household types, with more young families with children or single households than average. This group is also more diverse than the US. More than half of householders are renters, and many of the homes are older town homes or duplexes. Friends and family are central to Front Porches residents and help to influence household buying decisions. Households tend to own just one vehicle but used only when needed. Income and net worth of these residents are well below the US average."



Source: [Esri Tapestry Segmentation](#)

2. Set to Impress: 22.0%

"Set to Impress is depicted by medium to large multiunit apartments with lower than average rents. These apartments are often nestled into neighborhoods with other businesses or single-family housing. Nearly one in three residents is 20 to 34 years old, and over half of the homes are single-person and nonfamily households. Although many residents live alone, they preserve close connections with their family. Income levels are

low; many work in food service while they are attending college. This group is always looking for a deal. They are very conscious of their image and seek to bolster their status with the latest fashion. Set to Impress residents are tapped into popular music and the local music scene."

Set to Impress

Midtown Singles



Average Household Size

2.12



Median Age:

33.9



Median Household Income:

\$32,800



Source: [Esri Tapestry Segmentation](#)

3. Retirement Communities: 10.0%

"Retirement Communities neighborhoods are evenly distributed across the country. They combine single-family homes and independent living with apartments, assisted living, and continuous care nursing facilities. Over half of the housing units are in multiunit structures, and the majority of residents have a lease. This group enjoys watching cable TV and stays up-to-date with newspapers and magazines. Residents take pride in fiscal responsibility and keep a close eye on their finances. Although income and net worth are well below national averages, residents enjoy going to the movies, fishing, and taking vacations. While some residents enjoy cooking, many have paid their dues in the kitchen and would rather dine out."

Retirement Communities

Senior Styles



Average Household Size

1.88



Median Age:

53.9



Median Household Income:

\$40,800



Source: [Esri Tapestry Segmentation](#)

Overburdened Population

There are several neighborhoods (Census Tracts) within Bremerton that are disproportionately impacted by environmental and socioeconomic conditions.

These overburdened communities, connected by the Warren Ave and Manette bridges could qualify as overburdened based on the following criteria:

Socioeconomic

- WA Environmental Health Disparities – Socioeconomic index
- ACS Poverty Status
- CDC Social Vulnerability Index
- ACS Educational attainment
- ACS Vehicle Availability (*Note: These areas have high transit access.*)
- ACS Internet Connectivity
- 2022 USA Unemployment (as high as 25%)

Health & Environment

- Environmental Health Hazard Index (as low as 15, with 0 indicating worst possible conditions)

Overburdened Audiences

The audiences identified below include subsets of the larger minority, low-income, tribal, and indigenous populations outlined in Special Conditions S.5.C.2.a.i and S.5.C.3.a.

- Filipino-Americans
- Households with no internet access
- Low-income community members
- Multi-unit dwelling residents
- Seniors
- Spanish speakers
- Transit-dependent community members

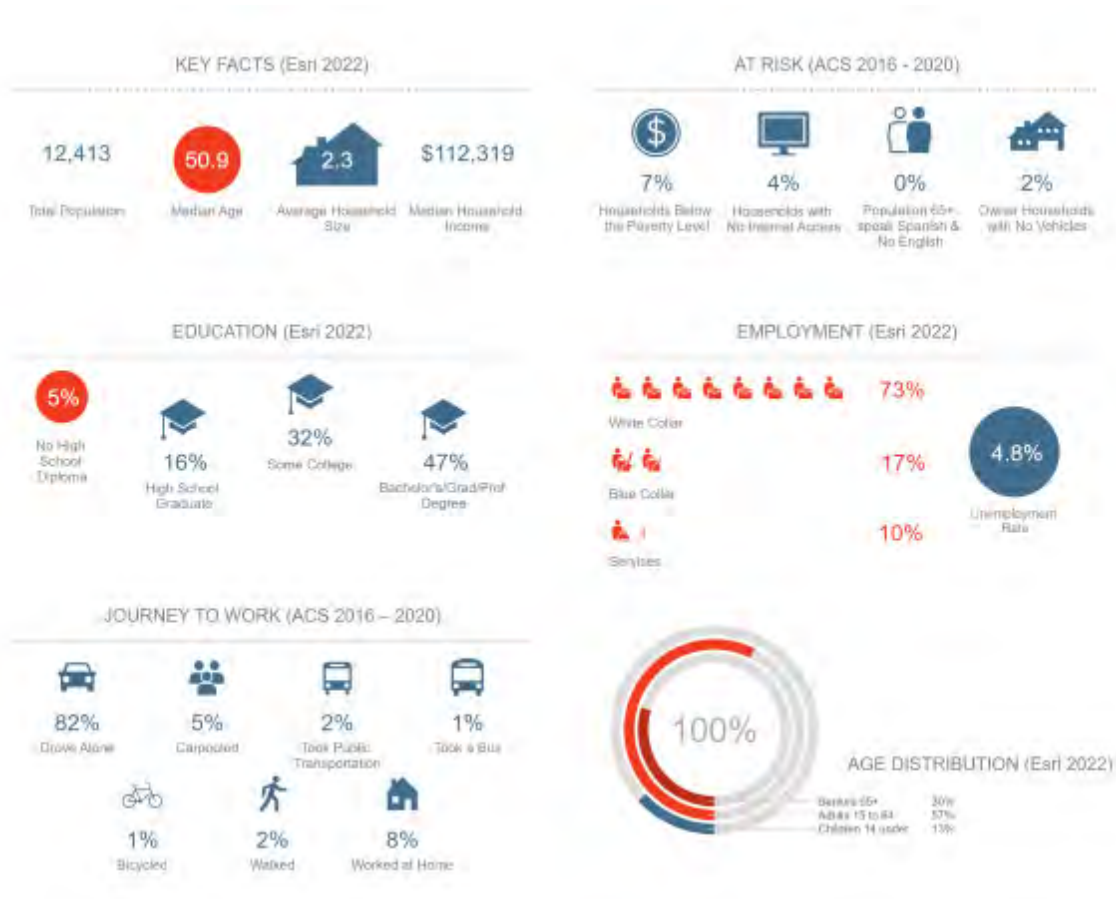
Reaching Overburdened Communities in Bremerton

Examples of applying the suite of core strategies and tools locally:

- **Reach people where they are:** Host an information table at the Filipino-American Community Center to reach Filipino-Americans.
- **Community engagement partnerships/translated materials:** Host a family-friendly event with Kitsap Mesa Redonda. Provide information translated into Spanish and a Spanish language interpreter.
- **Printed materials:** Reach households with no internet and low-income community members by including pre-addressed and stamped project surveys in Bremerton Foodline boxes.
- **Newspaper advertisement:** Reach seniors by including a public meeting notification in the Kitsap Sun.
- **Public meetings:** Reach transit riders by hosting a meeting with a meal and giveaways like transit passes at the Gateway Center.

Gig Harbor Profile & Strategies

While Gig Harbor falls within Pierce County, not Kitsap County, this city has the smallest population (~12,000) with a 2022 median household income of \$112,319, 47% of people have a bachelor’s degree or higher, with the median age of 50.9.



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomics statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

[Infographic Profile](#)

General Population

Top 3 Tapestry Segments - Gig Harbor

1. Exurbanites: 42.9%

"Ten years later, Exurbanites residents are now approaching retirement but showing few signs of slowing down. They are active in their communities, generous in their donations, and seasoned travelers. They take advantage of their proximity to large metropolitan centers to support the arts, but prefer a more expansive home style in less crowded neighborhoods. They have cultivated a lifestyle that is both affluent and urbane."

Exurbanites Affluent Estates



Average Household Size
2.50



Median Age:
51.0



Median Household Income:
\$103,400



Source: Esri Tapestry Segmentation

2. Golden Years: 39.6%

"Independent, active seniors nearing the end of their careers or already in retirement best describes Golden Years residents. This market is primarily singles living alone or empty nesters. Those still active in the labor force are employed in professional occupations; however, these consumers are actively pursuing a variety of leisure interests—travel, sports, dining out, museums, and concerts. They are involved, focused on physical fitness, and enjoying their lives. This market is smaller, but growing, and financially secure."

Golden Years

Senior Styles



Average Household Size

2.06



Median Age:

52.3



Median Household Income:

\$71,700



Source: [Esri Tapestry Segmentation](#)

3. Old and Newcomers: 9.2%

"This market features singles' lifestyles, on a budget. The focus is more on convenience than consumerism, economy over acquisition. Old and Newcomers is composed of neighborhoods in transition, populated by renters who are just beginning their careers or retiring. Some are still in college; some are taking adult education classes. They support charity causes and are environmentally conscious. Age is not always obvious from their choices."

Old and Newcomers

Middle Ground



Average Household Size

2.12



Median Age:

39.4



Median Household Income:

\$44,900



Source: [Esri Tapestry Segmentation](#)

Overburdened Population

Like Bainbridge Island, the communities within Gig Harbor are highly educated, wealthy and older populations that are predominantly White alone (88%). Overall, there is one community within Gig Harbor (Census Tract 724,07) that could qualify as overburdened based on the following criteria:

Socioeconomic

- WA Environmental Health Disparities – Socioeconomic index
- CDC Social Vulnerability Index
- USA Crime Index (with areas up to two times the national average)
- 2020 USA Unemployment (as high as 21%)

Health & Environment

- Environmental Health Hazard Index (as low as 38, with 0 indicating worst possible conditions)
- USA Flood hazards (1% annual chance flood hazard running through burdened community)
- USA Polluted Waters (metal-impaired waterways running through the community without indicators of being overburdened)

Overburdened Audiences

The audiences identified below include subsets of the larger minority, low-income, tribal, and indigenous populations outlined in Special Conditions S.5.C.2.a.i and S.5.C.3.a.

- Low-income community members
- Multi-unit dwelling residents
- Seniors
- Spanish speakers

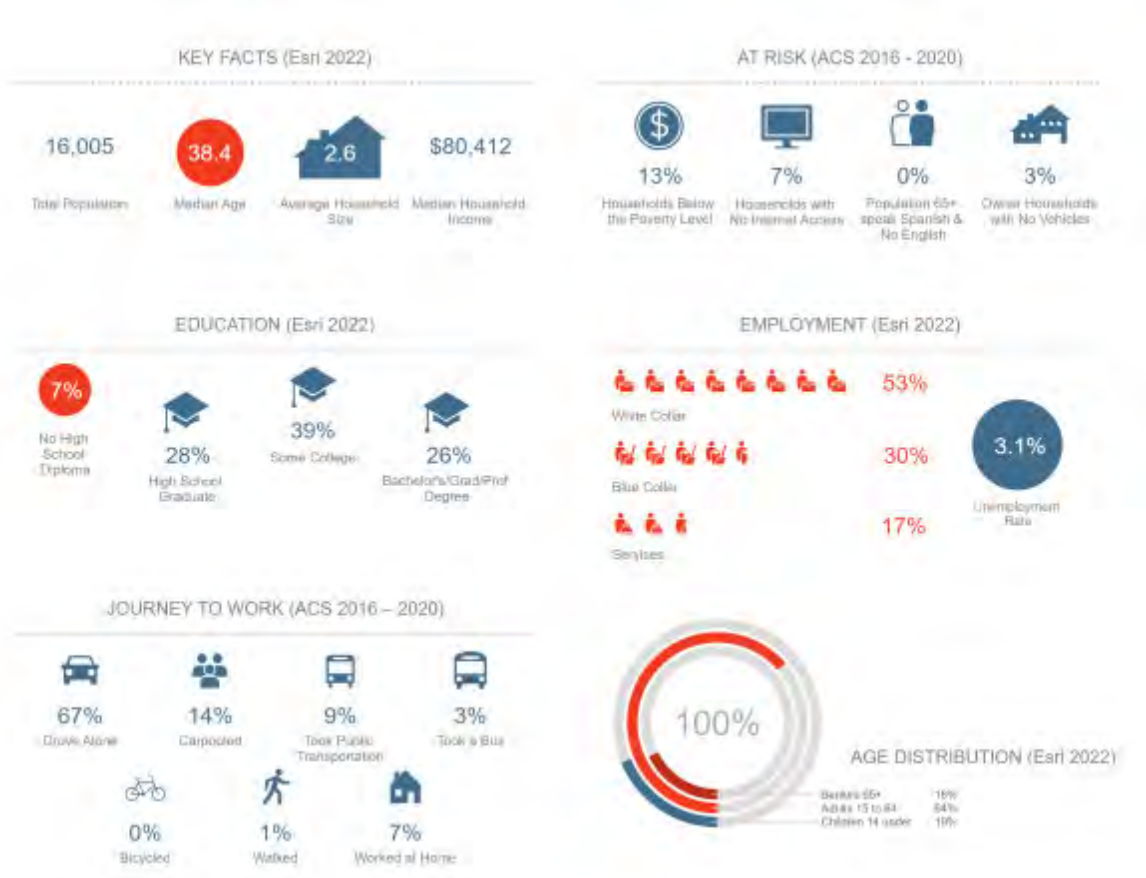
Reaching Overburdened Communities in Gig Harbor

Examples of applying the suite of core strategies and tools locally:

- **Public-centered meetings/social media:** Reach low-income community members by working with Harbor Hope Center to host a clothing swap at a project meeting. The organization currently has a clothing program to provide new clothes to students. Notify people about the event through Harbor Hope's Facebook page and other partner channels.
- **Collaborate with property managers/public-centered meetings/canvassing:** Reach residents at multi-unit dwellings by hosting a breakfast for residents and offer childcare in a complex community room.
- **Translated materials/reach people where they are:** Reach Spanish speakers with bi-lingual surveys and a collection box available at Sea Mar Community Health Center.

Port Orchard Profile & Strategies

Port Orchard shares a similar socioeconomic composition to Bremerton, with significant differences being the population (16,005), median household income (\$80,412) and home value (\$373,318).



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomic statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

Infographic Profile

General Population

Top 3 Tapestry Segments - Port Orchard

1. Middleburg: 24.6%

"Middleburg neighborhoods transformed from the easy pace of country living to semirural subdivisions in the last decade, when the housing boom reached out. Residents are conservative, family-oriented consumers. Still more country

than rock and roll, they are thrifty but willing to carry some debt and are already investing in their futures. They rely on their smartphones and mobile devices to stay in touch and pride themselves on their expertise. They prefer to buy American and travel in the US. This market is younger but growing in size and assets."



Source: [Esri Tapestry Segmentation](#)

2. The Great Outdoors: 18.4%

"These neighborhoods are found in pastoral settings throughout the United States. Consumers are educated empty nesters living an active but modest lifestyle. Their focus is land. They are more likely to invest in real estate or a vacation home than stocks. They are active gardeners and partial to homegrown and home-cooked meals. Although retirement beckons, most of these residents still work, with incomes slightly above the US level."

The Great Outdoors

Cozy Country Living



Average Household Size

2.44



Median Age:

47.4



Median Household Income:

\$56,400



Source: [Esri Tapestry Segmentation](#)

3. Parks and Rec: 16.3%

"These practical suburbanites have achieved the dream of homeownership. They have purchased homes that are within their means. Their homes are older, and townhomes and duplexes are not uncommon. Many of these families are two-income married couples approaching retirement age; they are comfortable in their jobs and their homes, budget wisely, but do not plan on retiring anytime soon or moving. Neighborhoods are well established, as are the amenities and programs that supported their now independent children through school and college. The appeal of these kid-friendly neighborhoods is now attracting a new generation of young couples."

Parks and Rec

GenXurban



Average Household Size

2.51



Median Age:

40.9



Median Household Income:

\$60,000



Source: [Esri Tapestry Segmentation](#)

Overburdened Population

Communities on the eastern limits of the city (particularly Census Tract 922) could be considered overburdened based on the following criteria:

Socioeconomic

- WA Environmental Health Disparities – Socioeconomic index
- ACS Poverty Status
- CDC Social Vulnerability Index
- ACS Educational attainment
- ACS Internet Connectivity
- Esri Unemployment (as high as 18%)

Health & Environment

- USA Flood hazards (1% annual chance flood hazard running through burdened communities)
- USA Polluted Waters (pathogen-impaired waterways running through burdened communities)

Overburdened Audiences

The audiences identified below include subsets of the larger minority, low-income, tribal, and indigenous populations outlined in Special Conditions S.5.C.2.a.i and S.5.C.3.a.

- Households with no internet access
- Low-income community members
- Multi-unit dwelling residents
- Transit dependent community members

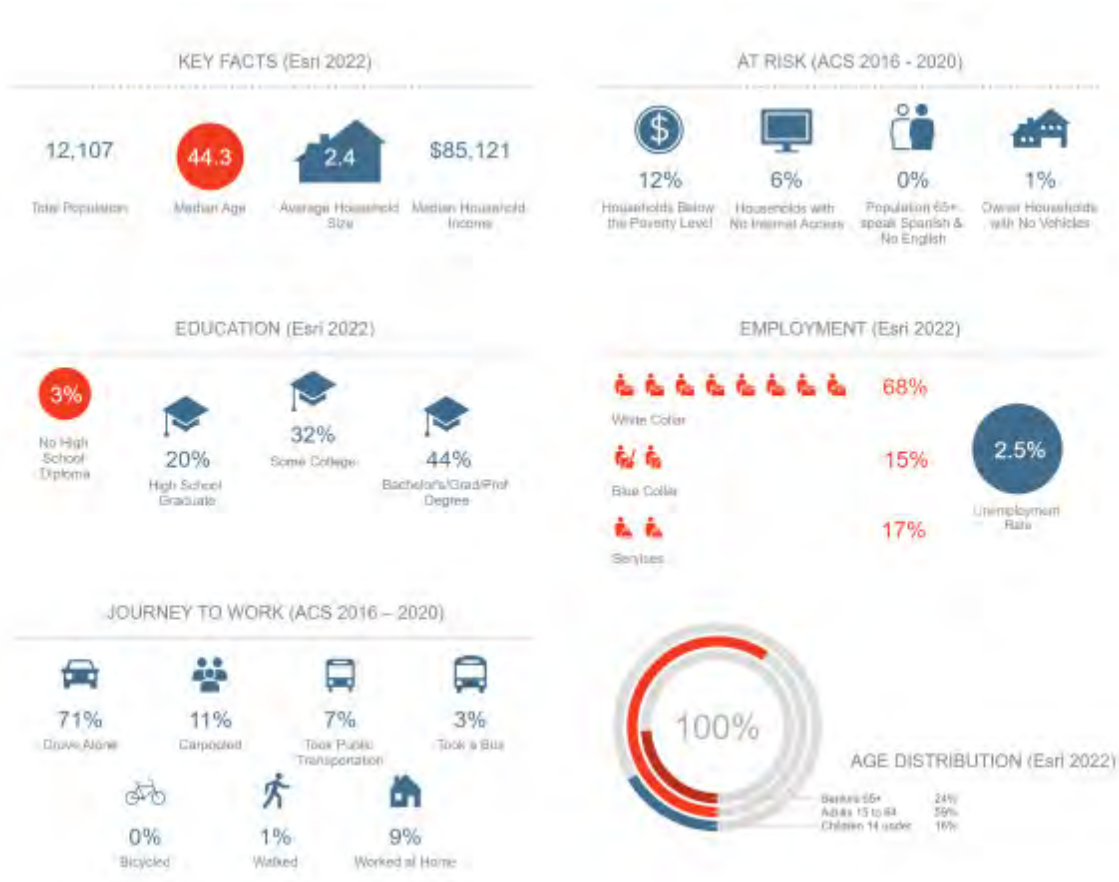
Reaching Overburdened Communities in Port Orchard

Examples of applying the suite of core strategies locally:

- **Collaborate with property managers and use stipends and incentives:** Reach low-income apartment residents by holding a focus group, providing participants \$30 gift cards for their time.
 - **Canvass transit stops:** Reach transit-dependent community members by posting flyers and conducting intercept surveys at busy Kitsap Transit stops.
 - **Incentives/social media/printed materials:** Reach overburdened communities by using targeted social media and a mailed postcard to provide a survey link and an incentive to enter participants in a raffle to win an annual transit pass or other gift cards.
-

Poulsbo Profile & Strategies

The northernmost jurisdiction within Kitsap County is home to 12,107 people. When compared against other jurisdictions, the basic demographic and socioeconomic data shows Poulsbo appears to be the “middle ground”.



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomic statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

Infographic Profile

General Population

Top 3 Tapestry Segments - Poulsbo

1. Old and Newcomers: 28.6%

"This market features singles' lifestyles, on a budget. The focus is more on convenience than consumerism, economy over acquisition. Old and Newcomers is composed of neighborhoods in transition, populated by renters who are just beginning their

careers or retiring. Some are still in college; some are taking adult education classes. They support charity causes and are environmentally conscious. Age is not always obvious from their choices."

Old and Newcomers

Middle Ground



Average Household Size

2.12



Median Age:

39.4



Median Household Income:

\$44,900



Source: Esri Tapestry Segmentation

2. Golden Years: 25.8%

"Independent, active seniors nearing the end of their careers or already in retirement best describes Golden Years residents. This market is primarily singles living alone or empty nesters. Those still active in the labor force are employed in professional occupations; however, these consumers are actively pursuing a variety of leisure interests—travel, sports, dining out, museums, and concerts. They are involved, focused on physical fitness, and enjoying their lives. This market is smaller, but growing, and financially secure."



Source: [Esri Tapestry Segmentation](#)

3. Middleburg: 16.3%

"Middleburg neighborhoods transformed from the easy pace of country living to semirural subdivisions in the last decade, when the housing boom reached out. Residents are conservative, family-oriented consumers. Still more country than rock and roll, they are thrifty but willing to carry some debt and are already investing in their futures. They rely on their smartphones and mobile devices to stay in touch and pride themselves on their expertise. They prefer to buy American and travel in the US. This market is younger but growing in size and assets."



Source: [Esri Tapestry Segmentation](#)

Overburdened Population

Communities in Poulsbo could be considered overburdened based on the following criteria:

Socioeconomic

- WA Environmental Health Disparities Socioeconomic Index
- ACS Poverty Status (below the national average, but adjacent to Liberty Bay)
- CDC Social Vulnerability Index
- Linguistic Isolation (up to 5.3% of population 18+ has limited English ability, predominately speaking Spanish or Asian languages)
- Seniors living alone or with a disability (23% of the population is over 65 years of age)
- ACS Internet Connectivity (below the national average, but adjacent to Liberty Bay)
- 2020 Unemployment (as high as 20%)

Health & Environment

- Flood hazards (1% annual chance flood hazard intersects burdened communities)

Overburdened Audiences

The audiences identified below include subsets of the larger minority, low-income, tribal, and indigenous populations outlined in Special Conditions S.5.C.2.a.i and S.5.C.3.a.

- Hispanic communities
- Households with no internet access
- Low-income community members
- Multi-unit dwelling residents
- Seniors
- Transit-dependent community members

Reaching Overburdened Communities in Poulsbo

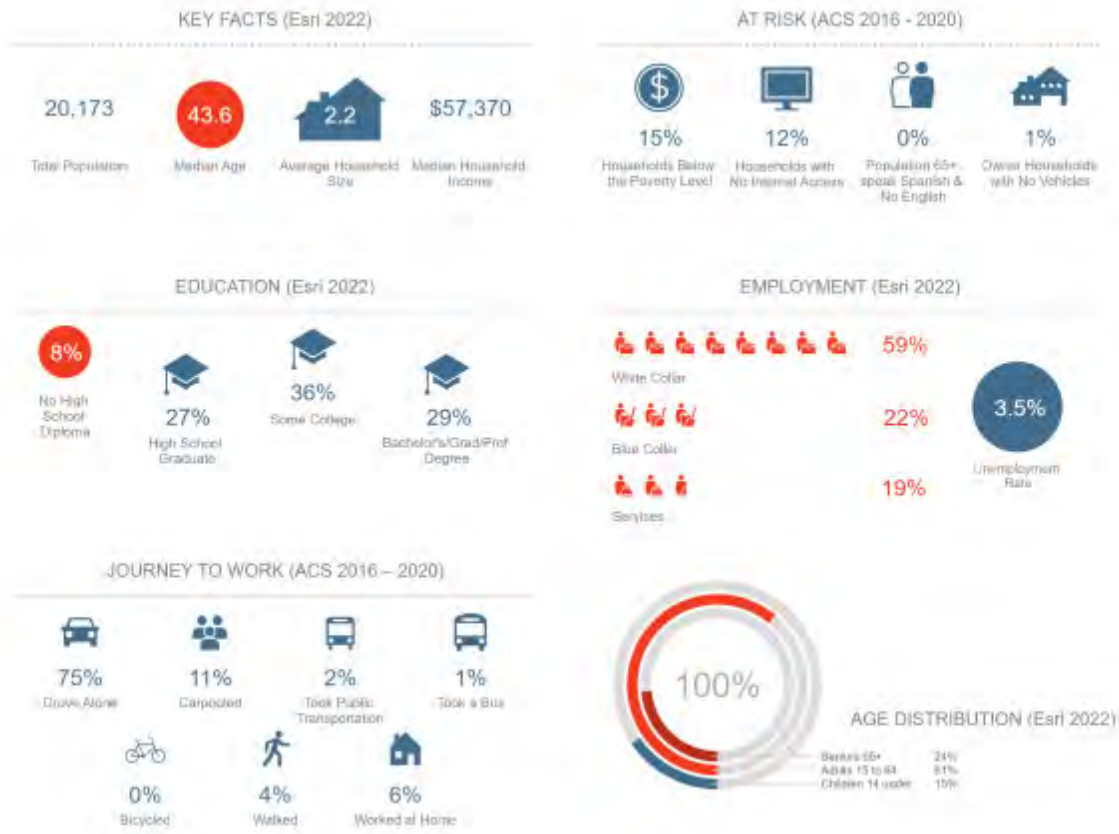
Examples of applying the suite of core strategies and tools locally:

- **Reach people where they are:** Connect with the Hispanic community by hosting an after-service coffee event at St. Olaf Catholic Church or distributing information through Poulsbo Elementary School. Reach seniors and households without internet access by posting materials or hosting a drop-in event at Kitsap Regional Library. Recruit participation by contracting with a community engagement liaison.
 - **Collaborate with non-profit organizations/agencies:** Reach low-income community members by partnering with Fishline to distribute information. Reach Poulsbo overburdened communities by posting information at the Poulsbo Housing Authority.
-

Port Angeles Profile & Strategies

While Port Angeles is 40 miles from Kitsap County, this city of 20,000 faces the lowest higher educational attainment (29%), the lowest median home values (\$231,000), and the lowest household income (\$57,370). The community is also burdened by a high percent poverty rate (15%), considerably higher than Kitsap County (10%), the state of Washington (11%), and the national average (13%).

Port Angeles and adjacent tribal communities rely on shellfish harvesting for recreational and commercial use. Permitting decisions made by Kitsap will impact areas such as Port Angeles and vice versa.



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomic statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

Infographic Profile

General Population

Top 3 Tapestry Segments - Port Angeles

1. Old and Newcomers: 37.2%

"This market features singles' lifestyles, on a budget. The focus is more on convenience than consumerism, economy over acquisition. Old and Newcomers is composed of neighborhoods in transition, populated by renters who are just beginning their

careers or retiring. Some are still in college; some are taking adult education classes. They support charity causes and are environmentally conscious. Age is not always obvious from their choices."

Old and Newcomers

Middle Ground



Average Household Size

2.12



Median Age:

39.4



Median Household Income:

\$44,900



Source: [Esri Tapestry Segmentation](#)

2. The Great Outdoors: 16.0%

"These neighborhoods are found in pastoral settings throughout the United States. Consumers are educated empty nesters living an active but modest lifestyle. Their focus is land. They are more likely to invest in real estate or a vacation home than stocks. They are active gardeners and partial to homegrown and home-cooked meals. Although retirement beckons, most of these residents still work, with incomes slightly above the US level."

The Great Outdoors

Cozy Country Living



Average Household Size

2.44



Median Age:

47.4



Median Household Income:

\$56,400



Source: [Esri Tapestry Segmentation](#)

3. Midlife Constants: 11.5%

"Midlife Constants residents are seniors, at or approaching retirement, with below-average labor force participation and above-average net worth. Although located in predominantly metropolitan areas, they live outside the central cities, in smaller communities. Their lifestyle is more country than urban. They are generous, but not spendthrifts."



Source: [Esri Tapestry Segmentation](#)

Overburdened Audiences

The audiences identified below include subsets of the larger minority, low-income, tribal, and indigenous populations outlined in Special Conditions S.5.C.2.a.i and S.5.C.3.a.

- Reach Hispanic communities
- Households with no internet access
- Multi-unit dwelling residents
- Low-income community members

Reaching Overburdened Communities in Port Angeles

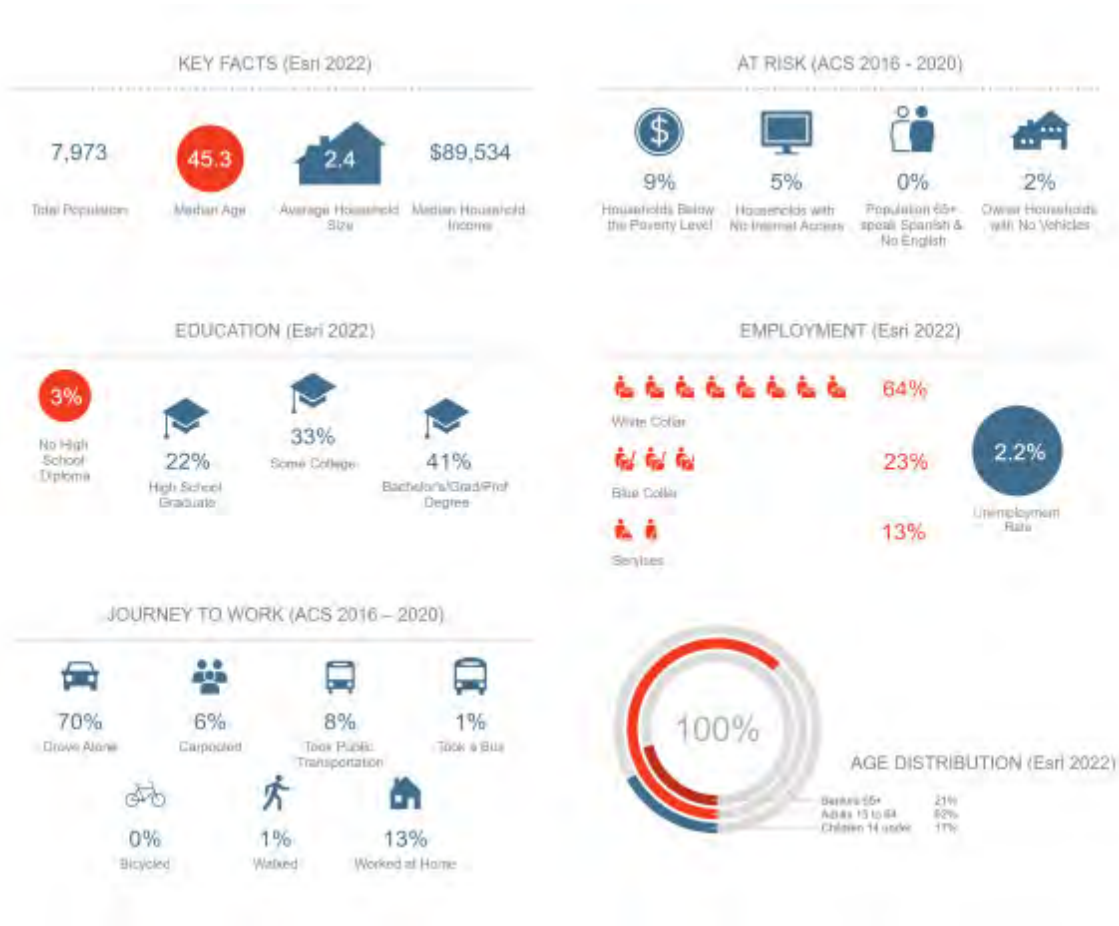
Examples of applying the suite of core strategies and tools locally:

- **Newspaper and radio advertising/community engagement liaison:** Reach households with no internet access by placing an ad or writing an article for The Peninsula Daily News. Reach Hispanic communities by promoting a survey on local Spanish radio. Contract with community engagement liaisons to conduct the survey over the phone with their network of contacts.
 - **Collaborate with non-profit organizations:** Partner with OlyCAP to make information available to their clients.
 - **Reach people where they are:** Host an information table and provide free coffee with additional information printed on coffee sleeves. Possible locations include local parks and at events like CrabFest or the Port Angeles Farmers' Market.
-

Tribal Area Profiles & Strategies

Port Madison Reservation/Suquamish Tribal Land

Approximately 7,973 people live on Suquamish Tribal Land – 57% of those being members of the Suquamish Tribe. Overall, median age (45.3), household income (\$89,534), home value (\$367,000), and unemployment (2.2%) are consistent with other jurisdictions in the study area.



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomic statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

Infographic Profile

General Population

1. The Great Outdoors: 51.2%

"These neighborhoods are found in pastoral settings throughout the United States. Consumers are educated empty nesters living an active but modest lifestyle. Their focus is land. They are more likely to invest in real estate or a vacation home than stocks. They are active gardeners and partial to homegrown and home-

cooked meals. Although retirement beckons, most of these residents still work, with incomes slightly above the US level."



Source: Esri Tapestry Segmentation

2. Green Acres: 29.3%

"The Green Acres lifestyle features country living and self-reliance. They are avid do-it-yourselfers, maintaining and remodeling their homes, with all the necessary power tools to accomplish the jobs. Gardening, especially growing vegetables, is also a priority, again with the right tools, tillers, tractors, and riding mowers. Outdoor living also features a variety of sports: hunting and fishing, motorcycling, hiking and camping, and even golf. Self-described conservatives, residents of Green Acres remain pessimistic about the near future yet are heavily invested in it."

Green Acres

Cozy Country Living



Average Household Size

2.7



Median Age:

43.0



Median Household Income:

\$72,000



Source: [Esri Tapestry Segmentation](#)

3. Parks and Rec: 19.5%

"These practical suburbanites have achieved the dream of homeownership. They have purchased homes that are within their means. Their homes are older, and townhomes and duplexes are not uncommon. Many of these families are two-income married couples approaching retirement age; they are comfortable in their jobs and their homes, budget wisely, but do not plan on retiring anytime soon or moving. Neighborhoods are well established, as are the amenities and programs that supported their now independent children through school and college. The appeal of these kid-friendly neighborhoods is now attracting a new generation of young couples."

Parks and Rec

GenXurban



Average Household Size

2.51



Median Age:

40.9



Median Household Income:

\$60,000



Source: [Esri Tapestry Segmentation](#)

Overburdened Population

This area is comprised of two Census tracts, with areas that could be considered overburdened based on the following criteria:

Socioeconomic

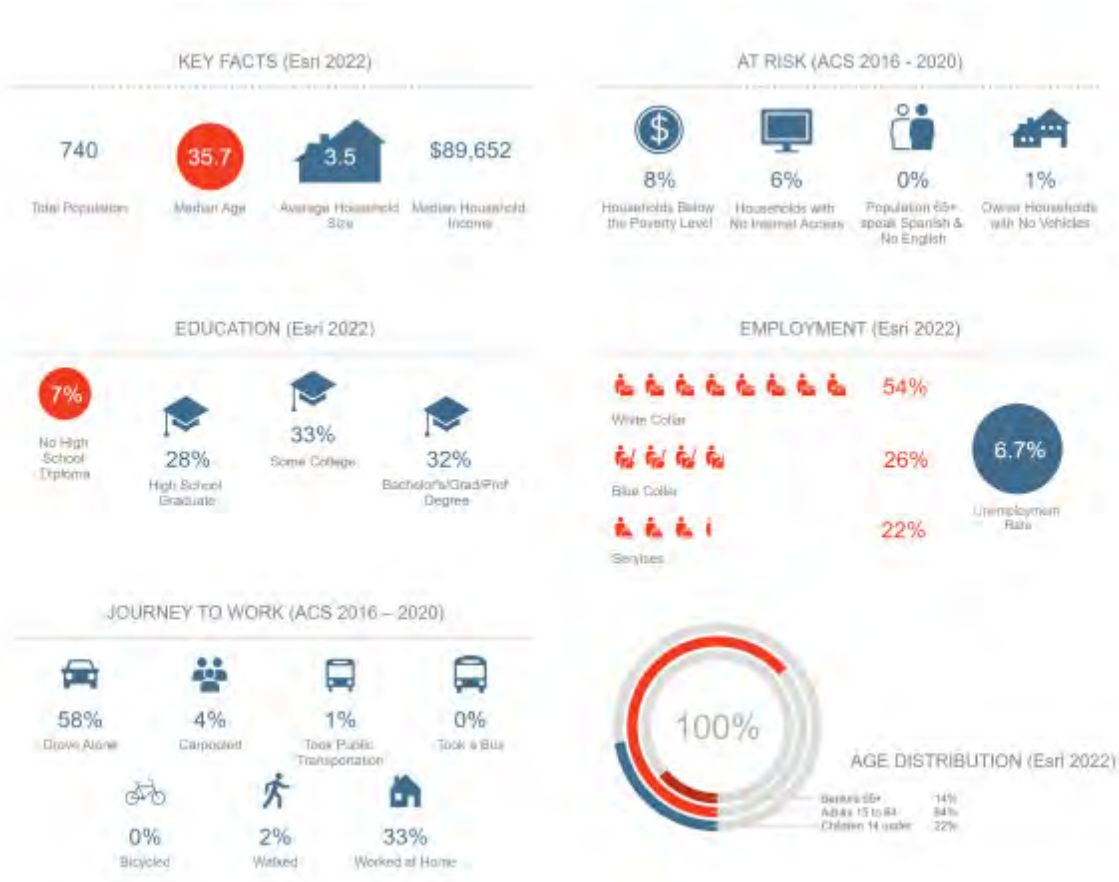
- Poverty = 9.9%

Reaching Overburdened Squamish Tribal Communities

Considering the diverse, non-tribal communities who live on Suquamish Tribal Land, identifying and prescribing communication strategies to overburdened communities will require additional analyses on a per-project basis, particularly to understand where tribal communities gather. To accomplish this, the team recommends direct and consistent coordination with Tribal Government Liaisons to successfully implement each of the communication tools and strategies through government-to-government coordination.

Port Gamble Reservation/S'Klallam Tribal Land

Approximately 740 people live on S'Klallam Tribal Land. Given the predominance of Tribal and Indigenous people living on S'Klallam land, any stormwater permit will require above and beyond outreach, as required by NPDES.



Data Sources: 2016 - 2020 (5-yr) American Community Survey (ACS); 2022 Esri Demographics

View a three-page infographic profile of demographic and socioeconomic statistics, including Tapestry, race/ ethnicity, and digital usage information (PDF).

Infographic Profile

General Population

1. The Great Outdoors: 100%

"These neighborhoods are found in pastoral settings throughout the United States. Consumers are educated empty nesters living an active but modest lifestyle. Their focus is land. They are more likely to invest in real estate or a vacation home than stocks. They are active gardeners and partial to homegrown and home-

cooked meals. Although retirement beckons, most of these residents still work, with incomes slightly above the US level."



Source: [Esri Tapestry Segmentation](#)

Overburdened Population

Unlike other study areas, Port Gamble Reservation/S'Klallam Tribal Land is part of a larger census tract. Because of this, identifying specific socioeconomic and health/environmental burdening becomes more complex. Indicators to consider when engaging with this overburdened community (by definition) includes:

Socioeconomic

- WA Environmental Health Disparities Socioeconomic Index (area ranks 6, above the national average of 5.4)

Health & Environment

- Environmental Health Hazard Index (77, with 100 indicating the worst possible conditions)
- Flood hazards

Reaching Overburdened S'Klallam Tribal Communities

With any Tribal Government, it is imperative to work with a Tribal Liaison who knows their community and members best. To accomplish this, the team recommends direct and consistent coordination with Tribal Government Liaisons to successfully implement each of the communication tools and strategies through government-to-government coordination.

Online Conversations

Through digital media monitoring software, agencies can better understand the perceptions and needs of the communities they serve. The project team conducted a listening analysis from November 2020 through March 2021, obtaining and reviewing public social media posts across more than 10 networks. With this data, the team created interactive dashboards summarizing social media conversations related to two topics:

- Socioeconomic impacts within or referencing Kitsap County and partnering agencies, but excluding posts referencing COVID-19.

[View the Dashboard](#)

- Health/Environmental impacts due to stormwater within or referencing Kitsap County and partnering agencies.

[View the Dashboard](#)

Use the dashboards to explore top themes, influencers, post sentiments, audience

demographics, and more.

Consistent monitoring of public opinion, particularly through public social media posts, helps project teams understand perceptions, key issues, the positions of community thought leaders, and a wide variety of other data. With this information, community outreach teams can not only understand existing issues, but create a holistic communication strategy.

Closing Thoughts

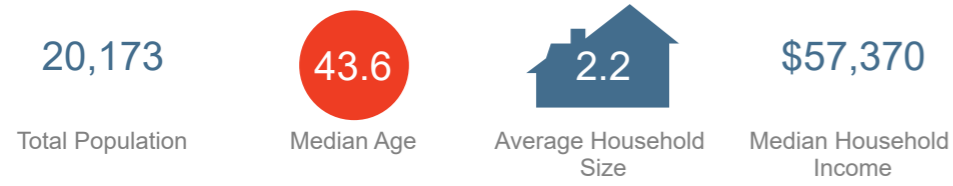
This Overburdened Communities Assessment was developed with the most recently available data (2020 Census, 2016-2020 American Community Survey, etc.). To maximize the benefit of this data-driven communication tool, the team recommends an annual update to guarantee its accuracy and longevity.

By leveraging a broad range of interactive geospatial datasets, this assessment sheds light on those who are traditionally left out – from age, income, language barriers or other conditions impacting a person’s everyday life. With this information, we hope the WSSOG better understands the unique needs of the communities they will be working in.

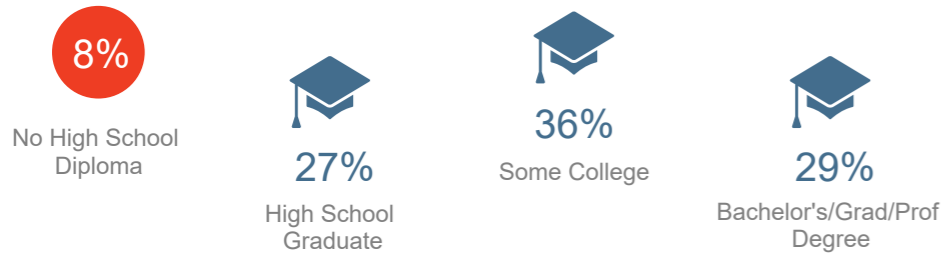
Demographic and Socioeconomic Profile

Port Angeles

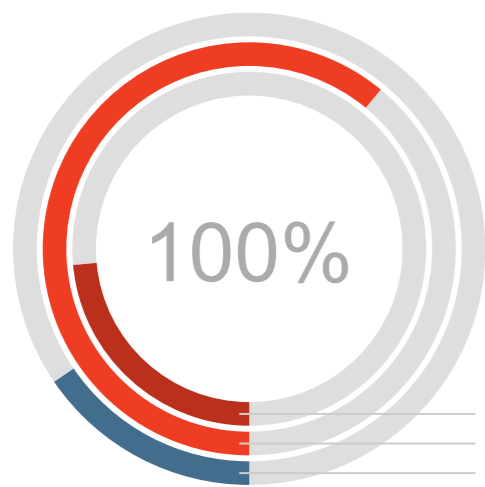
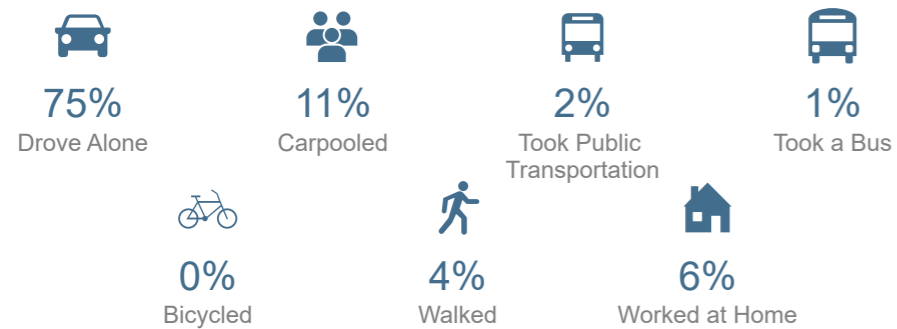
KEY FACTS (Esri 2022)



EDUCATION (Esri 2022)



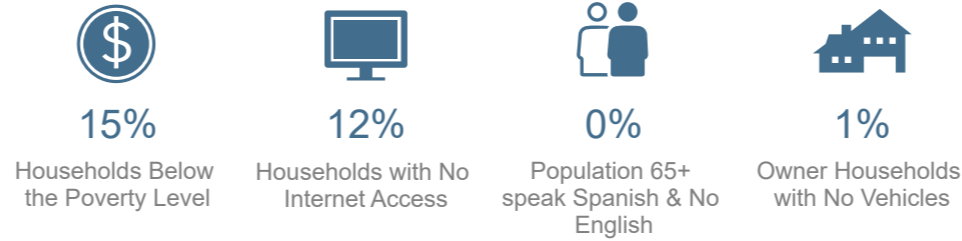
JOURNEY TO WORK (ACS 2016 – 2020)



AGE DISTRIBUTION (Esri 2022)

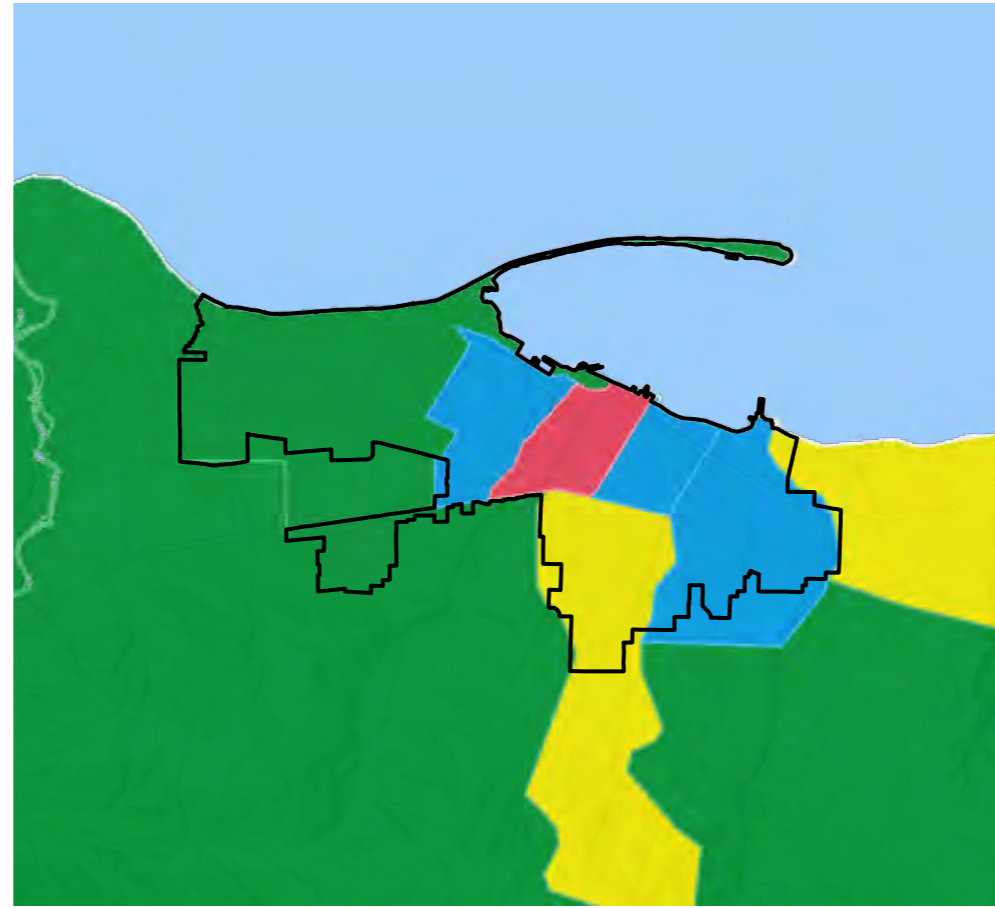
Seniors 65+	24%
Adults 15 to 64	61%
Children 14 under	15%

AT RISK (ACS 2016 - 2020)

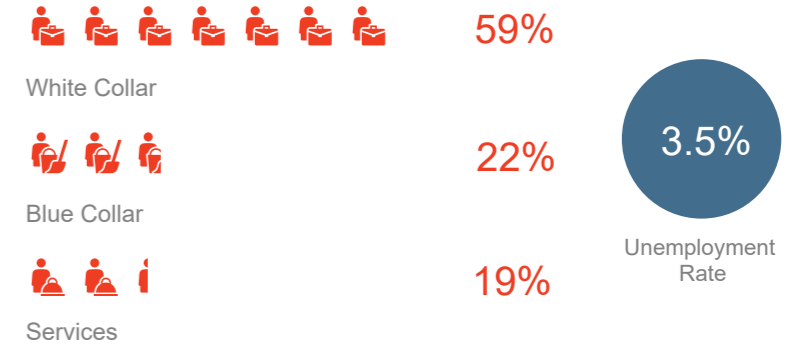


Tapestry LifeModes

- Affluent Estates
- Upscale Avenues
- Uptown Individuals
- Family Landscapes
- GenXurban
- Cozy Country Living
- Ethnic Enclaves
- Middle Ground
- Senior Styles
- Rustic Outposts
- Midtown Singles
- Hometown
- Next Wave
- Scholars and Patriots
- Unclassified



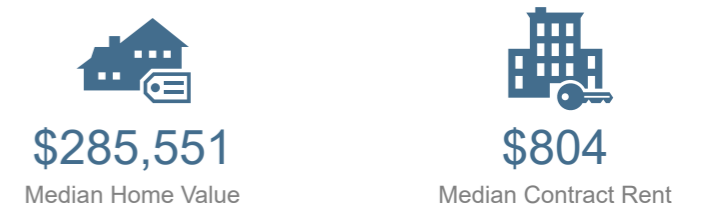
EMPLOYMENT (Esri 2022)



BUSINESS (Esri 2022)



HOUSING (Esri 2022)



TOP 3 TAPESTRY SEGMENTS (Esri 2022)

Tapestry Segments	Percentage of Households
8F Old and Newcomers 3,342 households	37.2% of Households
6C The Great Outdoors 1,440 households	16.0% of Households
5E Midlife Constants 1,032 households	11.5% of Households


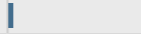

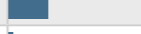

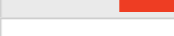

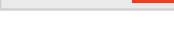
Race, Ethnicity, and Language Profile

Port Angeles

Race and Ethnicity

The largest group: White Alone (82.25)

The smallest group: Pacific Islander Alone (0.22)

Indicator ▲	Value	Diff		
White Alone	82.25	+1.68		
Black Alone	0.86	+0.06		
American Indian/Alaska Native Alone	3.43	-2.25		
Asian Alone	2.16	+0.50		
Pacific Islander Alone	0.22	+0.06		
Other Race	1.45	-0.76		
Two or More Races	9.64	+0.70		
Hispanic Origin (Any Race)	5.56	-0.60		

SPANISH ACTIVITIES (Esri 2022)



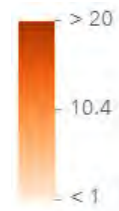
2%

Used Spanish language website in last app in last 30 days

LIMITED ENGLISH PROFICIENCY ADULTS 18-64 (ACS 2016-2020)

HH %

Speak Spanish & No English	0.3%
Speak Spanish & English Not Well	0.2%
Speak Indo-European & No English	0.0%
Speak Indo-European & English Not Well	0.0%
Speak Asian-Pacific Island & No English	0.0%
Speak Asian-Pacific Island & English Not Well	0.0%
Speak Other Language & No English	0.0%
Speak Other Language & English Not Well	0.0%

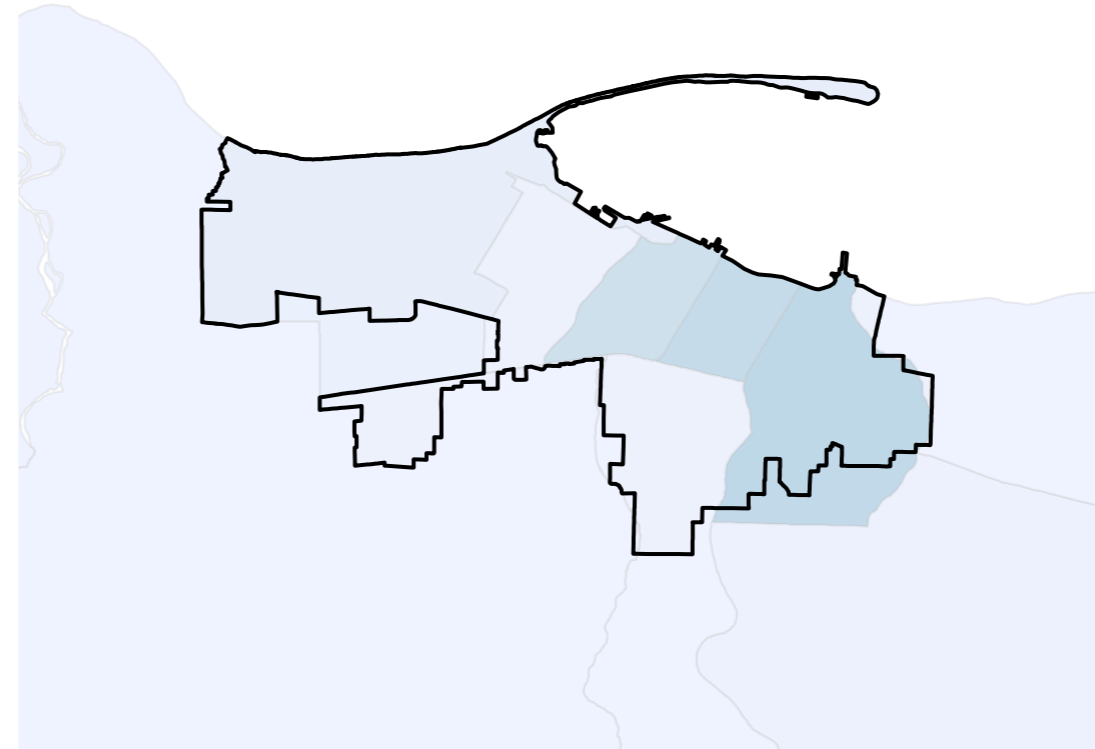
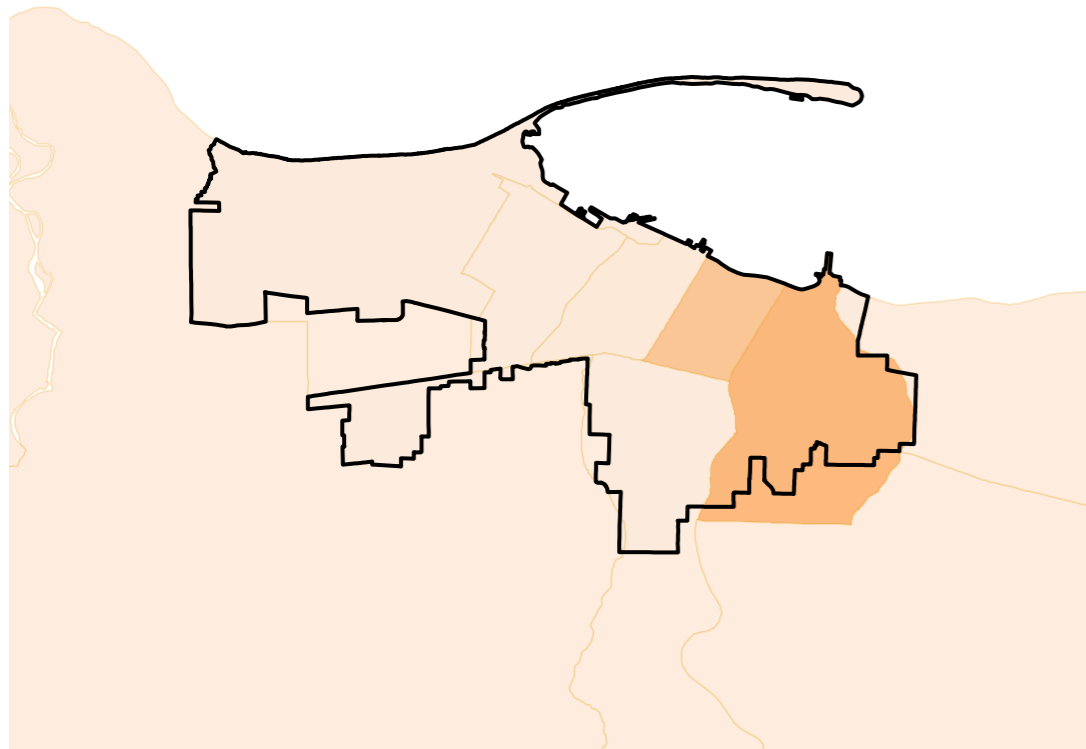


Bars show deviation from Clallam County

Percent of adults 18 years and over who have limited English ability



Percent of Population Age 5+ Who Speaks Spanish at Home



LIMITED ENGLISH PROFICIENCY SENIORS 65+ (ACS 2016-2020)

HH %

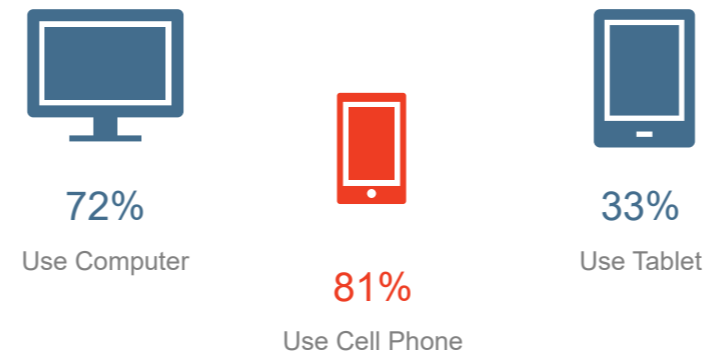
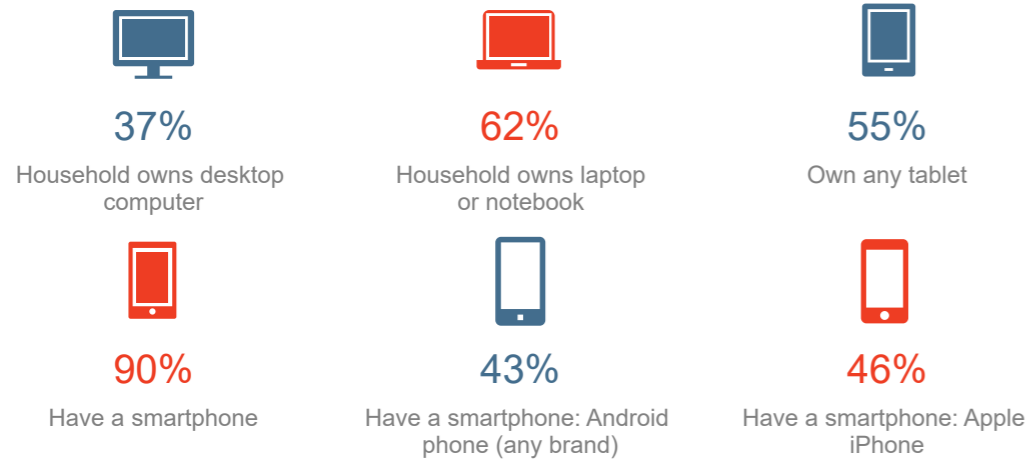
Speak Spanish & No English	0.1%
Speak Spanish & English Not Well	0.0%
Speak Indo-European & No English	0.0%
Speak Indo-European & English Not Well	0.0%
Speak Asian-Pacific Island & No English	0.0%
Speak Asian-Pacific Island & English Not Well	0.0%
Speak Other Language & No English	0.0%
Speak Other Language & English Not Well	0.0%

Digital Usage Profile

Port Angeles

HOUSEHOLD DEVICE OWNERSHIP (Esri 2022)

HOUSEHOLD INTERNET ACCESS (Esri 2022)

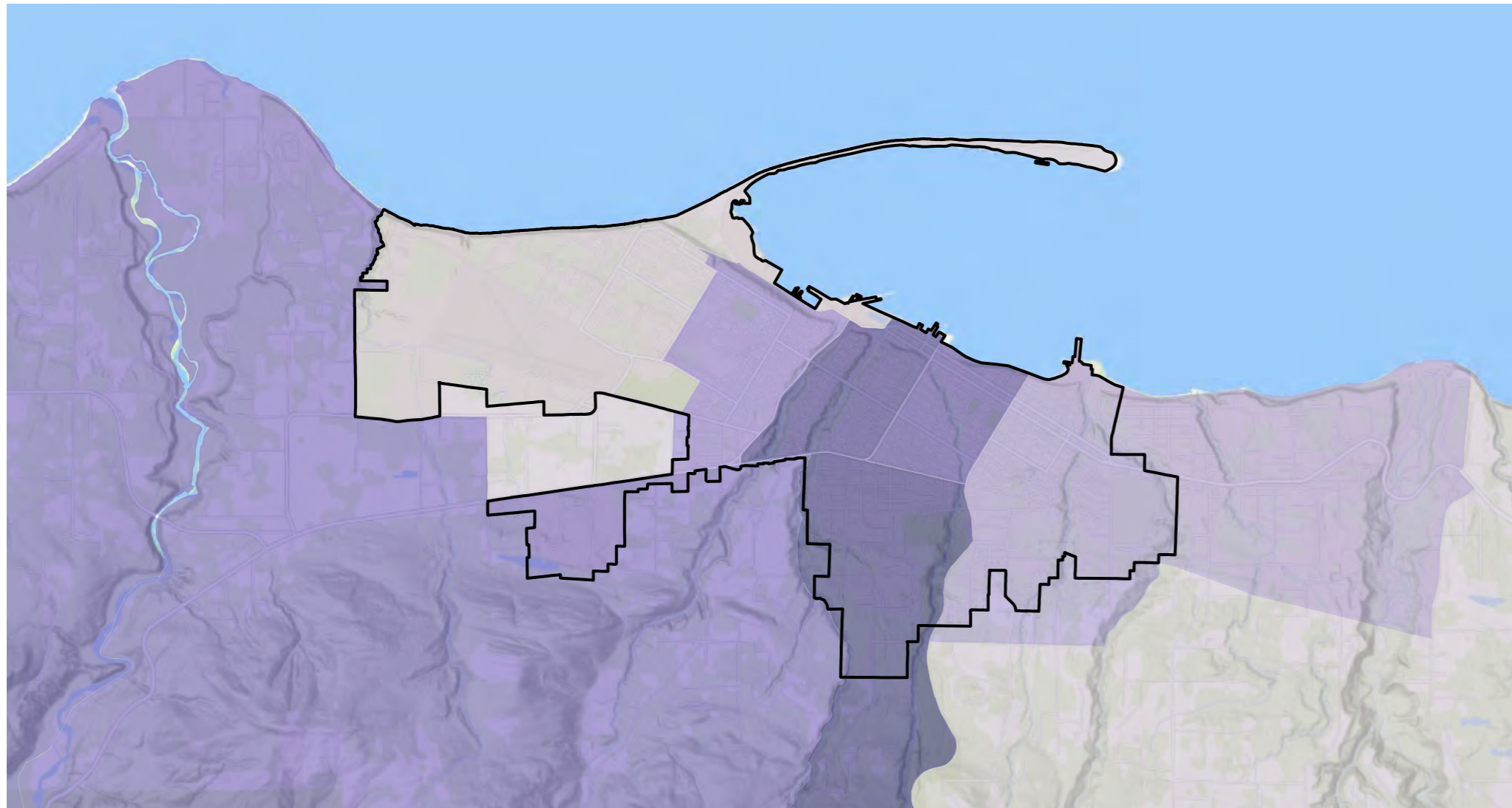


INTERNET CONNECTIVITY (Esri 2022)

	HH %
Have access to Internet at home (%)	94%
Connect to Internet at home via cable modem (%)	49%
Connect to Internet at home via DSL (%)	11%
Connect to Internet at home via fiber optic (%)	12%
Access Internet at home via high speed connection (%)	91%

INTERNET & SOCIAL MEDIA USAGE in Last 30 Days (Esri 2022)

	HH %
Visited online blog (%)	11%
Watched TV program online (%)	19%
Used Spanish language website in last app (%)	2%
Facebook.com (%)	66%
Instagram.com (%)	31%
Linkedin.com (%)	10%
Tumblr.com (%)	2%
Twitter.com (%)	15%
Youtube.com (%)	53%
Social network used to track current events (%)	16%
Search engine: bing.com (%)	11%
Search engine: google.com (%)	83%
Search engine: yahoo.com (%)	17%



Percent of Households with No Internet Access



Stormwater Management Program | Annual Report to ECY

S5.C.2.a.iii. - List of Stewardship Opportunities provided in 2022

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).

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.

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. The City's Responsibilities:

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 prorated 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

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.

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

CITY OF PORT ANGELES

CLALLAM COUNTY BOARD OF COMMISSIONERS

DocuSigned by:

Nathan West

0F7945F36344417...

Nathan West, City Manager

Dated: 10/6/2022

Mark Ozias

Mark Ozias, Chair

Dated: 9/27/22

Attest:

DocuSigned by:

Kari Martinez-Bailey

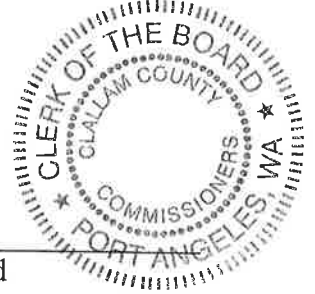
C3E8F3647C5341C...

Kari Martinez-Bailey, City Clerk

Attest:

Loni Gores

Loni Gores, Clerk of the Board



Approved As To Form:

William Bloor

E5EC5EBD4113427...

William E. Bloor, City Attorney

Approved As To Form:

Dee Boughton

Dee Boughton, Deputy Prosecuting Attorney



Streamkeepers

We monitor streams, and we do it well.



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](#)

Streamwalks

Streamkeepers' qualitative reports assessing overall watershed health, based on rapid bio-assessment streamwalk protocol - see Streamwalk section of the [Volunteer Handbook](#).

Bagley Creek Streamwalk Report

The 3rd annual Streamwalk on Bagley Creek covered 7 different sites ranging from near the headwaters by Township Line Road to the mouth.

Bell Creek Streamwalk Report

This Streamwalk was planned as an introduction to the diversity of Bell Creek and the complexity of the issues represented by the landscapes through which the stream flows.

Cassalery Creek Streamwalk Report

It was decided to start at the origin of the creek and go to its exit and to sample representative areas in between, given that none but the MacRobbies were familiar with Cassalery Creek.

Ennis Creek Streamwalk Report

Ennis Creek is one of the Streamkeepers streams with two study sites, one site is just off of the South end of the parking lot used by Rayonier, located between their truck route and Ennis Street; the other site is just West of Roosevelt Middle School playfield.

Johnson Creek Streamwalk Report

Johnson Creek road heads toward Burnt Mountain off Happy Valley Road.

Lees Creek Streamwalk Report

Our Streamwalk began upstream on the east fork of Lees Creek at Draper Road.

Little River Streamwalk Report

The South Fork provided water for the city of Port Angeles many years ago, and remnants of the water system are easily seen along the trail.

McDonald Creek Streamwalk Report (PDF)

On February 1, 2014, five Streamkeeper volunteers left the Saturday morning comfort of their homes to descend the last 1.4-mile stretch of McDonald (the officially recognized name according to Ed Chadd) Creek on foot, to its terminus at saltwater.

Morse Creek Streamwalk Report

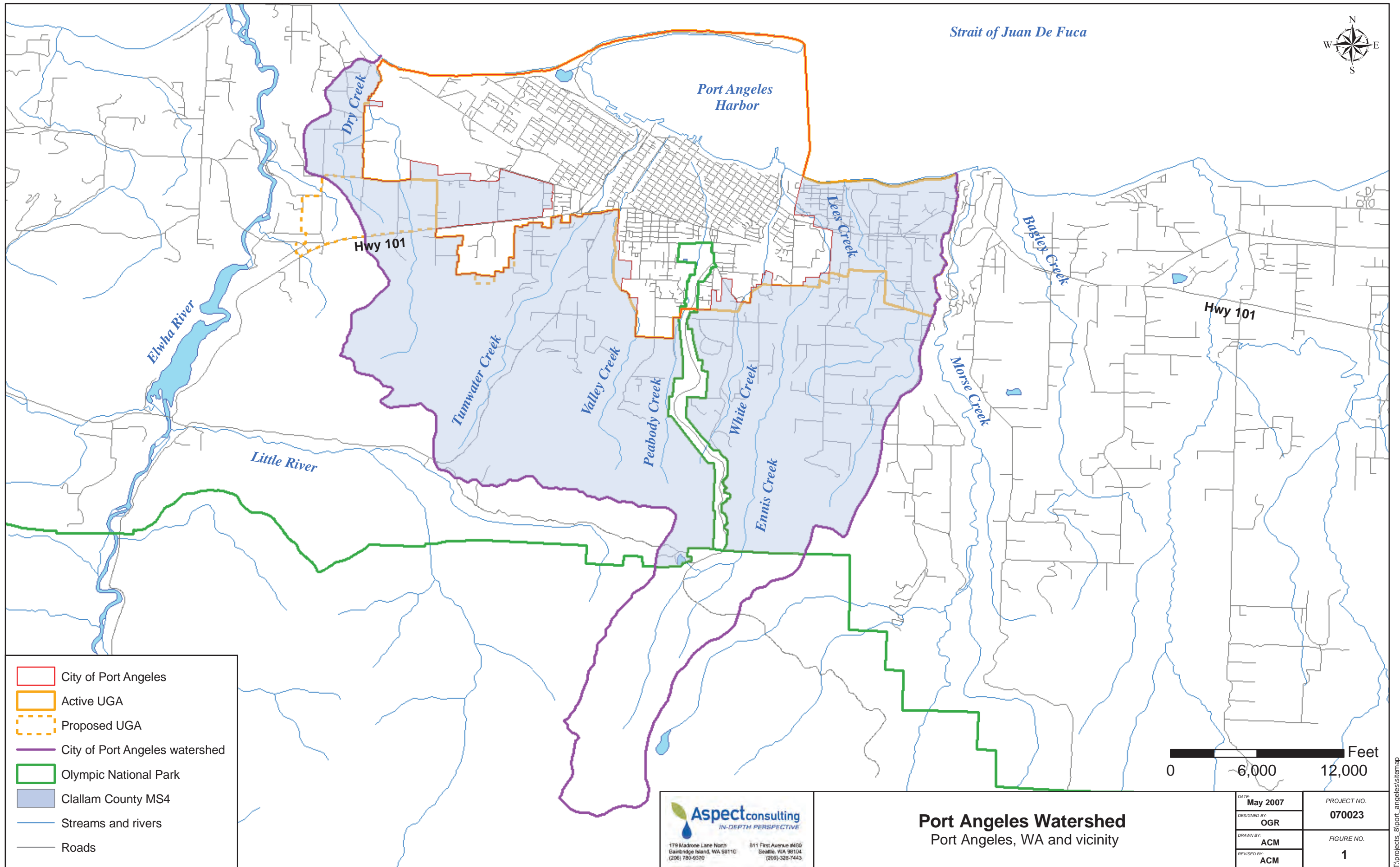
This streamwalk occurred on July 13, 2002.

Peabody Creek Streamwalk Report

The downstream walk of Peabody Creek began approximately one mile from the Park Service visitor center on the Peabody Creek trail.

Valley Creek Streamwalk Report

We toured the new estuary and facilities, and then drove up Valley Street for a look at old reach 2 and 3 where we parked for a hike up to the fish ladder under Highway 101. We conducted a Streamwalk survey of old reach 4.



- City of Port Angeles
- Active UGA
- Proposed UGA
- City of Port Angeles watershed
- Olympic National Park
- Clallam County MS4
- Streams and rivers
- Roads

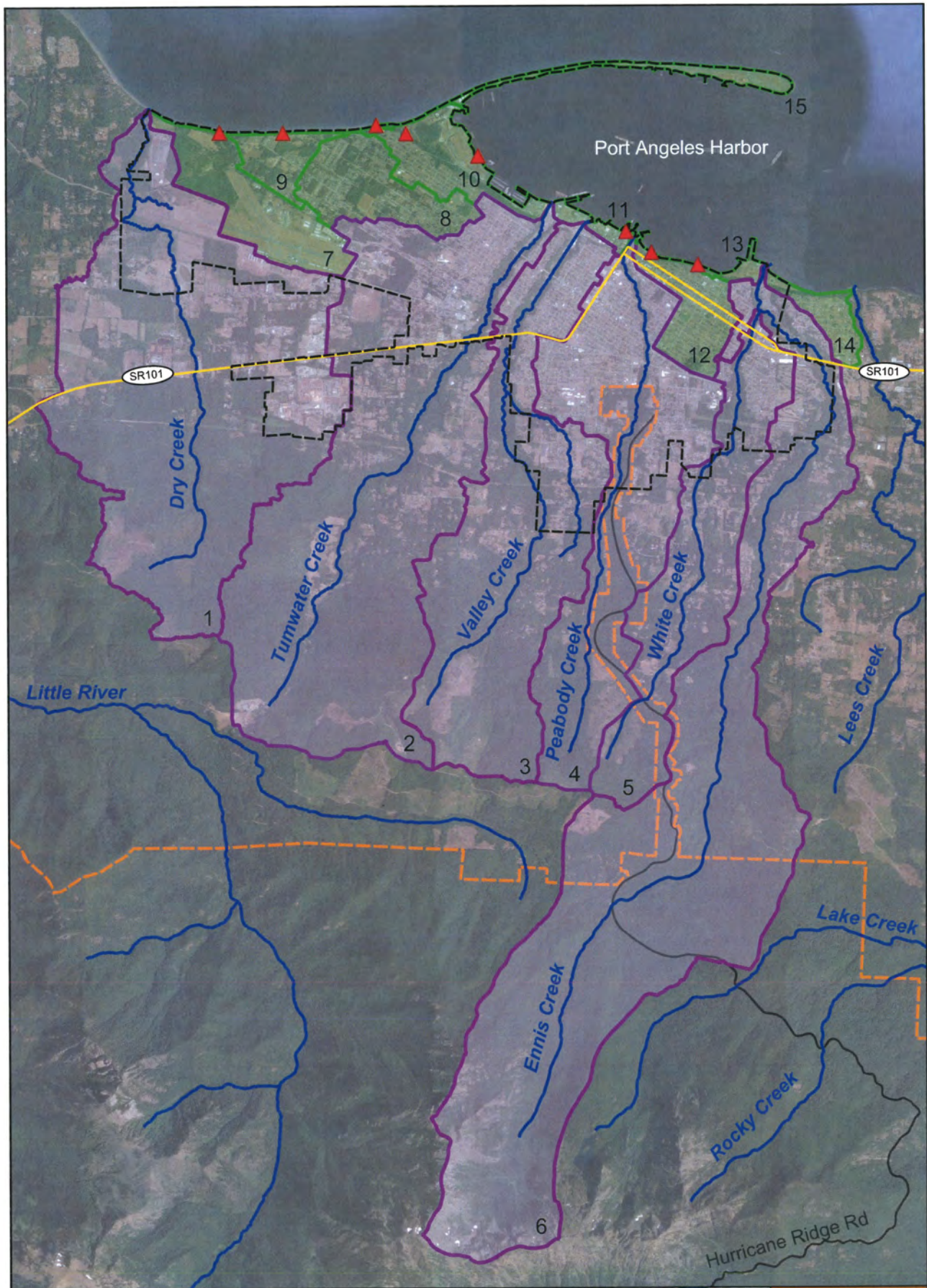
Aspect consulting
IN-DEPTH PERSPECTIVE

179 Madrone Lane North
Bainbridge Island, WA 98110
(206) 780-9370

811 First Avenue #400
Seattle, WA 98104
(206) 326-7443

Port Angeles Watershed
Port Angeles, WA and vicinity

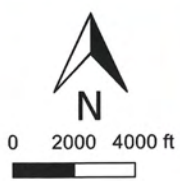
DATE	May 2007	PROJECT NO.	070023
DESIGNED BY	OGR	DRAWN BY	ACM
REVISED BY	ACM	FIGURE NO.	1



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

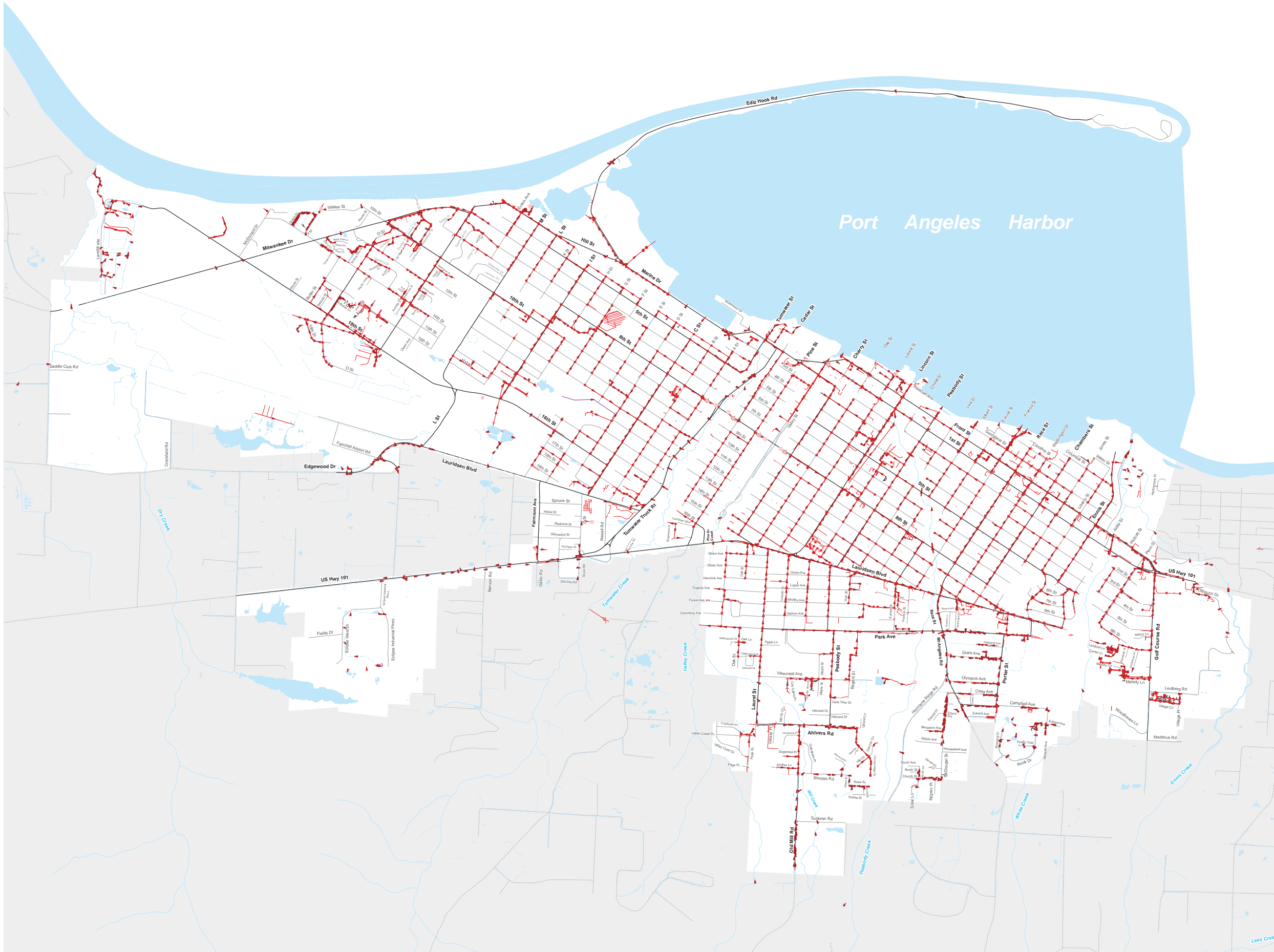




825
Feet

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 features are +/- feet of actual locations. This map is produced by the City of Port Angeles for its own use and purposes. Any other use of this map is the responsibility of the user.

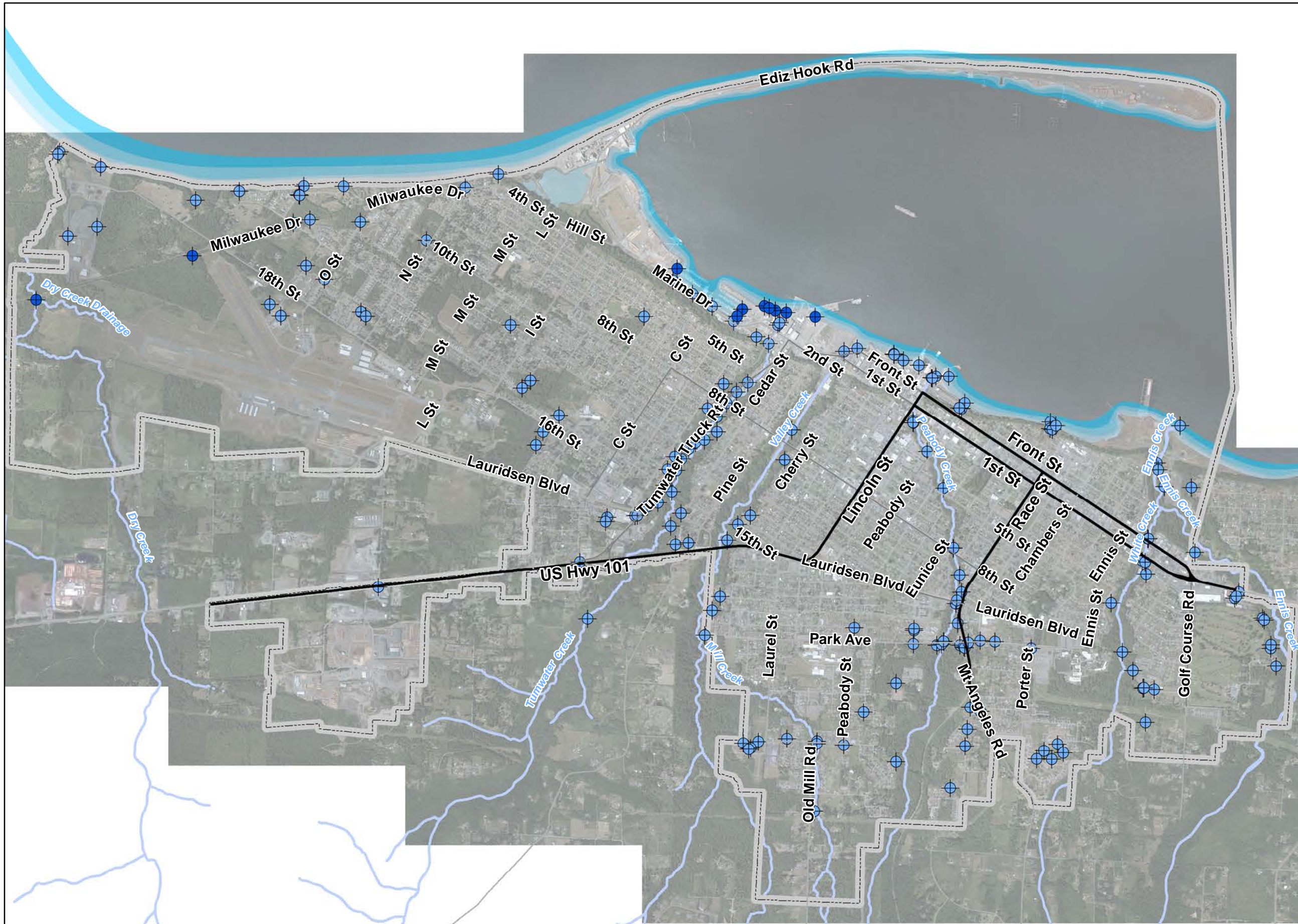


Outfall Discharge Map






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	
SWD1	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>	
SWD2	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>	
SWD3	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>	
SWD4	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>	
SWD5	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>	
SWD6	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>	Ahivers Rd	<Null>	<Null>	
SWD7	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>	
SWD9	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>	
SWD10	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>	
SWD11	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>	
SWD12	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>	
SWD13	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>	
SWD14	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>	
SWD15	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>	
SWD17	17	3084	City of PA	City of PA	1/1/1961	Active	OutfallCreek	24	14	<Null>	Inspection	Outfall to Ennis creek	<Null>	<Null>	<Null>	Rayonier parking lot.	Ennis St	<Null>	Water St	<Null>	
SWD18	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>	<Null>	Francis St	<Null>	<Null>	Georgiana St	Concrete	
SWD19	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	
SWD20	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	
SWD21	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 pair parking lot.	Lincoln St	<Null>	<Null>	Railroad Ave	Concrete	
SWD22	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>	
SWD23	23	3100	City of PA	City of PA	1/1/1995	Active	Outfall	<Null>	218	<Null>	<Null>	Outfall	<Null>	<Null>	<Null>	Butler St	<Null>	<Null>	16th St	<Null>	
SWD24	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>	
SWD25	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>	
SWD26	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>	
SWD27	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>	
SWD28	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 estuary.	Valley St	<Null>	<Null>	Marine Dr	<Null>	
SWD29	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>	
SWD30	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 estuary	Marine Dr	<Null>	<Null>	Front St	<Null>	
SWD31	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>	
SWD32	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>	
SWD33	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	
SWD34	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>	
SWD35	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>	
SWD36	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>	
SWD37	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>	
SWD38	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>	
SWD39	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>	
SWD40	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>	
SWD41	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>	
SWD42	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>	
SWD43	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>	
SWD44	44	3619	City of PA	City of PA	10/1/2005	Active	Outfall	<Null>	313.82	<Null>	<Null>	<Null>	<Null>	4-Apr	Park Ave Impvts	Park Ave	<Null>	<Null>	Washington St	<Null>	
SWD45	45	3620	City of PA	City of PA	10/1/2005	Active	Outfall	<Null>	308.36	<Null>	<Null>	<Null>	<Null>	4-Apr	Park Ave Impvts	Park Ave	<Null>	<Null>	Washington St	<Null>	
SWD46	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>	
SWD47	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>	
SWD48	48	2319	City of PA	City of PA	1/1/1964	Active	OutfallCreek	<Null>	158	<Null>	<Null>	Outfall to Peabody creek	<Null>	<Null>	<Null>	South side of Lauridsen Blvd bridge.	Lauridsen Blvd	<Null>	Race St	<Null>	<Null>
SWD49	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>	
SWD50	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>	
SWD51	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>	
SWD52	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>	
SWD53	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>	
SWD54	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>	
SWD55	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>	
SWD56	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>	
SWD57	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>	
SWD58	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>	
SWD59	59	2238	City of PA	City of PA	1/1/1977	Active	Outfall	<Null>	504	<Null>	<Null>	OUTLET	<Null>	77-2	Glenbrook Cir	<Null>	McDougal St	McGill Ave	<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	
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>	<Null>	<Null>	93-13	<Null>	Lauridsen Blvd	Carrier 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	Unice St	<Null>	
SWDI74	74	2289	City of PA	City of PA	1/1/1973	Active	Outfall	<Null>	266	<Null>	<Null>	OUTLET	<Null>	<Null>	<Null>	Unice St	<Null>	Vashon Ave	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>	Unice 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>	<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>	<Null>	11th St	<Null>	East of Tumwater Truck Rt.	Tumwater Truck Rt	<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>	<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	<Null>	F St and 15th St	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	Unice 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	Unice 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	Unice 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>	The Orchards Subdivision	<Null>	<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>	<Null>	<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 spill discharge	<Null>	<Null>	<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																				

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 spill.	<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>	Ahivers 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 indirectly 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>	WorksSketch	<Null>	<Null>	<Null>	VBC 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>	<Null>	<Null>	See WO 1630	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	<Null>	City of PA	City of PA	1/5/2012	Active	Outfall	<Null>	420	<Null>	<Null>	<Null>	<Null>	<Null>	US HWY 101	Airport Rd and US Hwy 101	Airport Rd	Eclipse Industrial Pkwy	<Null>		
SWDI207	207	<Null>	City of PA	City of PA	<Null>	Active	Outfall	<Null>	28	<Null>	<Null>	<Null>	<Null>	<Null>	Near the culvert inlet	2nd St	<Null>	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	<Null>	<Null>	<Null>	
SWDI216	216	<Null>	City of PA	City of PA	1/1/2012	Active	OutfallHarbor	<Null>	10	StormRunOff	Plan Set	<Null>	<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>	<Null>	Waterfront Phase 2	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>	WorksSketch	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>	WorksSketch	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>	<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	<Null>	<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	Prop															

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 spill 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 GIS

Consultant data requirements, specifications, and standardization

The City of PA is currently running vs 10.7 ESRI

When creating and updating data for the City of Port Angeles, it is imperative to use the following standardization, 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 words 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
- Point
- Polygon

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

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

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

2022 Illicit Discharge Detection and Elimination (IDDE) Tracking Spreadsheet
 2019-2024 NPDES Stormwater Phase II Permit, per 55.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
EXAMPLE	City of Port Angeles, WAR045028	MM/DD/YYYY	MM/DD/YYYY	MM/DD/YYYY	Pollution hotline (phone, web, app)	Yes – allowable or conditionally allowable	123 Fake St. Port Angeles, WA 98362	48.114397, -123.432281	Unconfirmed, unspecified, or not identified	Other commercial/industrial activity	Observation (color/sheen/turbidity/floatables/odor)	Add or modify operational source control BMP	
1	City of Port Angeles, WAR045028 McKinley Mill, WA0002925	1/24/2022	1/26/2022	9/22/2022	Staff referral	Yes – did not notify	1902 Marine Drive	48.132630, -123.466052	Sediment/soil	Other commercial/industrial activity	Observation (color/sheen/turbidity/floatables/odor)	Education/technical assistance, Add or modify operational source control BMP	Citizen reported trackout directly to City Operations Street/Stormwater Superintendent. A remediation plan was agreed upon. Inspection on 9/22 verified that McKinley is implementing the plan to address trackout. Contact: Terry Nishimoto, (360) 584-3303
2	City of Port Angeles, WAR045028	3/7/2022	3/7/2022	3/8/2022	Staff referral	No – cleaned up before reached MS4	3rd/4th alley west of Albert Street	48.113221, -123.426675	Fuel and/or vehicle related fluids	Vehicle-related business	Observation (color/sheen/turbidity/floatables/odor)	Clean-up	City of PA Garbage truck hydrolic line rupture. Crew applied absorbant before oil could enter stormwater system. Street sweeper collected absorbant within 3 hours of spill.
3	City of Port Angeles, WAR045028	3/9/2022	3/9/2022	3/10/2022	Staff referral	No – cleaned up before reached MS4	1023 East Front Street	48.106196, -123.470460	Fuel and/or vehicle related fluids	Vehicle-related business	Observation (color/sheen/turbidity/floatables/odor)	Other (Explanation required)	Shell Gas Station diesel fuel spill by customer. City Operations was notified and soon after implemented absorbents which were later cleaned up via street sweeper. Gas station operator informed of their responsibilities and NOV issued March 18, 2022. Other: No option for clean-up and enforcement.
4	City of Port Angeles, WAR045028	4/6/2022	4/6/2022	4/21/2022	Staff referral	Yes – did not notify	810 F Street	48.112741, -123.415004	Sediment/soil	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Enforcement, Education/technical assistance, Add or modify structural source control BMP	Unexpected downpour overwhelmed existing BMPs, resulting in sediment entering a downstream catch basin. Staff responded to an internal report, took pictures, and informed the City Stormwater Engineer. Contractor was then required to apply additional BMPs in order to prevent future discharge. Additionally, a misunderstanding in reporting responsibilities prompted remedial staff training.
5	City of Port Angeles, WAR045028	8/21/2022	8/21/2022	8/22/2022	Staff referral	Yes – did not notify	S. Eunice & E. Lauridsen Boulevard	48.105283, -123.430911	Paint	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Education/technical assistance	PAFD staff responded to report of paint spill (approx. 1 gal.) and proceeded to hose the down the area into the MS4. PAFD leadership reported the error in staff judgement and provided remedial training. SW Operations responded to suck-out any remaining in catch basins.
6	City of Port Angeles, WAR045028	9/16/2022	9/26/2022	9/26/2022	Staff referral	Yes – did not notify	112 W 1st Street	48.11936, -123.43455	Other wastewater	Construction activity	Observation (color/sheen/turbidity/floatables/odor)	Education/technical assistance	Internal report indicated illicit discharge by contractor performing concrete related work. Site visit and interview revealed the nature of "filter" wastewater into the nearby catch basin. Contractor was informed that the discharge was illicit and ordered to devise a corrective solution to prevent further discharge.
7	City of Port Angeles, WAR045028	10/10/2022	10/10/2022	10/10/2022	Staff referral	Yes – did not notify	140 W Front Street	48.120589, -123.434663	Soap or cleaning chemicals	Mobile business	Observation (color/sheen/turbidity/floatables/odor)	Education/technical assistance	PWKS staff responded to an internal report of washwater discharge from a powerwashing operation. Discharge was not recoverable. Owner, Brad Ranson (360) 477 - 3900 was receptive to education.
8	City of Port Angeles, WAR045028	11/1/2022	11/1/2022	11/1/2022	Direct report to your staff	Yes – notified DOH and Ecology	W 13th to Tumwater Creek	48.114184, -123.456625	Sewage/septage/pet waste/human waste	Other (Explanation required)	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Other (Explanation required)	ERTS #718661. Citizen reported seepage from manhole near their home. Operations responded later that day to find that the inlet was plugged by a root wad before snaking the blockage and inspecting via camera to confirm the pipe was clear and undamaged. The street and affected catch basin were then cleaned. Everything beyond catch basin was not recoverable as it was the only servicable sump before the outfall. S4.F.1 notification submitted to Ecology.

2022 IC/ID Tracing Program Streamkeepers/COPA Response													
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
9	City of Port Angeles, WAR045028	10/4/2022	10/11/2022	10/21/2022	MS4 inspection or screening	Yes – did not notify	Outfall to Peabody Creek at Peabody St. Sample collected from 24in conc main at mhole (asset ID 761).	48.114855, -123.429859	Sewage/septage/pet waste/human waste	Other (Explanation required)	Analytical laboratory indicators	Other (Explanation required)	Elevated levels of fecal coliform discovered during annual basin screening. Streamkeepers sampling data confirmed detection. Sample testing narrowed down the source; however, levels dropped off during further investigation. The site has been added to a watch-list and Staff intends to re-sample periodically in 2023.

2022 Water Main Break / Repair - Cityworks Tracking Report													
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
10	City of Port Angeles, WAR045028	1/2/2022	1/2/2022	1/4/2022	Staff referral	Yes – allowable or conditionally allowable	120 E 5th St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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.
11	City of Port Angeles, WAR045028	1/3/2022	1/3/2022	1/3/2022	Staff referral	Yes – allowable or conditionally allowable	213 E 11th St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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.
12	City of Port Angeles, WAR045028	1/7/2022	1/7/2022	1/9/2022	Staff referral	Yes – allowable or conditionally allowable	1006 W 11th St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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.
13	City of Port Angeles, WAR045028	1/7/2022	1/7/2022	1/7/2022	Staff referral	Yes – allowable or conditionally allowable	2237 W 12th St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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.
14	City of Port Angeles, WAR045028	1/9/2022	1/9/2022	1/11/2022	Staff referral	Yes – allowable or conditionally allowable	511 S Ennis St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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.
15	City of Port Angeles, WAR045028	1/12/2022	1/12/2022	1/12/2022	Staff referral	Yes – allowable or conditionally allowable	610 E 10th St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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
39	City of Port Angeles, WAR045028	11/18/2022	11/18/2022	11/18/2022	Staff referral	Yes – allowable or conditionally allowable	216 E 10th St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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	12/3/2022	12/10/2022	12/12/2022	Staff referral	Yes – allowable or conditionally allowable	202 Dolan Ave		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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	12/10/2022	12/10/2022	12/12/2022	Staff referral	Yes – allowable or conditionally allowable	330 Vashon Ave		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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.
42	City of Port Angeles, WAR045028	12/13/2022	12/13/2022	12/15/2022	Staff referral	Yes – allowable or conditionally allowable	105 W 6th St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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	12/18/2022	12/18/2022	12/18/2022	Staff referral	Yes – allowable or conditionally allowable	408 Orcas Ave.		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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	12/23/2022	12/23/2022	12/25/2022	Staff referral	Yes – allowable or conditionally allowable	339 Viewcrest Ave		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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	12/28/2022	12/28/2022	12/28/2022	Staff referral	Yes – allowable or conditionally allowable	1502 W 4th St		Sediment/soil	Other accident/spill	Observation (color/sheen/turbidity/floatables/odor)	Clean-up, Referred to other agency or department, 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 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 requires no change to meet these requirements.

In order to use the cities resources as efficiently as possible a mix of residential and commercial zoning in each year's screening area was preferred; to take advantage of an existing business inspection program. The City's Pollution Prevention Assistance (PPA) Specialist inspects businesses within the screening basin boundary for potential illicit connections or discharges, and provides education to the business owners and staff on pollution prevention – unfortunately, during 2022, the City was unable to backfill this position; Howard Carlseen was hired in Dec. 2022 and resumed PPA Inspections January 2023. 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 basins 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.

2022 – Field Screening Urbanized Peabody, Basin 1:

Basin 1 spans approximately 406 acres and consist of half residential and half commercial properties. Some notable commercial avenues are: the 1st & Front Street corridor, Lincoln Street, 8th Street, Peabody Street, and Lauridsen Boulevard. To better facilitate the inspection and field screening, this IDDE basin was split into 3 Zones, 1A, 1B, & 1C. A creek walk was performed on Peabody Creek starting at the Park Ave. crossing and working north to the mouth at the PA Harbor.

Starting from the outfalls to the Creek and at the Harbor, Stormwater Operations and Engineering staff worked their way south in search of potential illicit discharges. Primary conveyance lines were inspected for dry-weather flow and used to guide inspectors toward potential sources from tributary conveyances. Samples were taken when flow was encountered, otherwise, visual and olfactory techniques were used to search for illicit discharges. Along the way, observed maintenance and repair needs were documented and added to Operations CityWorks database for Work Order generation and assignment. Samples were submitted to the Clallam County Water Testing Lab for fecal coliform testing. Normally, these efforts would have been coordinated with the Pollution Prevention Specialist to increase focus on business inspections in IDDE Basin #1 throughout the year, however, that position was vacant in 2022.

Table 1. IDDE Basins

Year Insp.	Basin #:	Description:	Catch Basins (%):	Running Total (%)	19-24 Permit (S5.C.5.d.i) Total (%)
2014	1	Urbanized Peabody Basin	14.8	14.8	-
2015	7	Lauridsen Blvd. Basin	9.4	24.2	-
2016	2	Tumwater/Valley Basin	11.7	35.9	-
2017	8	West/Airport Basin	15.5	51.4	-
2018	3	Francis/Ennis Basin	15.1	66.5	-
2019	5	A St. Basin	12.0	78.5	12.0
2020	4	Southeast Basin	13.4	91.9	25.4
2021	6	I St./Eclipse Industrial	8.1	100.0	33.5
2022	1	Urbanized Peabody Basin	14.8	100.0	48.3
2023	7	Lauridsen Blvd. Basin	9.4	100.0	57.7

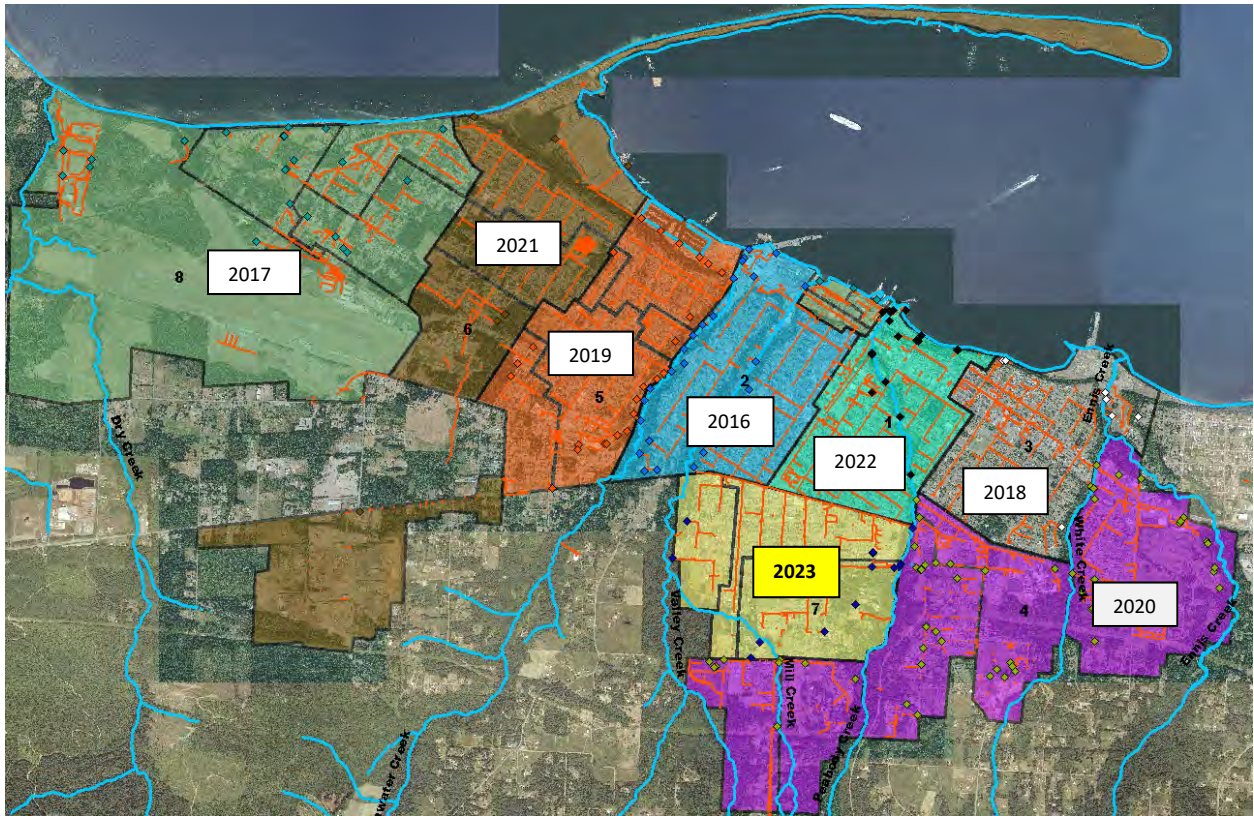
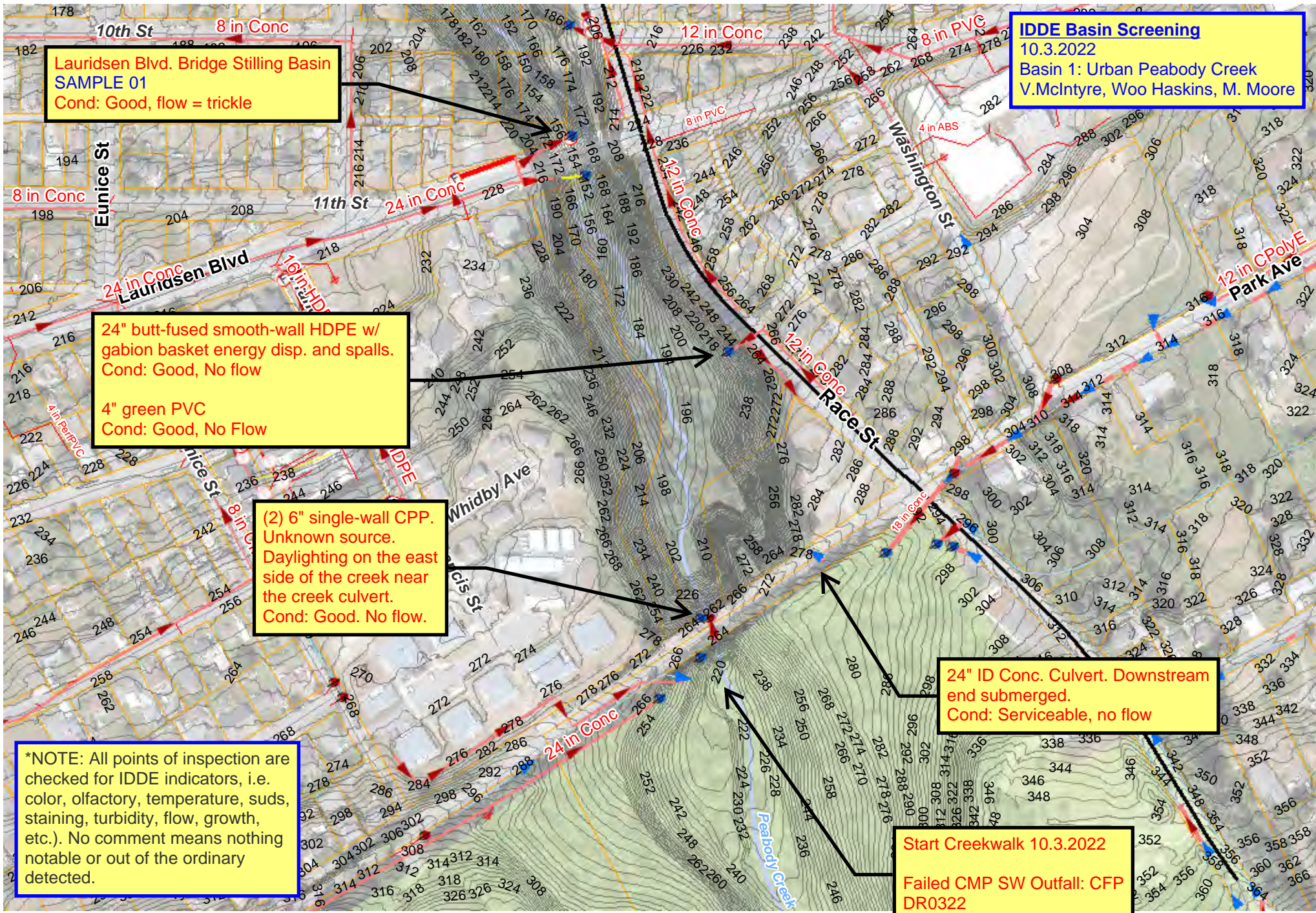


Figure 1. IDDE basin boundaries and inspection years.

Basin #7, consisting of the southern section of town between Peabody Creek and Mill Creek, is scheduled for screening in 2023. It was last inspected in 2015 and will include a creek-walk of Mill Creek.

Additionally to note and in the same vein, a comprehensive inspection and photo-documentation of the City’s various culverts was last performed in August 2020. This is scheduled to occur every 3-4 years.



IDDE Basin Screening
 10.3.2022
 Basin 1: Urban Peabody Creek
 V.McIntyre, Woo Haskins, M. Moore

Lauridsen Blvd. Bridge Stilling Basin
SAMPLE 01
 Cond: Good, flow = trickle

24" butt-fused smooth-wall HDPE w/ gabion basket energy disp. and spalls.
 Cond: Good, No flow

4" green PVC
 Cond: Good, No Flow

(2) 6" single-wall CPP.
 Unknown source.
 Daylighting on the east side of the creek near the creek culvert.
 Cond: Good. No flow.

24" ID Conc. Culvert. Downstream end submerged.
 Cond: Serviceable, no flow

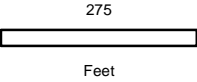
***NOTE:** All points of inspection are checked for IDDE indicators, i.e. color, olfactory, temperature, suds, staining, turbidity, flow, growth, etc.). No comment means nothing notable or out of the ordinary detected.

Start Creekwalk 10.3.2022
Failed CMP SW Outfall: CFP DR0322

Printed: 10/3/2022

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Water main
 Water main
 Water main
 Electrical distribution OH
 Electrical distribution UG



Area Map

Vertical Datum = NAVD 88
 Horizontal Datum = NAD 83/91



IDDE Basin Screening
 10.3.2022
 Basin 1: Urban Peabody Creek
 V.McIntyre, Woo Haskins, M. Moore

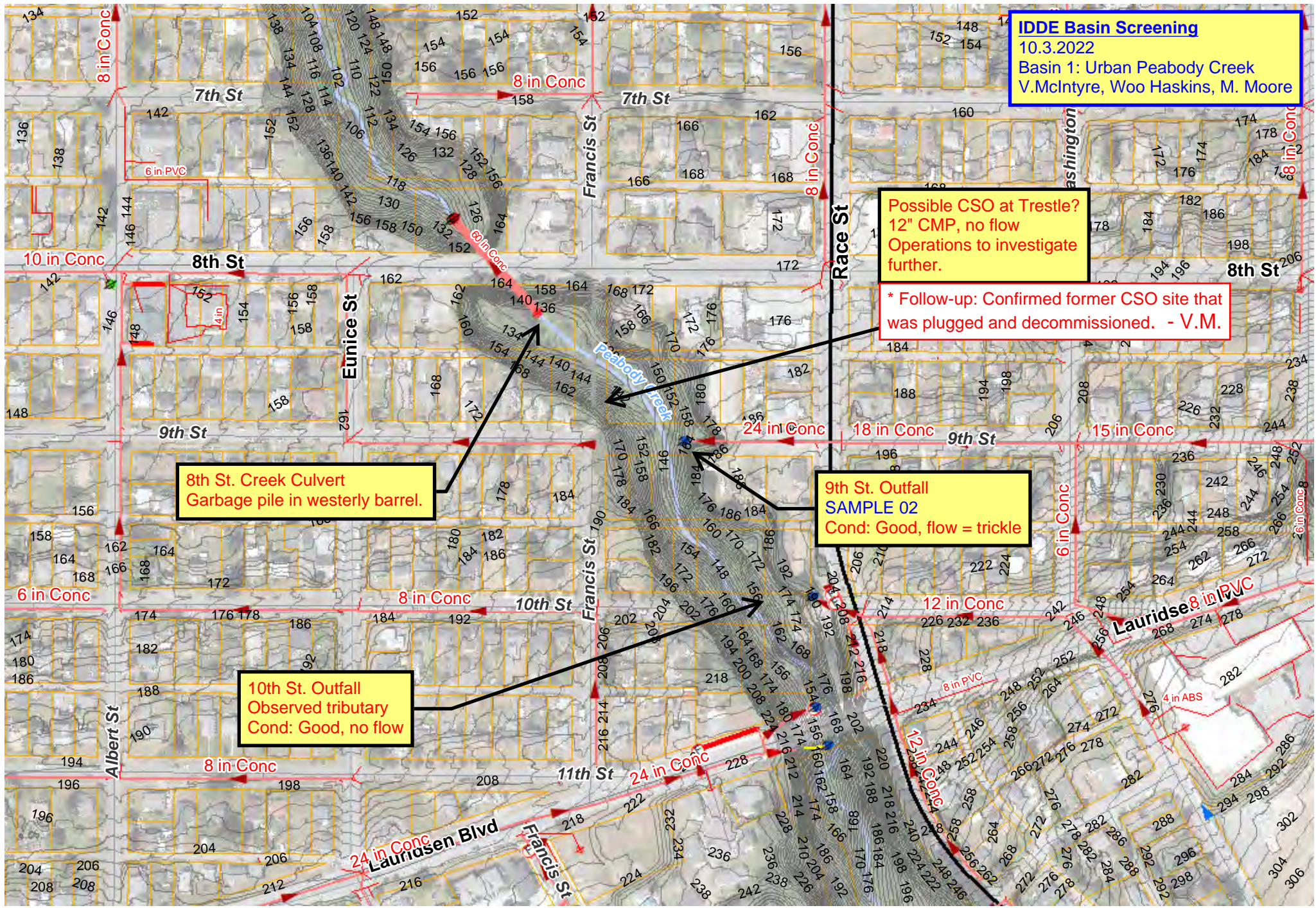
Possible CSO at Trestle?
 12" CMP, no flow
 Operations to investigate further.

* Follow-up: Confirmed former CSO site that was plugged and decommissioned. - V.M.

8th St. Creek Culvert
 Garbage pile in westerly barrel.

9th St. Outfall
SAMPLE 02
 Cond: Good, flow = trickle

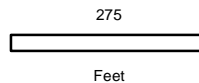
10th St. Outfall
 Observed tributary
 Cond: Good, no flow



Printed: 10/3/2022

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Water main
 Water main
 Water main
 Electrical distribution
 Electrical distribution
 Electrical distribution



Area Map

Vertical Datum = NAVD 88
 Horizontal Datum = NAD 83/91

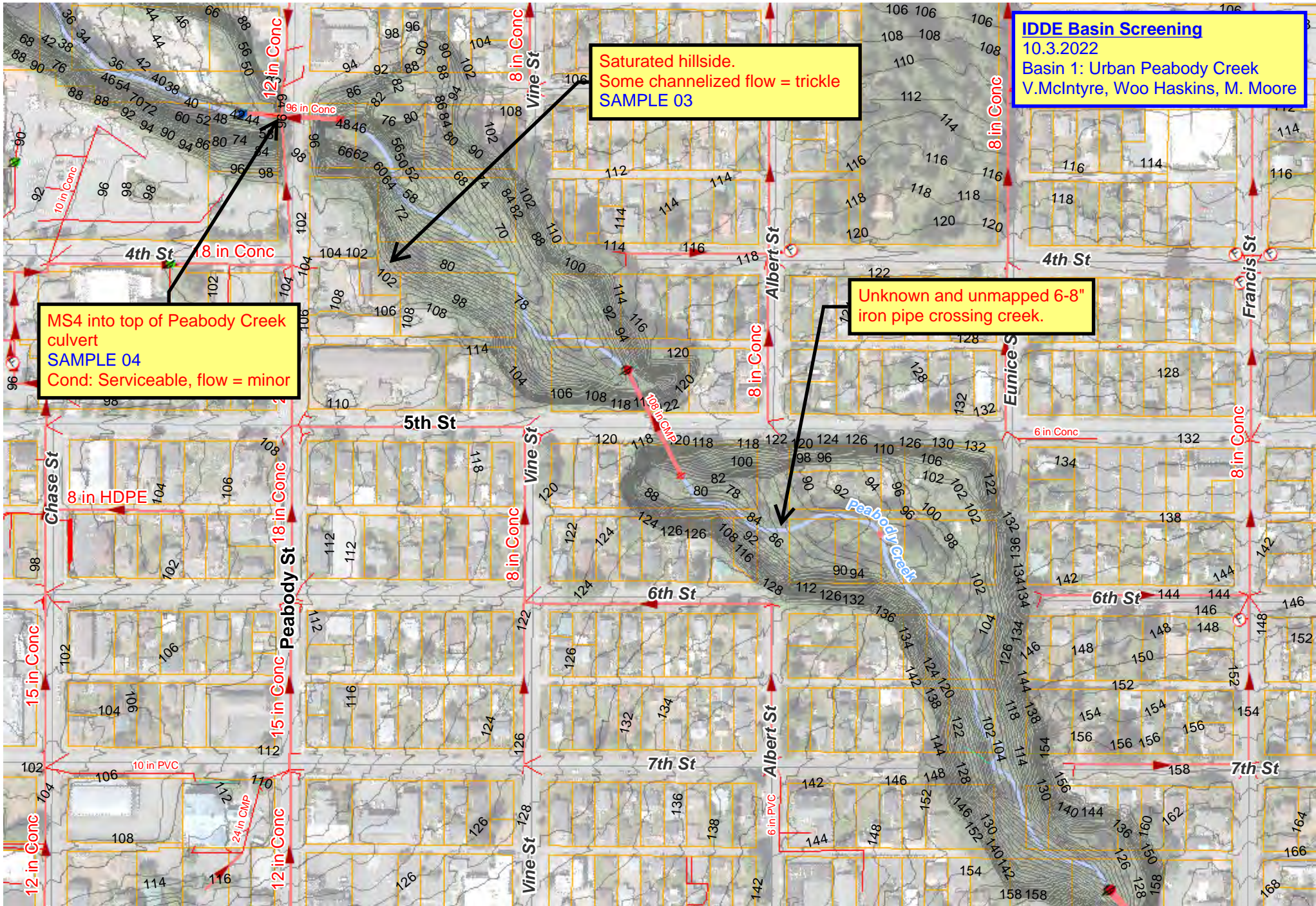


IDDE Basin Screening
 10.3.2022
 Basin 1: Urban Peabody Creek
 V.McIntyre, Woo Haskins, M. Moore

Saturated hillside.
 Some channelized flow = trickle
SAMPLE 03

MS4 into top of Peabody Creek
 culvert
SAMPLE 04
 Cond: Serviceable, flow = minor

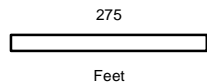
Unknown and unmapped 6-8"
 iron pipe crossing creek.



Printed: 10/3/2022

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 Any other use of this map/drawing shall not be the responsibility of the City.
 Drive:\directory\filename.mxd*

- Water main
- Water main
- Water main
- Electrical distribution OH
- Electrical distribution UG

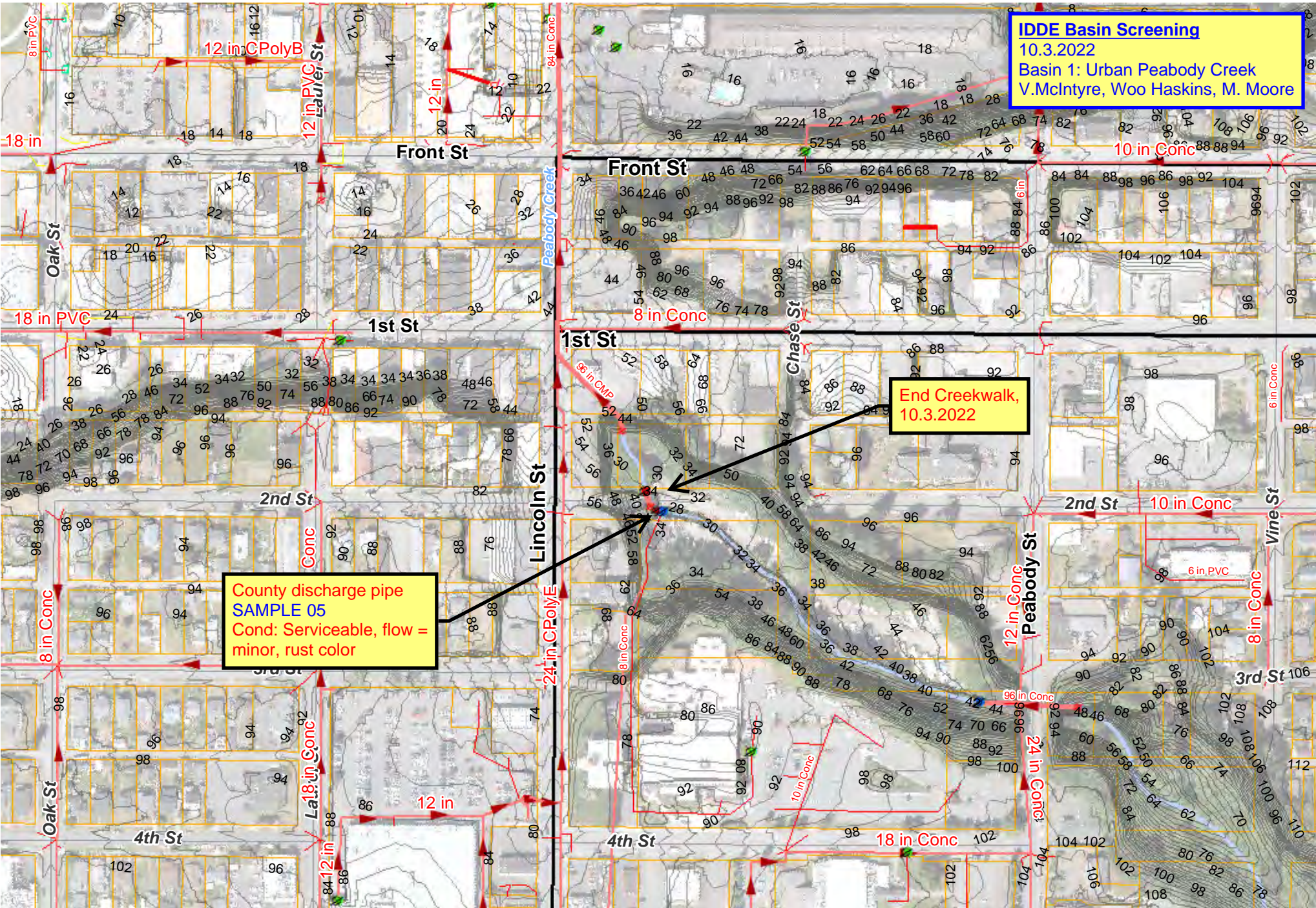


Area Map

Vertical Datum = NAVD 88
 Horizontal Datum = NAD 83/91



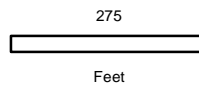
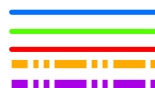
IDDE Basin Screening
 10.3.2022
 Basin 1: Urban Peabody Creek
 V.McIntyre, Woo Haskins, M. Moore



Printed: 10/3/2022

*This map is not intended to be used as a legal description.
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 Drive:\directory\filename.mxd*

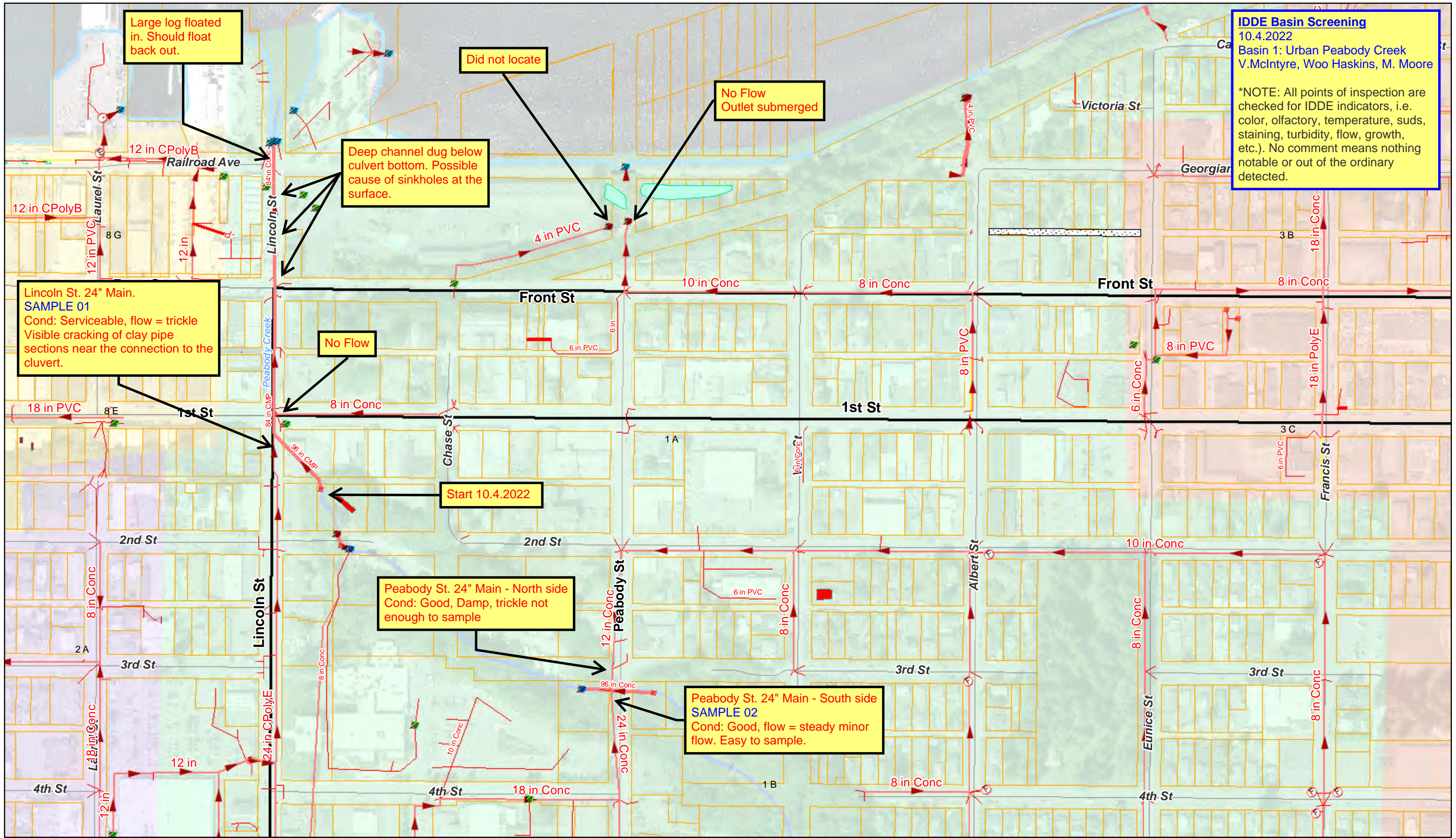
Water main
 WWater main
 SWater main
 Electrical distribution OH
 Electrical distribution UG



Area Map

Vertical Datum = NAVD 88
 Horizontal Datum = NAD 83/91





IDDE Basin Screening
 10.4.2022
 Basin 1: Urban Peabody Creek
 V.McIntyre, Woo Haskins, M. Moore

*NOTE: All points of inspection are checked for IDDE indicators, i.e. color, olfactory, temperature, suds, staining, turbidity, flow, growth, etc.). No comment means nothing notable or out of the ordinary detected.

Lincoln St. 24" Main.
SAMPLE 01
 Cond: Serviceable, flow = trickle
 Visible cracking of clay pipe sections near the connection to the cluvert.

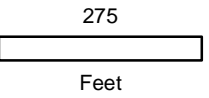
Peabody St. 24" Main - North side
 Cond: Good, Damp, trickle not enough to sample

Peabody St. 24" Main - South side
SAMPLE 02
 Cond: Good, flow = steady minor flow. Easy to sample.

Printed: 10/4/2022

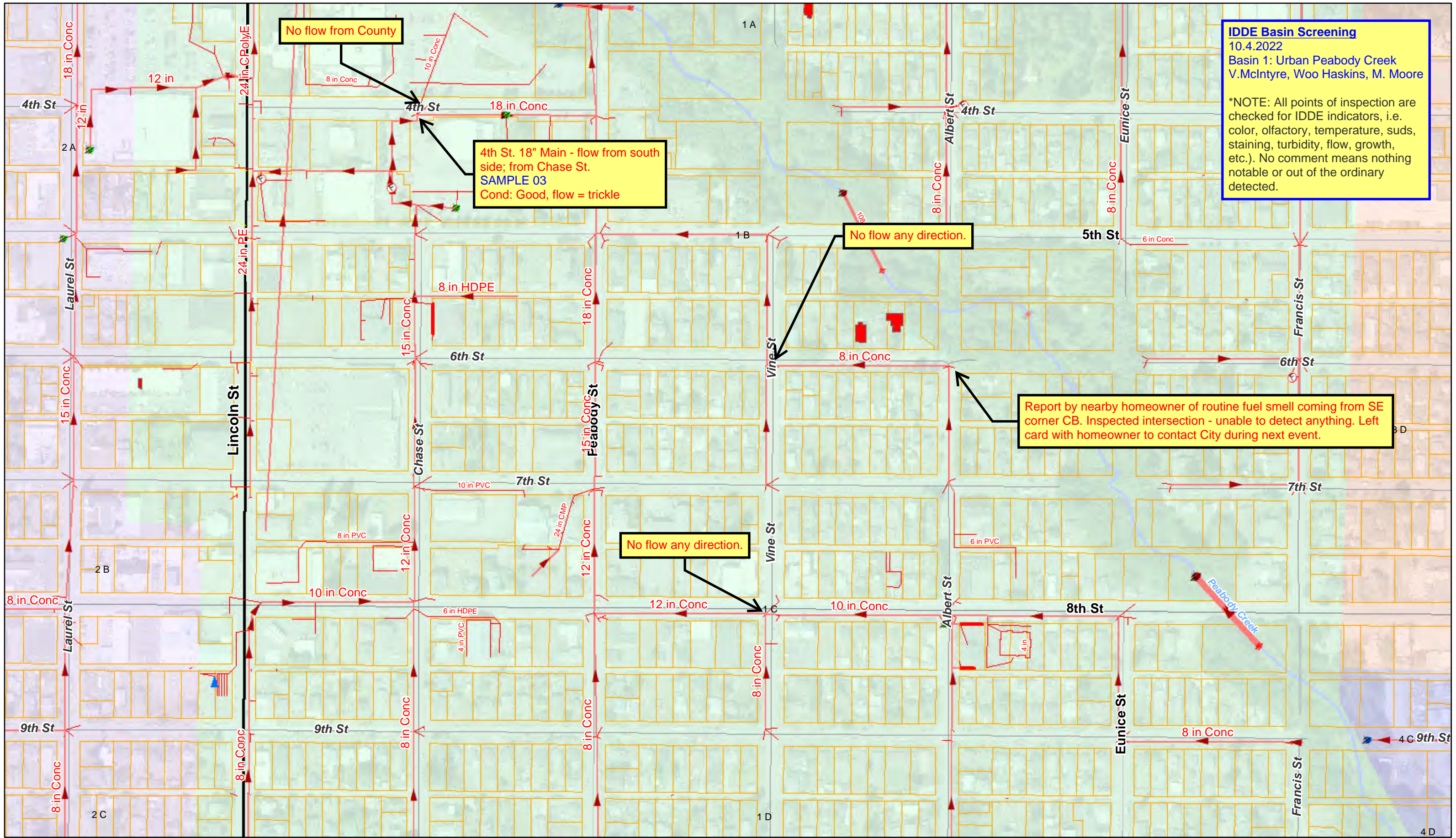
This map is not intended for use as a legal description. Locations of features are approximate only. Topographic/Map features are +/- 5 feet of actual locations. This map/drawing is produced by the city of Port Angeles for its own use and purposes. Any other use of this map/drawing shall not be the responsibility of the City.

Water main —
 WWater main —
 SWater main —
 Electrical distribution OH - - - -
 Electrical distribution UG - - - -



Area Map

Vertical Datum = NAVD 88
 Horizontal Datum = NAD 83/91



IDDE Basin Screening
 10.4.2022
 Basin 1: Urban Peabody Creek
 V.McIntyre, Woo Haskins, M. Moore

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No flow from County

4th St. 18" Main - flow from south side; from Chase St.
 SAMPLE 03
 Cond: Good, flow = trickle

No flow any direction.

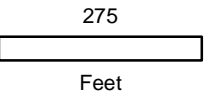
Report by nearby homeowner of routine fuel smell coming from SE corner CB. Inspected intersection - unable to detect anything. Left card with homeowner to contact City during next event.

No flow any direction.

Printed: 10/4/2022

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- Water main —
- WWater main —
- SWater main —
- Electrical distribution OH - - - -
- Electrical distribution UG - - - -

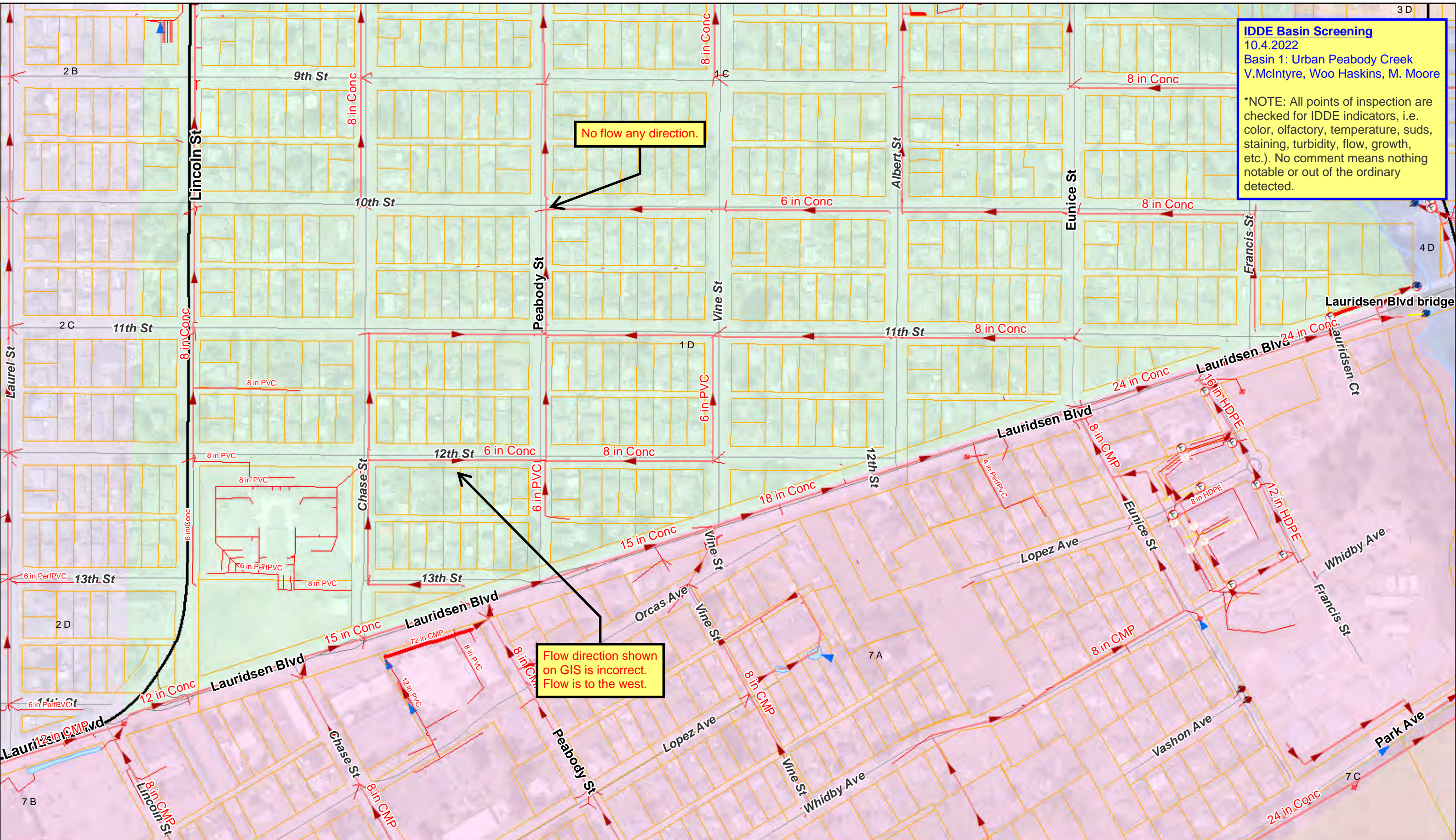


Area Map

Vertical Datum = NAVD 88
 Horizontal Datum = NAD 83/91

IDDE Basin Screening
 10.4.2022
 Basin 1: Urban Peabody Creek
 V.McIntyre, Woo Haskins, M. Moore

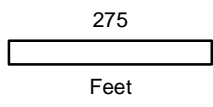
*NOTE: All points of inspection are checked for IDDE indicators, i.e. color, olfactory, temperature, suds, staining, turbidity, flow, growth, etc.). No comment means nothing notable or out of the ordinary detected.



Printed: 10/4/2022

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- Water main —
- WWater main —
- SWater main —
- Electrical distribution OH - - - -
- Electrical distribution UG - - - -



Area Map

Vertical Datum = NAVD 88
 Horizontal Datum = NAD 83/91



2022 Stormwater Development Review Tracking Sheet

Count	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	Current ESC Status	Final Completion Inspection Date	Initials	Docs. In Order	Inspection Notes:
EX.	Private	BP	20-001	123 W. Fake St. or Edgewood Rd. btwn Dry Creek & Airport Rds. or PN:0700063520	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	In Compliance	4/1/2018	JD	Yes	Concrete washout in ditchline (12/19). Appendix 8.1 filed. Education provided to sub-contractor and contractor - JD
1	Public	NA	NA	Race St. btwn Olympus Ave. & 8th St.	Race St. Complete Streets (60% Review) (90% Design Review)	MR 1-9	10/15/2020 4/13/2021	VM VM	High / 4.14.2021	VM			No				Not started		N/A	
2	Private	BP	20-1450	1815 Melody Ln	Dungeness Valley Homes 3 Story Apts	MR 1-9	4/12/2021 / /	VM / /					N/A				In design		N/A	
3	Private	SP	20-0008	3rd & Ennis	Juni's Short Plat, Ralston - 3rd. Submittal	MR 1-9	8/20/2021	VM	NA - Design Only	VM			N/A				In design		N/A	This project is dead and will require a new submittal to continue.
4	Private	SP	20-0035	8th St. btwn F & G Sts. 063000025516,	Shane Short Plat, John Ralston	MR 1-9	12/9/2020	V. Mac	NA - Design Only	V. Mac			N/A				In design		N/A	This project is dead and will require a new submittal to continue.
5	Public	BP	20-0636	1707 A Street	COPA Light Ops. Building	MR 1-9	6/19/2020 12/23/2020 3/9/2021	V. Mac V. Mac V. Mac	High / 6.22.2019	V. Mac			No				Not started		Yes	Permit not issued. Last update 12/27/2022
6	Private	C&G	20-1227	W. 14th St.	Trailside PRD	MR 1-9	12/23/2020 / /	V. Mac / /					No				In design		Yes	This project is dead and will require a new submittal to continue.
7	Private	BP	21-0122	1119 Walker St.	Joel Elliot	MR 1-5	3/1/2021	JTB	Low / NA	JTB			No				Not started		Yes	Last update 12/27/2022
8	Private	C&G	21-0766	10th between M & Evans Ave.	Lang Subdivision	MR 1-9	7/8/2021 / /	VM / /					No				In design		Yes	In design. Last update 12/27/2022
9	Private	BP	21-1452	3108 Grants View Ln	Ace Michaels	MR 1-5	11/18/2021	MA	Low / NA	MA			No				Not started		Yes	Permit not issued. Last update 12/27/2022
10	Private	BP	21-1608	2411 W 10th St	Pete McKnight	MR 1-5	12/22/2021	MA	Low / NA	MA			No				Not started		Yes	Last update 12/27/2022
11	Private	C&G	20-0085	439 Marine Dr.	POPA Temp. Stockpile	MR 1-5	1/21/2020	JTB	High 3/12/2020	JTB	9/23/2020	RV	Yes	2020: 9/23	RV	In Compliance	Ongoing		Yes	Inspection notes sent in by Jesse Watknitz of PoPA. Ongoing until 2024.
12	Private	BP	21-0290	1504 Bldg 900 Fairchild Airport	New Hanger "F"	MR 1-9	5/7/2021	VM	Low / NA	VM	9/9/2021	RV	Yes	2021: 12/6	MSA	In Compliance	Ongoing		Yes	Concrete wash out required 9/9/21 RV
13	Private	BP	20-0820	3729 McDougal St.	Adamich	MR 1-5	7/31/2020	JTB	Low / NA	JTB	10/1/2020	RV	Yes	2022: 4/15	RV	In Compliance	11/21/2022	SA	Yes	
14	Private	BP	20-0958-60	1015 W 17th St.	Luxton	MR 1-5	10/15/2020	JTB	Low / NA	JTB	2/2/2021	JP	Yes	2020: 11/10, 12/31, 2021: 1/26	V. Mac	In Compliance	1/6/2022	MA	Yes	Began Const. w/o Permit. Stop Work Order. Resolved 2.2.2021
15	Private	BP	20-1269	415 E 9th St.	Croteau	MR 1-5	12/9/2020	JTB	Low / NA	JTB	12/18/2020	EW	Yes	2021: 10/8	MSA	In Compliance	1/22/2022	MA	Yes	
16	Private	BP	21-0123	1016 Walker St.	Robbins/Zenovic	MR 1-5	3/1/2021	JTB	Low / NA	JTB	6/4/2021	RV	Yes	2021: 12/3	RV	In Compliance	1/28/2022	MA	Yes	
17	Private	BP	21-0131	830 Church Ave	Cozi Homes	MR 1-5	3/22/2021 3/29/2021	JTB	Low / NA	JTB	4/23/2021	RV	Yes	2021: 6/2	MSA	In Compliance	12/2/2022	SA	Yes	No during construction dates
18	Private	BP	21-0342	1402 Morning Ct.	Jones SFR	MR 1-9	5/6/2021	VM	Low / NA	VM	9/17/2021	RV	Yes	2021: 4/23, 6/2	RV	In Compliance	9/19/2022	SA	Yes	Project triggers MR 1-9, however, does not exceed 6, 7, 8, or 9 thresholds. SW addressed at subdivision level.
19	Private	BP	21-0704	1410 Rook Dr.	Green Crow Spec - SFR	MR 1-5	6/16/2021	MA	Low / NA	MA	8/6/2021	RV	Yes	2021: 8/24	MSA	In Compliance	5/16/2022	RV	Yes	
20	Private	BP	21-0724	1403 Rook Dr.	Green Crow Spec - SFR	MR 1-5	6/25/2021	MA	Low / NA	MA	11/10/2021	MA	Yes	2021: 11/12, 12/10	MSA	In Compliance	5/20/2022	SMA	Yes	
21	Private	BP	21-0725	1405 Rook Dr.	Green Crow Spec - SFR	MR 1-5	6/25/2021	MA	Low / NA	MA	8/26/2021	MA	Yes	2021: 9/28,	MSA	In Compliance	3/9/2022	RV	Yes	
22	Private	BP	21-0749	1802 W 13th St	Lindberg-Shrode	MR 1-5	7/15/2021	MA	Low / NA	MA			Yes			Not In Compliance	8/30/2022	SMA	Yes	No call for PWKS pre-insp. Or during. Foundation Insp. by JLL on 10/25/2021.
23	Private	BP	21-1218	903 Milwaukee Dr	McKnight	MR 1-5	10/4/2021	MA	Low / NA	MA	12/13/2022	SMA	Yes	2022: 12/29	SA MM	In Compliance	Ongoing		Yes	
24	Private	BP	21-1251	2419 W 10th Str	McKnight	MR 1-5	10/12/2021 10/14/2021	MA MA	Low / NA	MA	11/24/2021	MA	Yes	2022: 2/18	RV	In Compliance	Ongoing		Yes	
25	Private	BP	21-0076	1626 W 11th St	Taylor Built Homes	MR 1-5	8/26/2021	MA	Low / NA	MA	10/22/2021	MA	Yes	2022: 2/17	RV	In Compliance	4/8/2022	RV	Yes	
26	Private	BP	21-0753	1407 Rook Dr.	Green Crow Spec - SFR	MR 1-5	6/28/2021	MA	Low / NA	MA	7/14/2021	MA	Yes	2021: 12/14 2022: 1/11	MA	In Compliance	1/20/2022	MA	Yes	
27	Private	BP	21-0754	1202 Dutch Dr.	Mill Cr. Construction SFR	MR 1-9	6/29/2021 8/31/2021	VM VM	Low / NA	VM	10/4/2021	RV	Yes	2021: 10/25 2022: 5/26	MA	In Compliance	7/29/2022 8/2/2022	SMA	Yes	
28	Public	BP	21-0767	302 Race St.	COPA Parks & Rec., Pump Track	MR 1-9	8/19/2021 8/26/2021	VM VM	Low / NA	VM			Yes	2022: 5/25	SMA	In Compliance	7/6/2022	SMA	Yes	
29	Private	BP	21-0842	706 Del Guzzi Dr	North Pointe Const.	MR 1-5	7/26/2021	MA	High / 7.19.21	MA	8/10/2021	RV	Yes	2021: 9/8 9/14 2022: 3/24	RV	In Compliance	4/4/2022	RV	Yes	
30	Private	BP	21-1334	1308 Rook Dr	North Point	MR 1-5	10/26/2021	MA	Low / NA	MA	12/15/2021	MA	Yes	2022: 3/1, 3/7	RV	In Compliance	6/30/2022	RV	Yes	
31	Private	BP	21-1516	1316 Rook Dr	Botero	MR 1-5	12/2/2021	MA	Low / NA	MA	12/14/2021	MA	Yes	2022: 3/1, 3/7	RV	In Compliance	6/30/2022	RV	Yes	
32	Private	BP	21-1533	2529 W 14th St	Joel Elliot	MR 1-5	12/10/2021	MA	Low / NA	MA	12/3/2021	MA	Yes	2022: 4/19	RV	In Compliance	5/11/2022	RV	Yes	
33	Private	BP	21-1386	147 Valley Creek Dr	Duplex Sage Homes	MR 1-5	11/4/2021 3/16/2022	MA VP	Low / NA	MA			Yes	2022: 6/21	SA	In Compliance	10/28/2022	SA	Yes	
34	Private	BP	21-0068	1602 W 11th St	Taylor Built Homes	MR 1-5	2/2/2021	JTB	Low / NA	JTB	4/6/2022	RV	Yes	7/5/22, 7/8/22	SA	In Compliance	12/15/2022	MM	Yes	Project final'd by JLL 12/15/2022. No PWKS final, BLDG final 12/15/2022
35	Private	BP	21-0776	707 S. Chase St.	Const. Permit - NW Kidney Center	MR 1-9	9/15/2021 9/21/2021 10/29/2021	VM VM VM	Low / NA	VM	2/23/2022	SA	Yes	2022: 4/1, 4/14	SA	In Compliance	8/9/2022	RV, EW	Yes	
36	Private	BP	21-0816	707 S. Chase St.	Demo Permit - Skating Rink -> Kidney Center	MR 1-9	9/14/2021	VM	Low / NA	VM	2/23/2022	SA	Yes	2022: 4/1, 4/14	SA	In Compliance	8/9/2022	RV, EW	Yes	
37	Private	BP	21-1006	1406 Rook Dr	Green Crow	MR 1-5	8/30/2021	MA	Low / NA	MA	6/14/2022	SA	Yes	2022: 11/30	MM	In Compliance	Ongoing		Yes	Last update 12/27/2022
38	Private	BP	21-1417	2403 W 10th St	Ace Michaels	MR 1-5	11/16/2021	MA	Low / NA	MA	7/26/2022	SA	Yes	2022: 8/18	SA	In Compliance	Ongoing		Yes	Last update 12/27/2022
39	Private	BP	21-1418	2407 W 10th St	Ace Michaels	MR 1-5	11/16/2021	MA	Low / NA	MA	2/9/2022	RV	Yes	2022: 8/8	RV	In Compliance	8/26/2022	SA	Yes	
40	Private	BP	21-1343	1408 Rook Dr	North Point	MR 1-5	10/28/2021	MA	High / 10.29.21	MA	5/20/2022	SMA	Yes	2022: 10/18	SA	In Compliance	11/28/2022	SA	Yes	
41	Private	BP	21-1370	1404 Rook Dr	NorthPoint	MR 1-5	11/2/2021	MA	High / 11.3.21	MA	7/1/2022	SA	Yes	2022: 11/3	SA	In Compliance	Ongoing		Yes	Last update 12/27/2022
42	Private	BP	21-1385	145 Valley Creek Dr	Duplex Sage Homes	MR 1-5	11/4/2021 3/16/2022	MA VP	Low / NA	MA	4/8/2022	JLL	Yes	2022: 6/21	SA	In Compliance	10.28.22	SA	Yes	Pre-con during foundation footing.
43	Private	SP	20-0029	10th & L Streets	MacRae Short Plat, John Ralston	MR 1-9	9/2/2020 7/13/2022	VM VM	NA - Design Only	V. Mac			N/A				Design only		Yes	
44	Private	BP	21-1109	3601 Page St	SFR - Lot 1	MR 1-5	5/25/2022	VP	Low / NA	VP	3/16/2022	RV	Yes	4/14/2022	RV	In Compliance	7/21/2022	SA	Yes	Inspection notes missing.
45	Private	BP	21-1110	108 Valley Creek Dr	SFR - Lot 42	MR 1-5	9/20/21 5/16/2022	MA VP	Low / NA	VP	5/11/2022	RV	Yes	2022:6/22, 8/14	SA	In Compliance	9/14/2022	SA	Yes	Inspection notes missing.
46	Private	BP	21-1111	3607 Page St	SFR - Lot 2	MR 1-5	5/25/2022	VP	Low / NA	VP	1/11/2022	MA	Yes	2022: 4/14	RV	In Compliance	5/16/2022	SA	Yes	Inspection notes missing.
47	Private	BP	21-1129	120 Valley Creek Dr	SFR - Lot 44	MR 1-5	3/15/2022 6/7/2022	VP VP	Low / NA	VP	6/14/2022	SA	Yes	2022: 6/27	SA	In Compliance	10/28/2022	SA	Yes	Inspection notes missing.
48	Private	BP	21-1196	3613 Page St	SFR - Lot 3	MR 1-5	5/25/2022	VP	Low / NA	VP	1/11/2022	MA	Yes	2022: 4/14	RV	In Compliance	5/25/2022	SA	Yes	Inspection notes missing.
49	Private	BP	21-1203	203 Creekside	4-plex Sage Homes	MR 1-5	3/11/2022	VP	Low / NA	VP	7/27/2022	SA	Yes	2022: 10/26	SA	In Compliance	Ongoing		Yes	Last update 12/23/22
50	Private	BP	21-1204	205 Creekside	4-plex Sage Homes	MR 1-5	3/11/2022	VP	Low / NA	VP	7/27/2022	SA	Yes	2022: 10/26	SA	In Compliance	Ongoing		Yes	Last update 12/23/22
51	Private	BP	21-1205	207 Creekside	4-plex Sage Homes	MR 1-5	3/11/2022	VP	Low / NA	VP	7/27/2022	SA	Yes	2022: 10/26	SA	In Compliance	Ongoing		Yes	Last update 12/23/22
52	Private	BP	21-1206	209 Creekside	4-plex Sage Homes	MR 1-5	3/11/2022	VP	Low / NA	VP	7/27/2022	SA	Yes	2022: 10/26	SA	In Compliance	Ongoing		Yes	Last update 12/23/22
53	Private	BP	21-1354	3614 Page St	Sage Homes	MR 1-5	11/3/21 3/16/2022	MA VP	Low / NA	MA	1/24/2022	MA	Yes	2022: 2/16	SA	In Compliance	6/6/2022	SMA	Yes	
54	Private	BP	21-1356	3619 Page St	Sage Homes	MR 1-5	11/4/2021 3/16/2022	MA VP	Low / NA	MA	2/16/2022	RV	Yes	2022: 5/4	SA	In Compliance	6/15/2022	SMA	Yes	Infiltration trench

Count	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	Current ESC Status	Final Completion Inspection Date	Initials	Docs. In Order	Inspection Notes:
55	Private	BP	21-1357	3620 Page St	Sage Homes	MR 1-5	11/4/2021 3/16/2022	MA VP	Low / NA	MA	1/24/2022	MA	Yes	2022: 3/4	RV	In Compliance	6/9/2022	SMA	Yes	
56	Private	BP	21-1388	3625 Page St	Sage Homes	MR 1-5	11/4/2021 3/16/2022	MA VP	Low / NA	MA	4/14/2022	RV	Yes	2022: 5/4	SA	In Compliance	7/20/2022	SA	Yes	Infiltration trench
57	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	In Compliance	Ongoing		Yes	Last update 12/27/2022
58	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	SA MM SA	In Compliance	Ongoing		Yes	11.4.22: See "Site Visit 11.4.22" Site Contact (CESCL): Levi Henderson 306 434 5291 Last update 12/23/2022
59	Private	BP	21-1590	115 W. Front St.	Parking Lot Upgrade - D. Schmitt	MR 1-9	5/17/2022	VM	Low / NA	VM			No				Not started		Yes	Not issued as of 12.5.22
60	Private	BP	21-1662	1736 W 10th St	SFR	MR 1-5	12/23/21 1/18/22 7/13/22	MA VM VM	Low / NA	VM			No				Not started		Yes	Not issued as of 12.22.22
61	Private	BP	21-1672	2710 W 14th St Lot 3	Yakovich/North Point Construction	MR 1-5	2/1/2022	MA	Low / NA	MA			No				Not started		Yes	Not issued as of 12.23.22
62	Private	C&G	21-1702	2710 W. 14th St.	Milwaukee Trails PRD, Phase 1, 2 & 14th St. Improvements	MR 1-9	6/29/2021 1/20/2022 5/15/2022 5/23/2022	VM	High / 3.14.2022	VM	8/30/2022	VM SA	Yes			In Compliance	Ongoing		Yes	Work associated with other permits - C&G 20-0490, C&G 21-0835, C&G 21-1702.
63	Private	BP	21-1708	1317 E 5th St	SFR and ADU	MR 1-5	1/28/22 3/24/2022 12/19/2022	MA VP SA	High / 12.19.2022	SA			No				Not started		Yes	Not issued as of 12.17.22
64	Private	BP	22-0034	804 F St	SFR	MR 1-5	2/8/2022	MA	High / 1.25.2022	MA	3/29/2022	RV	Yes	2022: 4/29, 8/24	SA	In Compliance	Ongoing		Yes	IDDE event associated with related with BP 22-0034
65	Private	BP	22-0207	810 F St	SFR	MR 1-5	3/8/2022	VP	High / 1.25.2022	VP	4/13/2022	RV	Yes	2022: 4/29, 8/24	SA	In Compliance	12/22/2022	SA	Yes	No logged final in CS due to Building final first. IDDE event recorded April 22
66	Private	BP	22-0059	126 Valley Cr Dr	SFR Sage Homes	MR 1-5	3/14/2022	VP	Low / NA	VP	7/6/2022	SA	Yes	2022: 8/22	SA	In Compliance	12/21/2022	SA	Yes	
67	Private	BP	22-0072	146 Valley Creek Dr	Duplex Sage Homes	MR 1-5	3/14/2022	VP	Low / NA	VP			No				Not started		Yes	Last update 12/27/2022
68	Private	BP	22-0073	148 Valley Creek Dr	Duplex Sage Homes	MR 1-5	3/14/2022	VP	Low / NA	VP			No				Not started		Yes	Last update 12/27/2022
69	Public	BP	22-0170	Port Log Yard	COPA Port Repair	MR 1-5	3/2/2022	VP	Low / NA	VP			No				Not started		Yes	Project has not started yet, likely will begin 2026. ongoing as of 12/23/22
70	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	In Compliance	Ongoing		Yes	Last update 12/23/22
71	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	In Compliance	Ongoing		Yes	Last update 12/23/22
72	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	In Compliance	Ongoing		Yes	Last update 12/23/22
73	Private	BP	22-0283	150 Creekside	4-plex Sage Homes	MR 1-5	4/25/2022	VP	Low / NA	VP			No				Not started		Yes	Last update 12/23/22
74	Private	BP	22-0284	152 Creekside	4-plex Sage Homes	MR 1-5	4/25/2022	VP	Low / NA	VP			No				Not started		Yes	Last update 12/23/22
75	Private	BP	22-0285	154 Creekside	4-plex Sage Homes	MR 1-5	4/25/2022	VP	Low / NA	VP			No				Not started		Yes	Last update 12/23/22
76	Private	BP	22-0286	202 Creekside	4-plex Sage Homes	MR 1-5	4/25/2022	VP	Low / NA	VP			No				Not started		Yes	Last update 12/23/22
77	Private	BP	22-0318	1138 Lauridsen Blvd	RND SFR	MR 1-5	3/24/2022 8/2/22 / /	VP SA	-	-			No				In review		Yes	In review. Plan revision request, 8.2.22
78	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	In Compliance	Ongoing		Yes	
79	Public	BP	22-0337	1213 Marine Dr	Castaways DEMO	MR 1-5	4/26/2022	VP	Low / NA	VP			Yes			Not In Compliance	No final		Yes	No pre-con, during, or final. Inspection notes sent in by Jesse Watknitz of PoPA. Short demo - no need for during inspection(s).
80	Private	BP	22-0469	3604 Creekside Dr	SFR - Lot 55	MR 1-5	5/9/2022	VP	Low / NA	VP			No				Not started		Yes	Not started.
81	Private	BP	22-0477	3715 Page St	SFR - Lot 8	MR 1-5	5/9/2022	VP	Low / NA	VP			No				Not started		Yes	
82	Private	BP	22-0515	1319 Rolling Hills Dr.	J. Elliot SFR	MR 1-5	5/19/2022	VM, SA	Low / NA	VM, SA	7/2/2022	SA	Yes	7/13/2022 RV, 9/9/2022 MM SA	RV	In Compliance	10/27/2022	SA	Yes	Soil ammendments complete, still some construction materials on site waiting on supplier retrieval, inspection conditionally approved - 10-27-22 SA
83	Private	BP	22-0588	3721 Page St	SFR Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP			No				Not started		Yes	
84	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			In Compliance	Ongoing		Yes	Last update 12/23/2022
85	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			In Compliance	Ongoing		Yes	Last update 12/23/2022
86	Private	BP	22-0593	204 Creekside	4-plex Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP			No				Not started		Yes	
87	Private	BP	22-0594	206 Creekside	4-plex Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP			No				Not started		Yes	
88	Private	BP	22-0595	208 Creekside	4-plex Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP			No				Not started		Yes	
89	Private	BP	22-0596	210 Creekside	4-plex Sage Homes	MR 1-5	5/25/2022	VP	Low / NA	VP			No				Not started		Yes	
90	Private	BP	22-0747	1012 Walker Dr	SFR	MR 1-5	6/21/2022	SA	Low / NA	SA			No				Not started		Yes	
91	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			In Compliance	Ongoing		Yes	Last update 12/23/2022
92	Private	C&G	22-0651	101 E. Front St.	Elwha Hotel - Prep for BP Only.	MR 1-9	7/14/2022	V. Mac	Low / NA	V. Mac	9.19.2022	VM MM	Yes			In Compliance	Ongoing		Yes	Part of a BP. ELKT prep complete only pre-con inspection done
93	Private	SP	22-0049	Parcel num: 063000931120	Short Plat: Lot 12, Block 1 of Westview Plat	Unknown	7/18/2022 / /	V. Mac	NA - Design Only				N/A				Design only		N/A	
94	Private	SP	22-0048	218 Lopez Ave.	Ralston; convert 1 lot into 3 lots	Unknown	7/28/2022 11/16/2022	V. Mac MM	NA - design only				N/A				Design only		N/A	
95	Public	BP	22-1058	1502 Lauridsen Blvd	Peninsula College - Sidewalk replacement	MR 1-5	9/8/2022	SA	High	SA	10/21/2022	SA MM	Yes			In Compliance	Ongoing		Yes	Will not be using concrete washout in drawing but instead an Eco-Pan located away from construction area. Last update 12/23/22
96	Public	BP	22-116422-1165	670 Ediz Hook Rd 700 Ediz Hook Rd	Western Marine - DEMO and Beach Restoration	MR 1-5	9/20/2022	SA	NA	SA	11/15/2022	SA MM	Yes	2022: 11/21	SA	In Compliance	Ongoing		Yes	
97	Private	BP	22-1122	1527 E. 1st St.	Popeyes Chicken	MR 1-9	10/10/2022 12/28/2022 / /	V. Mac					N/A				In review		Yes	
98	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			No				Not started		Yes	Last update 12/28/2022
99	Private	BP	22-1342	1402 Rook Dr	SFR - Campbell Ave PRD Phase 2B	MR 1-5	11/7/2022	MM	Low / NA	MM	11/7/2022	SA	Yes			In Compliance	Ongoing		Yes	Last update 12/23/2022
100	Private	BP	22-1406	333 Eclipse Industrial Parkway	SafeRack Tarping Station	MR 1-5	11/22/2022 / /	MM					No				In design		Yes	11/22/22 application uncovered unpermitted work. New application needs submitting.
101	Private	BP	22-1472	111 E. Front St.	Elwha Hotel	MR 1-9	11/29/2022 12/28/2022 / /	V. Mac					No				In review		Yes	
102	Private	EUGA	22-0017	County Permit - E. 7th Ave., off Gales St.	Eklund Subdivision, Phase II	MR 1-9	11/23/2022	V. Mac	NA - design only				N/A				Design only		N/A	County to Apply Development and TESC Inspection Standards.

Count	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	Current ESC Status	Final Completion Inspection Date	Initials	Docs. In Order	Inspection Notes:
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MR #2 ONLY PROJECTS																				
1	Private	C&G	21-1224	202 E Lauridsen Blvd	Lincoln Square	MR 2 ONLY	9/24/21	VM						2022: 6/6		SMA	In Compliance			RCP 22-0035
2	Private	C&G	21-1295	E Hwy 101 & Golf Course	Steve With	MR 2 ONLY	4/22/2022	MA												
3	Private	C&G	21-1597	100 Blk. Of W. 2nd St.	Temp. work/parking area for PHA & others.	MR 2 ONLY	1/3/2022 3/14/2022 12/9/2022	VM VM MM												IDDE event associated with related RUP 22-0572
4	Private	BP	22-0004	1025 Olympus Dr	Addition	MR 2 ONLY	1/25/2022	MA												
5	Private	ESA	22-0030	214 W. 2nd St	Viewshed enhancement - PZ 20-04	MR 2 ONLY	5.19.2022	VM												
6	Private	BP	22-0062	4416 Old Mill Rd	Addition	MR 2 ONLY	1/28/2022	MA												
7	Private	BP	22-0093	1026 E 1st St	Commercial Remodel	MR 2 ONLY	3/8/2022	VP												
8	Private	ROW CONST.	22-0103	1601 C St	Repave alley	MR 2 ONLY	3/30/2022	VM												
9	Private	BP	22-0188	535 E 1st St	Cahaan DEMO	MR 2 ONLY	2/24/2022	VP												
10	Private	BP	22-0230	1010 E 4th St	Addition	MR 2 ONLY	3/8/2022	VP												
11	Private	ROW CONST.	22-0231	1007 S Oak St	Queen of Angels School Gate	MR 2 ONLY	3/14/2022	VP												
12	Private	ROW CONST.	22-0303	224 N Washington St	Emergency Sewer Repair	MR 2 ONLY	3/16/2022	VM												
13	Private	ROW CONST.	22-0304	509 E 4th St	Emergency Sewer Repair	MR 2 ONLY	3/16/2022	VM												
14	Private	BP	22-0356	3611 Galaxy Place	ADU	MR 2 ONLY	4/7/2022	VP												
15	Private	ROW CONST.	22-0364	902 E 8th St	Emergency Sewer Repair	MR 2 ONLY	3/28/2022	VP												
16	Private	ROW CONST.	22-0374	723 E Caroline	Emergency Sewer Repair	MR 2 ONLY	4/9/2022	SA												
17	Private	ROW CONST.	22-0376	2145 W Hiway 101	Bore conduit for CATV	MR 2 ONLY	4/12/2022	SA												
18	Public	ROW CONST.	22-0396	800 E Lauridsen	Pole Replacement	MR 2 ONLY	5/2/2022	VM												
19	Private	BR	22-0413, 0415	1917 W 18th St	Balderson SFR & shed	MR 2 ONLY	4/27/2022	VP												
20	Private	BP	22-0424	1408 S W. 15th	Pizzoto Manufactured	MR 2 ONLY	5/19/2022	VM												
21	Private	BP	22-0440	114 E Lauridsen Blvd	Saar Remodel/Tractor Supply	MR 2 ONLY	5/9/2022	VP												
22	Private	BP	22-0441	1621 W 12th St	Elstrom - SFR	MR 2 ONLY	4/29/2022	VP												
23	Private	BP	22-0466	106/108 E. 1st St.	Jason Trople. Remodel & Façade work	MR 2 ONLY	4.19.2022	VM												
24	Private	BP	22-0495	422 E Front St	Porch and Deck	MR 2 ONLY	5/23/2022	VM												
25	Private	BP	22-0503	2027 E. 1st Street	Mod Pizza, Interior Build-out	MR 2 ONLY	5/23/2022 7/18/2022	VM												
26	Private	BP	22-0504	330 Vashon Ave	Garage Addition	MR 2 ONLY	5/20/2022	VM												
27	Private	BP	22-0517	2027 E. 1st Street	Starbucks, Interior Build-out	MR 2 ONLY	7/18/2022	VM												
28	Private	ROW CONST.	22-0549	314 E 2nd St	New sewer service	MR 2 ONLY	5/13/2022	VM												
29	Private	ROW CONST.	22-0550	1021 Caroline St	Sewer Repair	MR 2 ONLY	5/6/2022	VM												
30	Private	ROW CONST.	22-0554	2043 W 4th St	Sidewalk repair - AJ Webb	MR 2 ONLY	5/9/2022	VM												
31	Private	BP	22-0578	4017 Fairmont Ave	Demo	MR 2 ONLY	6/1/2022	SA												
32	Private	ROW CONST.	22-0583	1431 Rook Dr.	CAVFS Restoration	MR 2 ONLY	7/21/2022	VM												
33	Private	BP	22-0597	1308 W. 11th St.	Fulmer Manufactured	MR 2 ONLY	5/24/2022	VM, SA												
34	Private	ROW CONST.	22-0618	214 W 2nd St	Brant Miles, sidewalk removal	MR 2 ONLY	7/20/2022	SA												
35	Private	ROW CONST.	22-0621	1433 Rook Dr.	CAVFS Restoration	MR 2 ONLY	5/31/2022	VM									12/28/2022	SA/MM		
36	Private	ROW CONST.	22-0633	1221 W 16th St	Jacobs Excavating	MR 2 ONLY	7/14/2022	SA												
37	Private	BP	22-0635	406 S Laurel St	Verizon	MR 2 ONLY	6/15/2022	SA												
38	Private	ROW CONST.	22-0662	1300 Eckard Ave	Street Closure Gate	MR 2 ONLY	9/2/2022	SA												
39	Private	BP	22-0713	406 S Laurel St	T-Mobile	MR 2 ONLY	6/15/2022	SA												
40	Private	ROW CONST.	22-0729	420 W 2nd St	Emergency Sewer Repair	MR 2 ONLY	6/30/2022	SA												
41	Private	ROW USE	22-0736	114 E 6th St	Ralph Allen	MR 2 ONLY	6/24/2022	SA												
42	Private	BP	22-0815	902 E 1st St A	Pizza Hut	MR 2 ONLY	10/18/2022 11/14/2022	MM MM												
43	Private	BP	22-0817	2916 S Peabody St	Aaron Taylor	MR 2 ONLY	7/11/2022	SA												
44	Private	C&G	22-0871	14th to 16th Evens Owens	Pappas Group	MR 2 ONLY	7/21/2022	VM												
45	Private	BP	22-0876	1319 Campbell Ave	Saunders Deck install	MR 2 ONLY	7/22/2022	SA												
46	Private	BP	22-0883	316 E 12th St	Kandu Foundation replcement	MR 2 ONLY	7/22/2022	SA												
47	Private	ROW CONST.	22-0895	100 W 1st St	WSDOT highway coring	MR 2 ONLY	7/18/2022	SA												
48	Private	ROW CONST.	22-0968	723 E 6th St	Sewer Repair	MR 2 ONLY	8/10/2022	SA												
49	Private	BP	22-0970	412 E 10th St	Hunt and Company	MR 2 ONLY	8/3/2022	SA												
50	Private	ROW CONST.	22-0968	723 E 6th St	Peninsula Excavating	MR 2 ONLY	8/5/2022	SA												
51	Private	BP	22-1002	1734 W 12th st	North Olympic Developers LLC	MR 2 ONLY	8/15/2022	SA												
52	Private	ROW CONST.	22-1013	1515 W 6th St	Emergency Sewer Repair	MR 2 ONLY	8/11/2022	RV												
53	Public	BP	22-1024	124 W Front St	COPA - Portland Loo	MR 2 ONLY	8/16/2022	SA												
54	Public	BP	22-1025	123 E Front St	COPA - Portland Loo	MR 2 ONLY	8/16/2022	SA												
55	Private	ROW CONST.	22-1041	728 W 8th St	Dirt Designs	MR 2 ONLY	8/17/2022	SA												
56	Private	BP	22-1051	2910 S Regent St	Timeless Contracting	MR 2 ONLY	8/22/2022	SA												
57	Public	C&G	22-1045	223 W 4th St	Clallam County EV Charging Station	MR 2 ONLY	9/12/2022	SA												
58	Private	ROW CONST.	22-1079	Intersections of 1st and Del Guzzi	Horizontal Bore Sewer Line	MR 2 ONLY	9/12/2022	SA												
59	Private	ROW USE	22-1080	112 W 8th St	Phoenix Remodeling	MR 2 ONLY	9/20/2022	SA												
60	Private	DP	22-1082	1002 E Park Ave	ADU Demo	MR 2 ONLY	9/6/2022	VM												
61	Private	BP	22-1101	931 W 12th St	West Coast Metal Buildings, Garage	MR 2 ONLY	9/13/2022	MM												
62	Private	BP	22-1117	319 S E 6th St	Jack Bevins	MR 2 ONLY	9/20/2022	SA												
63	Private	BP	22-1128	1208 E 7th St	John Mehlheff	MR 2 ONLY	9/23/2022	SA												
64	Private	ROW CONST.	22-1149	436 E Lopez	Emergency Sewer Repair	MR 2 ONLY	9/19/2022	SA												
65	Private	ROW CONST.	22-1238	723 E 6th St	North Sky Communications Phone Line	MR 2 ONLY	9/30/2022	SA												
66	Private	ROW CONST.	22-1286	108 S Race St	Distinctive Designs by Julie, Driveway	MR 2 ONLY	10/18/2022	MM												
67	Private	ROW CONST.	22-1295	1103 Craig Ave	Eden Excavating, Sewer Repair	MR 2 ONLY	10/18/2022	SA, MM												
68	Private	ROW CONST.	22-1327	320 Ahlvers Rd	Construct driveway	MR 2 ONLY	10/25/2022	SA												
69	Private	ROW CONST.	22-1330	1206 N St	Trench CATV	MR 2 ONLY	10/25/2022	SA												
70	Private	BP	22-1358	1011 W 17th St Bldg A	Luxton Duplex	MR 2 ONLY	11/4/2022	SA												
71	Private	BP	22-1359	1011 W 17th St Bldg B	Luxton Duplex	MR 2 ONLY	11/4/2022	SA												
72	Private	BP	22-1393	4104 Newell Rd	Little	MR 2 ONLY	11/16/2022	SA												
73	Private	BP	22-1470	917 S Francis	Gutknecht	MR 2 ONLY	12/6/2022	SA												
74	Private	ROW CONST.	22-1504	1710 W 14th St	Trench CATV	MR 2 ONLY	12/2/2022	SA												
75	Private	ROW CONST.	22-1512	3606 McDougal	New sewer service	MR 2 ONLY	1/19/2022	SA												
76	Private	ROW CONST.	22																	

Count	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	Current ESC Status	Final Completion Inspection Date	Initials	Docs. In Order	Inspection Notes:
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2022 End of Year Statistics Phase II Municiple SW Permit, WAR045028				
Category	Count	Percent	SS.C.6	Notes
Total plans reviewed for SW Review:	138	100%	c.i.	Number of plans reviewed in 2022
Appendix 7 sites:	7	-	c.ii.	Number of high risk Appendix 7 sites in 2022
Appendix 7 inspections:	7	100%	c.ii.	Number of high risk Appendix 7 pre-inspections in 2022
Pre-Construction Sites:	43	-	-	Number of sites requiring pre-construction inspections in 2022
Pre-Construction Inspections:	41	95%	-	Number of pre-construction inspections in 2022
During-Construction Sites:	46	-	c.iii.	Number of sites requiring during-construction inspections in 2022
During-Construction Sites Inspected:	45	98%	c.iii.	Number of during-construction sites inspected in 2022
During-Construction Inspections:	57	-	-	Number of during-construction inspections in 2022
Total Number of During-Construction Inspections:	98	-	-	Number of pre and during construction inspections in 2022
IDDE Enforcement:	2	100%	-	Number IDDE enforcements linked to construction in 2022
Final Inspections Required:	38	-	c.v.	Number of final inspections required in 2022
Final Inspections Performed:	37	97%	c.v.	Number of final inspections performed in 2022
(Excluding MR #2-Only) Projects Ongoing	26	-	-	Number of ongoing projects, which have started in 2022 and earlier
(Excluding MR #2-Only) Projects Not Started:	23	-	-	Number of reviewed projects that began in 2022, but have not started
Inspections Performed:	185	-	-	Total number of inspections in 2022
Inspections Required:	136	-	-	Total number of required inspections in 2022
Of Req'd, Total Inspections Achieved:	132	97%	c.vi.	Total number of achieved inspections in 2022

*In compliance with Permit by achieving at least 80% of required inspections
** During Const. Insp. includes Pre-const. erosion & sed. Control insp.



City of Port Angeles | Private Stormwater Facility Annual Inspections - 2022

Count	Development Title	Annual Inspection Date	Inspection Date(s)	Initials	Maintenance Plan?	Number of Structural BMPs	Private Facility Submitted Check List Complete?	Deficiencies found?	Enforcement	Enforcement Resolution	Site Address	Contact Person responsible for maintenance	Contact Information	Notes
1	Habitat for Humanity	Aug-21	10.19.2022	MKM	Yes	7	No	No	N/A	N/A	Off 16th St.	Colleen Robinson	Colleen@habitatclallam.org	Site fully established, Yearly inspections
2	Serenity House	Aug-21	9.22.2022	MKM	Yes	6	No	No	N/A	N/A	2321 W. 18th St.	Habitat For Humanity Donny Tyler	donny.tyler@serenityhouseclallam.org (360) 215-0476	Site fully established, Yearly inspections
3	Port of Port Angeles - ACTI Site	Oct-21	9.20.2022	MKM	Yes	36	Yes	No	N/A	N/A	2200 W 18th ST	Jesse Waknitz	jessew@portofpa.com	Site stabilized, no new construction. Yearly inspections
4	Family Medicine (NOHN)	Aug-21	9.19.2022	MKM VM	Yes	12	Yes	No	N/A	N/A	240 W Front St	Tammy Reid Kirby Hawn	Treid@nohn-pa.org Khawn@nohn-pa.org	Site fully established, Yearly inspections
5	Peninsula College Parking Lot and Soccer Fields	Dec-21	10.27.2022	MKM	Yes	37	No	Yes	Discussion with new manager requirements to avoid non-compliance	Emergency release deficiency addressed.	1502 E Lauridsen Blvd	JD Smith / Kevin Field	jsmith@pencol.edu (360) 460 - 3292	Site fully established, Yearly inspections
6	Peninsula College Allied Health Building	Dec-21	10.27.2022	MKM	Yes	10	No	No	N/A	N/A	1503 E Lauridsen Blvd	JD Smith / Kevin Field	jsmith@pencol.edu (360) 460 - 3292	Site fully established, Yearly inspections
7	Pendley Estates	Oct-21	12.30.2022	MKM	Yes	15	No	Yes	Currently working with homeowners to establish O&M program	Ongoing. Depends on compliance.	Southside of West 14th Street, across from Samara Drive	Peninsula Housing Authority	aourourke@peninsulapha.org (360) 452 - 7631 ext. *841	Site fully established, Yearly inspections
8	Olympic Medical Center Parking Lots Columbia St, Medical Expansion	Sep-21	10.25.2022	MKM	Yes	10	Yes	No	N/A	N/A	Columbia St and Caroline St	Rockie Lee	rlee@olympicmedical.org (360) 417 - 7235	Site fully established, Yearly inspections
9	Olympic Medical Center -Medical Office Building, 3 parking lots	Oct-21	10.25.2022	MKM	Yes	25	Yes	No	N/A	N/A	907 Georgiana St.	Rockie Lee	rlee@olympicmedical.org (360) 417 - 7235	Site fully established, Yearly inspections
10	Around Again (POPA) **3 YR Interval** -> 1 YR Intrvl	Jul-22	9.20.2022	MKM	Yes	3	No	No	N/A	N/A	2604 W. 18th St.	POPA - Jesse Waknitz	jessew@portofpa.com	Site fully established, Yearly inspections
11	Blackball Ferry Terminal West Pier Replacement	Jul-21	11.2.2022	MKM	No	6	Yes	No	N/A	N/A	101 Railroad Ave.	Rian Anderson	randerson@cohoferry.com	Site fully established, Yearly inspections
12	Peninsula Behavioral Health 2016 Parking Lot	Aug-21	11.9.2022	MKM	Yes	12	Yes	No	N/A	N/A	118 E. 8th St.	Wes Zimmer	wesz@peninsulabehavioral.org (360) 461-7386	Site fully established, Yearly inspections
13	North Olympic Library System	Dec-21	11.26.2022	MKM	Yes	2	Yes	No	N/A	N/A	401 Orcus Ave	Brian Phillips	bphillips@nols.org	Site fully established, Yearly inspections
14	Clallam County Courthouse Raingarden Retrofit	Dec-21	9.26.2022	MKM	Yes	10	Yes	No	N/A	N/A	223 E. 4th St.	Joel Winborn	jwinborn@co.clallam.wa.us	Site fully established, Yearly inspections
15	McDonalds	May-21	11.15.22	MKM	Yes	12	No	Yes	NOV to be issued	TBD	1706 E. Front St.	Doug Fenwick Director of Operations Peninsula McDonald's Rest.	doug@peninsulamcdonalds.com (360) 271 - 8582	Site fully established, Yearly inspections
16	Green Crow, Campell Ave. PRD Phase 2A & 2B	Jun-21	11.1.2022	MKM	Yes	17	No	No	N/A	N/A	Rook Drive	Bruce Emery	bruce@greencrow.com (360) 417 - 3669	Site fully established, Yearly inspections
17	POPA - Marine Terminal SW Treatment Facility & Marine Trades Area Wash-down Facility	Oct-20	9.20.2022	MKM	Yes	12	Yes	No	N/A	N/A	615 Marine Drive	Jesse Waknitz	jessew@portofpa.com	Site fully established, Yearly inspections
18	Collegiate Housing International (CHI)	Jun-21	11.7.2022	MKM	Yes	16	No	Yes	Discussion with new manager requirements to avoid non-compliance	Deficient Filterra Vault scheduled for maintenance early 2023	1134 E. Park Ave	Joel Crosby Curtis Brackett	crosbycommercial@gmail.com (415) 662-0750	Site fully established, Yearly inspections
19	Cooke-Ainscough SFR	Jul-21	11.19.2022	MKM	Yes	5	Yes	No	N/A	N/A	844 Willow Ave.	Kerri Cook	upriversoul@hotmail.com (360) 333-5042	Site fully established, Yearly inspections
20	Shore Aquatic Center	April-21 Oct-21	9.29.2022	MKM	Yes	13	No	No	N/A	N/A	225 East 5th St.	Steve Burke	steve@sacpa.org (360) 460 - 3526	Site fully established, Yearly inspections
21	Boys and Girls Club	April-22 Oct-22	11.22.2022	MKM	Yes	14	No	No	N/A	N/A	2301 S. Francis St.	Mary Budke	mbudke@bgc-op.org (360) 477-2641	Site fully established, Yearly inspections
22	Critchfield Industrial Site	Permit not finalized	11.17.2022	MKM	No	11	No	No	N/A	N/A	Critchfield Dr & Edgewood Dr.	Alan Escuredo	aescuredo@delhur.com (360)775-9422	Permit expired. No call for Final Inspection. - Referred to E.W.
23	Mt Angeles View Phase 1	Conditional occupancy in use	10.11.2022	MKM VM	Yes	74	Yes	Yes	Working with PHA to address repairs necessary for acceptance	Most repairs completed Oct. 2022. A few more repairs are still req'd.	2603 S Francis St.	Annie O'Rourke	aourourke@peninsulapha.org 360-452-7631 ext. *841	Site conditionally established, Yearly inspections
24	Kidney facility	Feb-23 Aug-23	-	-	-	6	-	-	-	-	707 South Chase St.	Randy Thompson	206-720-3765 randy.thompson@nwkidney.org	Final'd Aug. 2022 6 month interval begun
25	Port Angeles Waterfront Center	Under Construction	-	-	-	4	-	-	-	-	Front & Oak	TBD, use: Chris Fidler / Dan McNay	chris@fieldhallevts.org (206) 556-6888	Under construction
26	LEKT Downtown Hotel	Under Construction	-	-	-	TBD	-	-	-	-	111 E Front St.	TBD, use: Lower Elwha Klallam Tribe	info@elwha.org (360) 452 - 8471	In design
27	Two-Tenant Commercial Building	Under Construction	-	-	-	11	-	-	-	-	2027 E 1st St.	TBD, use: Ben Norbe	ben.norbe@kidder.com (253) 722 - 1410	Under construction
28	Reserve at Valley Creek Subdivision Phase 2 & 3	Under Construction	-	-	-	47	-	-	-	-	Valley Creek Dr.	TBD, use: Sage - Port Angeles, LLC	al@sagehomesnw.com (425) 609 - 8074	Under construction
29	West Parking Lot	Pre-development	-	-	-	1	-	-	-	-	115 W Front St.	TBD, use: Dustin Schmitt	dustinp33@gmail.com (360) 477 - 9875	No permit issued as of 12/5/2022
30	Dungeness Valley Homes 3 Story Apts	Pre-development	-	-	-	6	-	-	-	-	1815 Melody Ln	TBD, use: Andy Hines	dungenessvalleyhomes@gmail.com (360) 461 - 1405	In design
31	Lang Subdivision	Pre-development	-	-	-	TBD	-	-	-	-	1735 W 10th St.	TBD, use: Dan Williams	angel77@olypen.com (360) 460 - 1007	In design
32	Milwaukee Trails Subdivision	Pre-development	-	-	-	13	-	-	-	-	W 14th St. and Milwaukee Dr.	Dennis Yakovich	dennis@northpointeconstructionllc.com (360) 460 - 2600	In design
33	Popeyes	Pre-development	-	-	-	TBD	-	-	-	-	1527 E 1st St.	Charlie Patton	charlie.patton@ambrosiaqsr.com (503) 781 - 8967	In review
Year end Stats:		Scheduled	Achieved	Passed 1st time	Deficient Sites	Resolved	Progressive enforcement ongoing	Compliant sites						
		23	23	18/23	5/23	1/5	4/5	22/23						
		100%		78%	22%	20%	75%	85%						



2022 City of Port Angeles Operations and Maintenance Program

2019-2024 NPDES Stormwater Phase II Permit, per S5.C.7.c

Stormwater Facilities- 2022	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	4/19/2022	7800	yes	3/1/22 thru 11/18/22	7815	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power
5th and H, NE Corner	921, 922	4/19/2022	7800	yes	3/1/22 thru 11/18/22	7815	
5th and H, SE Corner	923, 924	4/19/2022	7800	yes	3/1/22 thru 11/18/22	7815	
5th and H, SW Corner	925, 926, 927	4/19/2022	7800	yes	3/1/22 thru 11/18/22	7815	
5th and K, NW Corner	897, 898	4/19/2022	7801	yes	3/1/22 thru 11/18/22	7816	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation, power
5th and K, NE Corner	904	4/19/2022	7801	yes	3/1/22 thru 11/18/22	7816	
5th and K, SE Corner	901, 902, 903	4/19/2022	7801	yes	3/1/22 thru 11/18/22	7816	
5th and K, SW Corner	899, 900	4/19/2022	7801	yes	3/1/22 thru 11/18/22	7816	
5th and L, NW Corner	889	4/19/2022	7802	yes	3/1/22 thru 11/18/22	7817	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	4/19/2022	7802	yes	3/1/22 thru 11/18/22	7817	
5th and L, SE Corner	892, 893, 894	4/19/2022	7802	yes	3/1/22 thru 11/18/22	7817	
5th and L, SW Corner	890, 891	4/19/2022	7802	yes	3/1/22 thru 11/18/22	7817	
6th and H, NW Corner	936, 937, 938	4/19/2022	7803	yes	3/1/22 thru 11/18/22	7958	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	4/19/2022	7803	yes	3/1/22 thru 11/18/22	7958	
6th and H, SE Corner	933	4/19/2022	7803	yes	3/1/22 thru 11/18/22	7958	
6th and H, SW Corner	934, 935	4/19/2022	7803	yes	3/1/22 thru 11/18/22	7958	
6th and K, NW Corner	910, 911	4/19/2022	7804	no	3/1/22 thru 11/18/22	8045	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	4/19/2022	7804	no	3/1/22 thru 11/18/22	8045	
6th and K, SE Corner	907, 908	4/19/2022	7804	no	3/1/22 thru 11/18/22	8045	
6th and K, SW Corner	909	4/19/2022	7804	no	3/1/22 thru 11/18/22	8045	
6th and M, NE Corner	883, 884	4/19/2022	7805	yes	3/1/22 thru 11/18/22	8218	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	4/19/2022	7805	yes	3/1/22 thru 11/18/22	8218	

6th and M, SE Corner	885, 886	4/19/2022	7805	yes	3/1/22 thru 11/18/22	8218	
6th and M, NW Corner	888	4/19/2022	7805	yes	3/1/22 thru 11/18/22	8218	
7th and H, NW Corner	943, 944	4/19/2022	7806	yes	3/1/22 thru 11/18/22	8231	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	4/19/2022	7806	yes	3/1/22 thru 11/18/22	8231	
7th and H, SE Corner	941	4/19/2022	7806	yes	3/1/22 thru 11/18/22	8231	
7th and H, SW Corner	942	4/19/2022	7806	yes	3/1/22 thru 11/18/22	8231	
7th and K, NW Corner	912	4/19/2022	7808	yes	3/1/22 thru 11/18/22	8276	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	4/19/2022	7808	yes	3/1/22 thru 11/18/22	8276	
7th and K, SE Corner	915, 917, 918	4/19/2022	7808	yes	3/1/22 thru 11/18/22	8276	
7th and K, SW Corner	913, 914	4/19/2022	7808	yes	3/1/22 thru 11/18/22	8276	
Waterfront Park Phase #2 near Oak St. (west cell)	5707	4/19/2022	7809	yes	3/1/22 thru 11/18/22	8281	hours were spent at this bioretention cell weeding, removing garbage, trimming vegetation.
Waterfront Park Phase #2 near Oak St. (east cell)	5708	4/19/2022	7811	yes	3/1/22 thru 11/18/22	8282	hours were spent at this bioretention cell weeding, removing garbage, trimming vegetation.
Railroad Ave., furthest west	70	4/19/2022	7812	yes	3/1/22 thru 11/18/22	8283	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation
Railroad Ave., 2nd from the west	71	4/19/2022	7812	yes	3/1/22 thru 11/18/22	8283	
Railroad Ave., 3rd from the west	72	4/19/2022	7812	yes	3/1/22 thru 11/18/22	8283	
Railroad Ave., 4th from the west	73	4/19/2022	7812	yes	3/1/22 thru 11/18/22	8283	
Railroad Ave., 5th from the west	74	4/19/2022	7812	yes	3/1/22 thru 11/18/22	8283	
Railroad Ave., 6th from the west	75	4/19/2022	7812	yes	3/1/22 thru 11/18/22	8283	
Railroad Ave., 7th from the west	76	4/19/2022	7812	yes	3/1/22 thru 11/18/22	8283	
Oak St., furthest north and west	77	4/19/2022	7813	yes	3/1/22 thru 11/18/22	8284	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation
Oak St., furthest north and east	78	4/19/2022	7813	yes	3/1/22 thru 11/18/22	8284	
Oak St., furthest south and west	79	4/19/2022	7813	yes	3/1/22 thru 11/18/22	8284	
Oak St., furthest south and east	80	4/19/2022	7813	yes	3/1/22 thru 11/18/22	8284	
Pump Station #4	3298, 3301, 3302	4/20/2022	7814	yes	3/1/22 thru 11/18/22	8285	several hours were spent at this intersection's bioretention cells barkdusting, weeding, removing garbage, trimming vegetation
Stormwater Facilities- 2022	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
Catch Basins REBUILT (4)	18088			yes	1/9/2022	9585	
	15729			yes	8/15/2022	9585	
	17649			yes	10/27/2022	9585	
	16446			yes	11/11/2022	9585	
Stormwater Facilities- 2022	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
CAVFS (7)							
C St. Ext.	6759	11/14/2022	9460	yes	3/1/22 thru 11/18/22	9461	

C St. Ext.	6760	11/14/2022	9460	yes	3/1/22 thru 11/18/22	9461	
C St. Ext.	6761	11/14/2022	9460	yes	3/1/22 thru 11/18/22	9461	
C St. Ext.	6762	11/14/2022	9460	yes	3/1/22 thru 11/18/22	9461	
C St. Ext.	6763	11/14/2022	9460	yes	3/1/22 thru 11/18/22	9461	
C St. Ext.	6764	11/14/2022	9460	yes	3/1/22 thru 11/18/22	9461	
C St. Ext.	6751	11/14/2022	9460	yes	3/1/22 thru 11/18/22	9461	
Stormwater Facilities- 2022	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
ConTech Filters (5)							
8th and A St.	20	8/3/2022	9462	yes	9/14/2022	9463	
8th and Cedar	17	8/3/2022	9464	no			
8th and Pine	15	8/3/2022	9465	no			
8th and Cherry	13	8/3/2022	9466	no			
16th and Maloney	26	8/3/2022	9467	no			
Stormwater Facilities- 2022	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
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	10/3/2022					
5th and Peabody	1909	10/3/2022					
3rd and Peabody	1911	10/3/2022					
8th and Francis	1930, 1910	did not occur					
Park St. at dip just west of Race St.	910	10/3/2022					
Stormwater Facilities- 2022	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
Detention Pipes (Dgravity or Dinline Storage) & Flow Control (33)							
8th and A	pipe#/flow control# 6136/18409	Date of Inspection(s) 5/6/2022	Cityworks WO# 9468	Maint. Required? no			
8th and Cedar	6130/na	5/6/2022	9468	no			
8th and Cherry	6116/na	5/6/2022	9468	no			
8th and Pine	6124/na	5/6/2022	9468	no			
O St. on W. side, just S. of 10th (adjacent to house # 1002)	266/18223	5/6/2022	9468	no			
O St. on W. side, S. of 10th (south of #266)	267/18223	5/6/2022	9468	no			
Heritage Ct. (~100' west of Heritage Ct on priv. prop.)	1987/846	5/6/2022	9468	no			
14th on S. side, just E. of N St.	1363/504	5/6/2022	9468	no			
14th on S. side, just W. of Aurora Ct.	1064/17937	5/6/2022	9468	no			
Aurora Ct on W. side	299/17937	5/6/2022	9468	no			
Aurora Ct on E. side	300/17937	5/6/2022	9468	no			
15th on N. side, between H St. and I St.	4528/18062	5/6/2022	9468	no			
16th on N. side, bordering W. side of house #2239	1058/17905	5/6/2022	9468	no			
16th on N. side, bordering S. side of house #2239	1057/17905	5/6/2022	9468	no			
16th on N. side across from Maloney Ct.	6343/18482	5/6/2022	9468	no			
16th on N. side across from Maloney Ct.	6342/18482	5/6/2022	9468	no			
16th on N. side across from Maloney Ct.	6341/18482	5/6/2022	9468	no			
Lauridsen Blvd Bridge	15205/25898	5/6/2022	9468	no			
Cathleen St. on westside, just S. of 10th St.	4660/18093	5/6/2022	9468	no			
Cathleen St. on eastside, just S. of 10th St.	2803/18093	5/6/2022	9468	no			
Jeri Lynn St., near Joshua	1067/818	5/6/2022	9468	no			
Milwaukee Dr. (between 10th and Renee Ln.)	2099/18041	5/6/2022	9468	no			

Milwaukee Dr. (between Renee and Joshua)	46/18041	5/6/2022	9468	no			
Pendley Ct	6804/18704	5/6/2022	9468	no			
Pendley Ct	6805/18704	5/6/2022	9468	no			
Pendley Ct	6806/18704	5/6/2022	9468	no			
Rolling Hills Ct.	303/16728	5/6/2022	9468	no			
Rolling Hills Dr., W. side	304/16728	5/6/2022	9468	no			
Rolling Hills Dr., E. side	247/16728	5/6/2022	9468	no			
Eckard on N. side, just west of Porter	1942/na	5/6/2022	9468	no			
Eckard on S. side, just west of Porter	1943/na	5/6/2022	9468	no			
Porter on E. side, just S. of Campbell	115/18082	5/6/2022	9468	no			
Juniper Ln, N. side from 201 to 217	224/18111	5/6/2022	9468	no			
Stormwater Facilities- 2022	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
EcoStorm Filter Plus (Block Media Filter) (2)							
Eco Storm Plus (Front and Valley)	25	5/4/2022	9455	yes	5/4/2022	9456	
Eco Storm Plus (old PS#4)	2433	5/4/2022	9457	yes	5/4/2022	9458	
Stormwater Facilities- 2022	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
Energy Dissapators (Ddischargepoint- 'Storm Vortech, ... misc.)							
Under the 8th St Bridge over Valley St.	14 (west)	1/3/2022	9459	no			
Under the 8th St Bridge over Valley St.	16 (east)	1/3/2022	9459	no			
Under the 8th St Bridge over Tumwater Truck Rt.	19 (west)	1/3/2022	9459	no			
Under the 8th St Bridge over Tumwater Truck Rt.	18 (east)	1/3/2022	9459	no			
Bottom of ravine at Cemetary	100	1/3/2022	9459	no			
Under Lauridsen Blvd. Bridge	3418	1/3/2022	9459	no			
Crown Park Aquaswirl	21	1/3/2022	9459	no			
10th and N (NW corner)	200	1/3/2022	9459	no			
Stormwater Facilities- 2022	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
Filterra Units (2x's per year INSPECT) (17)							
Lauridsen Blvd Bridge - 817 E Blvd	1234	1/31/22 and 10/26/22	8819 and 8820	yes	3/1/22 thru 11/18/22	9449	inspected by mike poats and scott henke
10th and Race St.(north)	1235	1/31/22 and 10/26/22	9416 and 9417	yes	3/1/22 thru 11/18/22	9449	inspected by mike poats and brody merritt
10th and Race St.(south)	1236	1/31/22 and 10/26/22	9418 and 9419	yes	3/1/22 thru 11/18/22	9449	
SW Corner of 6th and Francis	840	1/31/22 and 10/26/22	9420 and 9421	yes	3/1/22 thru 11/18/22	9449	
SW Corner of 4th and Francis	838	1/31/22 and 10/26/22	9422 and 9423	yes	3/1/22 thru 11/18/22	9449	
NE Corner of 4th and Francis	837	1/31/22 and 10/26/22	9424 and 9425	yes	3/1/22 thru 11/18/22	9449	
NW Corner of 4th and Francis	839	1/31/22 and 10/26/22	9426 and 9427	yes	3/1/22 thru 11/18/22	9449	
SW corner of 2nd and Francis	836	1/31/22 and 10/26/22	9428 and 9429	yes	3/1/22 thru 11/18/22	9449	
NE Corner of 4th and Albert	835	1/31/22 and 10/26/22	9430 and 9431	yes	3/1/22 thru 11/18/22	9449	
SW Corner of 3rd and Albert	833	1/31/22 and 10/26/22	9433 and 9434	yes	3/1/22 thru 11/18/22	9449	
SE Corner of 2nd and Albert	834	1/31/22 and 10/26/22	9435 and 9436	yes	3/1/22 thru 11/18/22	9449	
10th and M (new install spring 2019)	6434	1/31/22 and 10/26/22	9437 and 9438	yes	3/1/22 thru 11/18/22	9450	
10th and Westview Dr. (new install spring 2019)	6038	1/31/22 and 10/26/22	9439 and 9440	yes	3/1/22 thru 11/18/22	9450	
10th and Seamount Dr. (south side)(new install spring 2019)	6037	1/31/22 and 10/26/22	9441 and 9442	yes	3/1/22 thru 11/18/22	9450	
10th and Seamount Dr. (north side)(new install spring 2019)	6036	1/31/22 and 10/26/22	9443 and 9444	yes	3/1/22 thru 11/18/22	9450	
10th and N St. (south side)(new install spring 2019)	6034	1/31/22 and 10/26/22	9445 and 9446	yes	3/1/22 thru 11/18/22	9450	
10th and N St. (north side)(new install spring 2019)	6035	1/31/22 and 10/26/22	9447 and 9448	yes	3/1/22 thru 11/18/22	9450	
Stormwater Facilities- 2022	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:

Permeable Surfaces (45)							
	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
5th and H St. (sidewalks)	1309, 1310,	6/13/2022	9593	yes	3/1/22 thru 11/18/22	9611	moss cleaned by greg haskins
5th and K St. (sidewalks)	1700, 1701, 1702	6/13/2022	9594	yes	3/1/22 thru 11/18/22	9611	moss cleaned by greg haskins
5th and L St. (sidewalks)	1703, 1704, 1705	6/13/2022	9595	yes	3/1/22 thru 11/18/22	9611	moss cleaned by greg haskins
6th and H St. (sidewalks)	1313, 1314, 1315	6/13/2022	9596	yes	3/1/22 thru 11/18/22	9611	moss cleaned by greg haskins
6th and K St. (sidewalks)	1697, 1698, 1699	6/13/2022	9597	yes	3/1/22 thru 11/18/22	9611	moss cleaned by greg haskins
6th and M St. (sidewalks)	1706, 1707, 1708	6/13/2022	9598	yes	3/1/22 thru 11/18/22	9611	moss cleaned by greg haskins
7th and H St. (sidewalks)	1316, 1317	6/13/2022	9599	yes	3/1/22 thru 11/18/22	9611	moss cleaned by greg haskins
7th and K St. (sidewalks)	1318, 1319, 1320	6/13/2022	9600	yes	3/1/22 thru 11/18/22	9611	moss cleaned by greg haskins
Solar Lane	2097	6/13/2022	9601	no	1/2/22 thru 12/30/22	9613	cleaned once a month by vacuum sweeper
18th St. sidewalk, west of N ST.	5704	6/13/2022	9602	no			
Dunker Dr. sidewalk on west side of road	5697-5702	6/13/2022	9603	no			
1st and Race St.	1299, 1300, 1301, 1302	6/13/2022	9604	no			
1st and Race St.	1304, 1305, 1306, 1307	6/13/2022	9604	no			
1st and Race St.	1308	6/13/2022	9604	no			
Race St. between 1st and 2nd St.	1297, 1298	6/13/2022	9604	no			
4/5 Alley Chambers-Washington	2897	6/13/2022	9605	no	1/2/22 thru 12/30/22	9613	cleaned once a month by vacuum sweeper
Front-Georgiana, Francis-Eunice	2898	6/13/2022	9606	no	1/2/22 thru 12/30/22	9613	cleaned once a month by vacuum sweeper
Stormwater Facilities- 2022							
	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
Ponds and bioswales (4)							
Airport Corners - East of Access Rd	51	4/19/2022	9451	yes	3/1/22 thru 11/18/22	9586	inspected by Greg Haskins and Brody Merritt
Airport Corners - West of Access Rd - South Pond	50	4/19/2022	9452	yes	3/1/22 thru 11/18/22	9586	inspected by Greg Haskins and Brody Merritt
Airport Corners - West of Access Rd - North Pond	481	4/19/2022	9453	yes	3/1/22 thru 11/18/22	9586	inspected by Greg Haskins and Brody Merritt
Red Lion Motel - East of Parking Area	18	4/19/2022	9454	yes	3/1/22 thru 11/18/22	9586	inspected by Greg Haskins and Brody Merritt
Pump Stations							
	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)	NOTES:
Stevens School Pumpstation	2	11/15/2022	9590	no			
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 amount in COPA: (as of 2/16/23)	2682
Catch Basins Inspected in 2022	1496
Catch Basins Cleaned in 2022	1496

Catch Basins: EASTSIDE of TOWN, NIGHT SHIFT, and PRIORITY	MAINTENANCE GRID	Inspect WO#	Amount Inspected:	Clean WO#	Amount Cleaned	NOTES:
	5	too numerous to note, on file	1	too numerous to note, on file	1	
	7	too numerous to note, on file	1	too numerous to note, on file	1	
	12	too numerous to note, on file	3	too numerous to note, on file	3	
	13	too numerous to note, on file	9	too numerous to note, on file	9	
	16	too numerous to note, on file	15	too numerous to note, on file	15	(2) could not be located
	17	too numerous to note, on file	11	too numerous to note, on file	11	
	18	too numerous to note, on file	35	too numerous to note, on file	35	
	19	too numerous to note, on file	123	too numerous to note, on file	123	(4) sewer lids, (5) landscape plaza yard drains, (12) could not locate
	20	too numerous to note, on file	84	too numerous to note, on file	84	(9) could not locate, (1) offline sewer connected, (1) inside Marine Science building
	21	too numerous to note, on file	157	too numerous to note, on file	157	(5) could not locate, (2) rebuilt
	22	too numerous to note, on file	103	too numerous to note, on file	103	(1) could not locate, (1) manhole, (3) rebuilt
	23	too numerous to note, on file	45	too numerous to note, on file	45	(1) rebuilt
	26	too numerous to note, on file	34	too numerous to note, on file	34	
	27	too numerous to note, on file	28	too numerous to note, on file	28	
	28	too numerous to note, on file	22	too numerous to note, on file	22	(2) Contech Filter Vaults, (1) could not locate
	29	too numerous to note, on file	61	too numerous to note, on file	61	(2) Contech Filter Vaults, (1) could not locate
	30	too numerous to note, on file	154	too numerous to note, on file	154	(1) could not locate
	31	too numerous to note, on file	117	too numerous to note, on file	117	(1) could not locate
	32	too numerous to note, on file	61	too numerous to note, on file	61	(1) rebuilt
	37	too numerous to note, on file	26	too numerous to note, on file	26	(1) drain, not a CB
	38	too numerous to note, on file	20	too numerous to note, on file	20	
	40	too numerous to note, on file	2	too numerous to note, on file	2	
	41	too numerous to note, on file	37	too numerous to note, on file	37	
	47	too numerous to note, on file	3	too numerous to note, on file	3	
	57	too numerous to note, on file	56	too numerous to note, on file	56	
	58	too numerous to note, on file	66	too numerous to note, on file	66	(1) could not locate, (3) rebuilt
	59	too numerous to note, on file	16	too numerous to note, on file	16	(1) could not locate
	60	too numerous to note, on file	25	too numerous to note, on file	25	(1) could not locate
	61	too numerous to note, on file	16	too numerous to note, on file	16	
	62	too numerous to note, on file	45	too numerous to note, on file	45	
	63	too numerous to note, on file	2	too numerous to note, on file	2	(1) overflow inside reservoir not a CB
	64	too numerous to note, on file	27	too numerous to note, on file	27	(4) could not locate
	65	too numerous to note, on file	22	too numerous to note, on file	22	(1) Rebuilt
	67	too numerous to note, on file	20	too numerous to note, on file	20	(1) manhole
	68	too numerous to note, on file	13	too numerous to note, on file	13	(2)could not locate
	69	too numerous to note, on file	4	too numerous to note, on file	4	(1) could not locate
	90	too numerous to note, on file	26	too numerous to note, on file	26	(1) could not locate
	91	too numerous to note, on file	6	too numerous to note, on file	6	

Catch Basins REBUILT (4)	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance	Cityworks WO#(s)
	18088			yes	1/9/2022	9585
	15729			yes	8/15/2022	9585
	17649			yes	10/27/2022	9585
	16446			yes	11/11/2022	9585

Pump Station	Asset ID #	Date of Inspection(s)	Cityworks WO#	Maint. Required?
Stevens School Pump Station	2	11/15/2022	9590	no
Catchbasin on D St. near 13th that receives water from Stevens PS	17328	11/15/2022	9590	no
Storm Event Inlet and Flood Prevention Inspection		did not occur	5035 (parent)	
Storm Inlets Annual Storm Prep Liability Inspection (September)	several, see work order	9/12/2022	9591	
Crown Park Aquaswirl water testing (twice: (1) winter storm event and (1) summer storm event)		1/17/2023	8/2/2022	
10 Year Storm Event (if occurs)		did not occur	did not occur	

Corp Yard- SWPPP inspections	Date of Inspection(s)	Cityworks WO#	Maint. Required?	Date(s) of Maintenance
wet weather 1st quarter	3/15/2022	na	yes	October - June
wet weather 2nd quarter	5/16/2022	na	yes	October - June
dry weather 3rd quarter	8/3/2022	na	yes	July - September
wet weather 4th quarter	11/15/2022	na	yes	October - June

2022 Stormwater Treatment Facilities - TOTAL AMOUNT: based on individual asset #'s	
Flow Conotrol BMP's	###
Biofiltration Cells	77
CAVFS	7
ConTech Filters Chambers	5
Detention Pipes (DGravity)	33
Eco Storm Plus Block Media Filter Chambers	2
Filtterra Units	17
Permeable Surfaces	45
Ponds and bioswales	4
Swirl Concentrator	3

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



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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)

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- 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 is provided in [Appendix E](#). The specifics associated with each construction BMP can be found in Volume II of the SWMMWW.

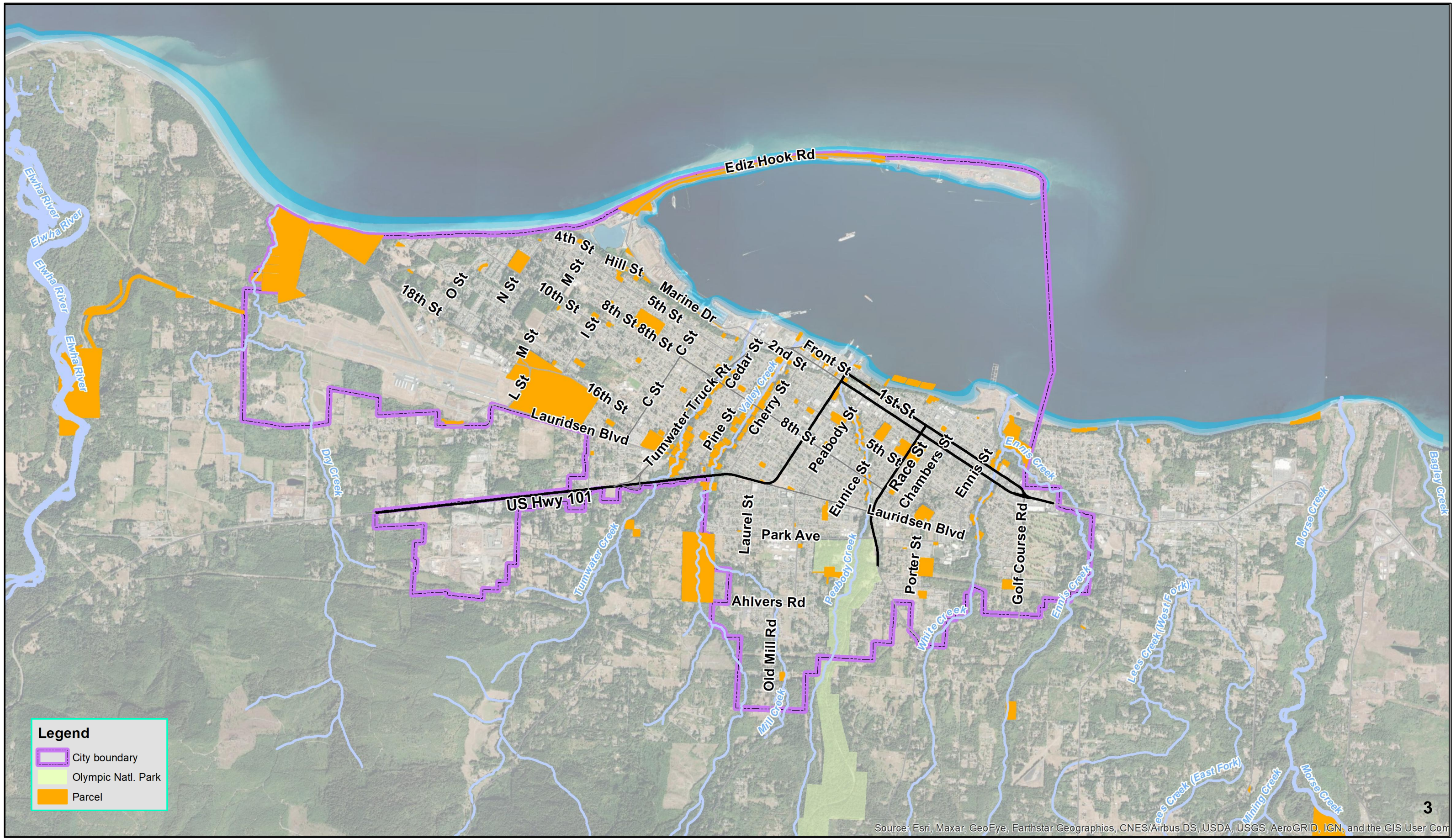
City staff that have functional control and management of a municipal facility, infrastructure, or lands are responsible for knowing these the BMPs herein and for implementing them during the exercise of their duties. All municipal leadership, including Department Directors, Superintendents, and Leadworkers 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

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Legend

- City boundary
- Olympic Natl. Park
- Parcel

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



Area Map

Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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	<ul style="list-style-type: none"> • Appendix A <ul style="list-style-type: none"> ○ Gravel shoulder maintenance ○ Pavement striping/curb & building painting ○ Pressure washing ○ Road repair and resurfacing ○ Roadside vegetation management ○ Stormwater culvert cleaning • Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix A <ul style="list-style-type: none"> ○ Stormwater pipe cleaning ○ Utility installation and repair • Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix A

	<ul style="list-style-type: none"> ○ Snow & Ice Response Plan
--	--

2.3 Parking Lots

General Maintenance	<ul style="list-style-type: none"> ● Appendix A <ul style="list-style-type: none"> ○ Gravel shoulder maintenance ○ Pavement striping/curb & building painting ○ Pressure washing ○ Road repair and resurfacing ○ Roadside vegetation management ○ Stormwater culvert cleaning ● Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ● Appendix A <ul style="list-style-type: none"> ○ Stormwater pipe cleaning ○ Utility installation and repair ● Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ● Appendix A <ul style="list-style-type: none"> ○ Snow & Ice Response Plan

2.4 Buildings

General Maintenance	<ul style="list-style-type: none"> ● Appendix A <ul style="list-style-type: none"> ○ Pavement striping/curb & building painting ○ Pressure washing ● Appendix B <ul style="list-style-type: none"> ○ 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
---------------------	--

	<ul style="list-style-type: none"> ○ S452 Goose waste ○ Appendix IV-B: Management of Street Waste Solids and Liquids
Utilities and conveyance	<ul style="list-style-type: none"> ● Appendix A <ul style="list-style-type: none"> ○ Stormwater pipe cleaning ○ Utility installation and repair ● Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ● Appendix A <ul style="list-style-type: none"> ○ Snow & Ice Response Plan

2.5 Parks and Open Space

General Maintenance	<ul style="list-style-type: none"> ● Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> ● Appendix A <ul style="list-style-type: none"> ○ Stormwater pipe cleaning ○ Utility installation and repair ● Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix A <ul style="list-style-type: none"> ○ Pavement striping/curb & building painting ○ Pressure washing ○ Road repair and resurfacing ○ Stormwater culvert cleaning • Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix A <ul style="list-style-type: none"> ○ Stormwater pipe cleaning ○ Utility installation and repair • Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix A <ul style="list-style-type: none"> ○ Snow & Ice Response Plan

2.7 Stormwater treatment and flow control BMPs/facilities

General Maintenance	<ul style="list-style-type: none"> • Appendix C <ul style="list-style-type: none"> ○ BMP maintenance tables
Utilities and conveyance	<ul style="list-style-type: none"> • Appendix A <ul style="list-style-type: none"> ○ Stormwater pipe cleaning ○ Utility installation and repair • Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix A <ul style="list-style-type: none"> ○ Snow & Ice Response Plan

2.8 Temporary Erosion and Sediment Control

General maintenance	<ul style="list-style-type: none"> • Appendix D <ul style="list-style-type: none"> ○ List of Construction Source Control and Runoff BMPs
---------------------	---

2.9 Other

Commercial/ industrial/ manufacturing	<ul style="list-style-type: none"> • Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix B <ul style="list-style-type: none"> ○ 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	<ul style="list-style-type: none"> • Appendix B <ul style="list-style-type: none"> ○ 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

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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 occurring 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

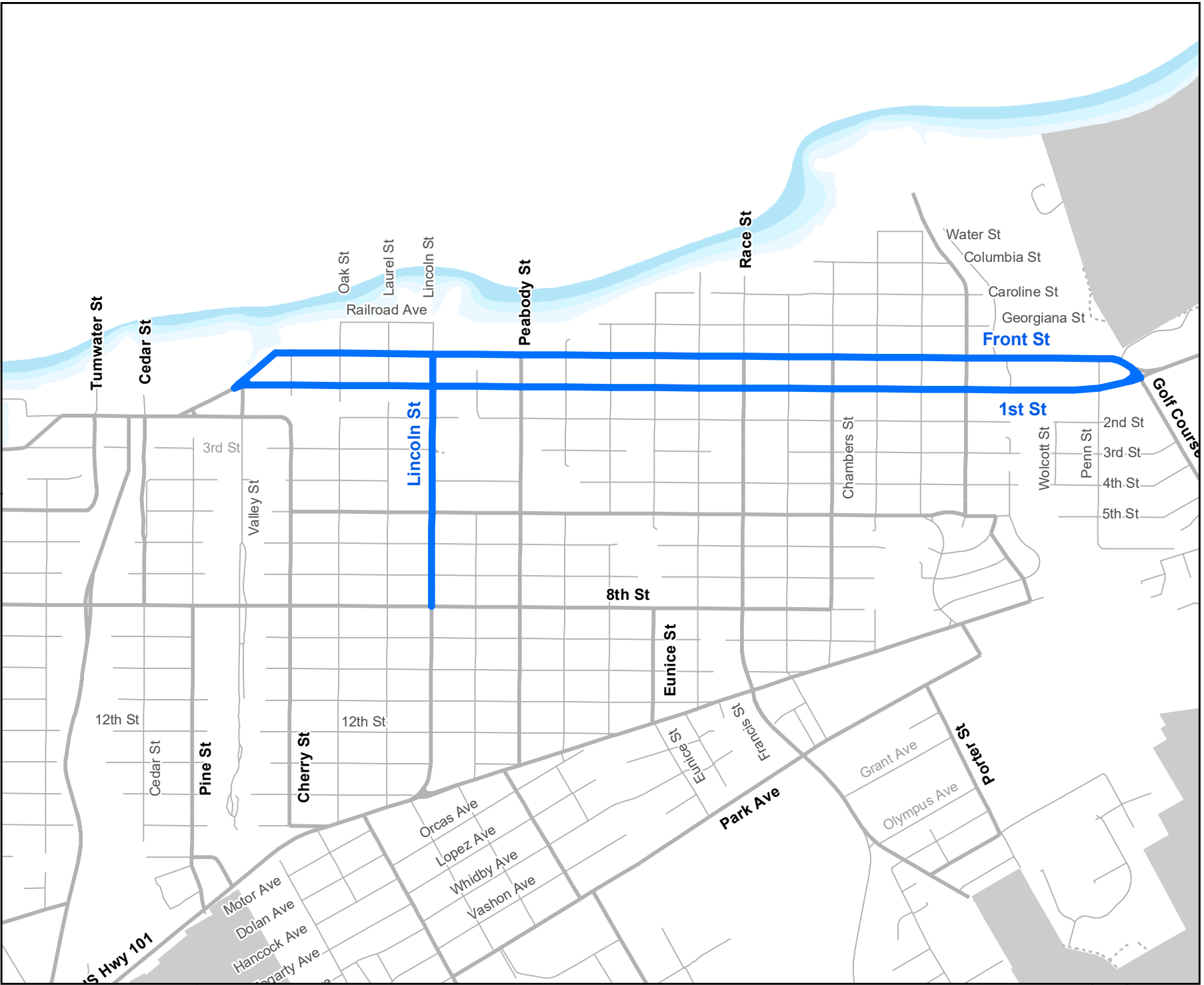


City Streets

Arterial

SideStreet

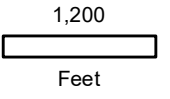
County Roads



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Any other use of this map/drawing shall not be the responsibility of the City.*



Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91



Street sweeping

Tuesday



Map legend

County

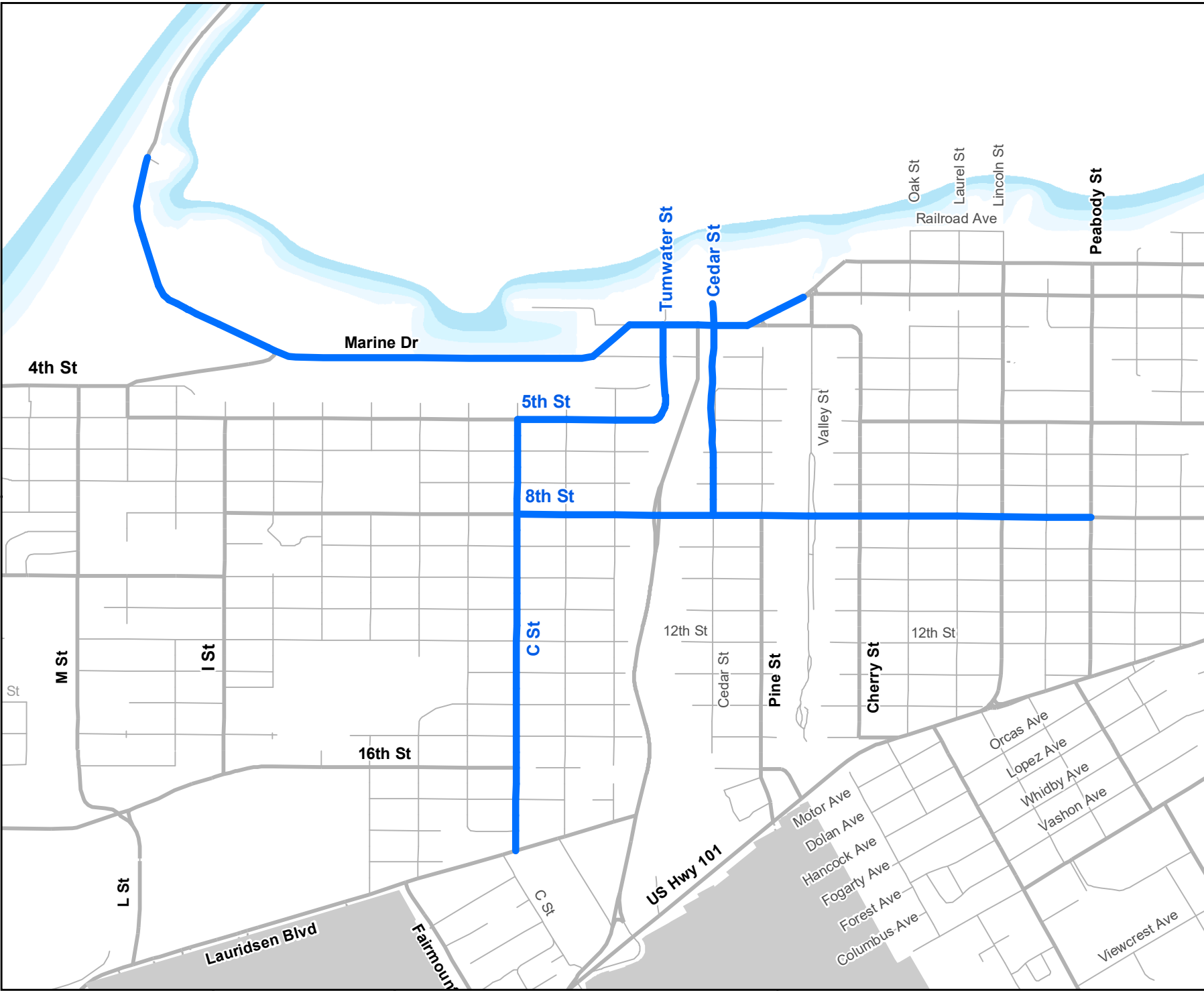


City Streets

Arterial

SideStreet

County Roads



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Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91



1,200
Feet

Street sweeping

Wednesday



Map legend

County

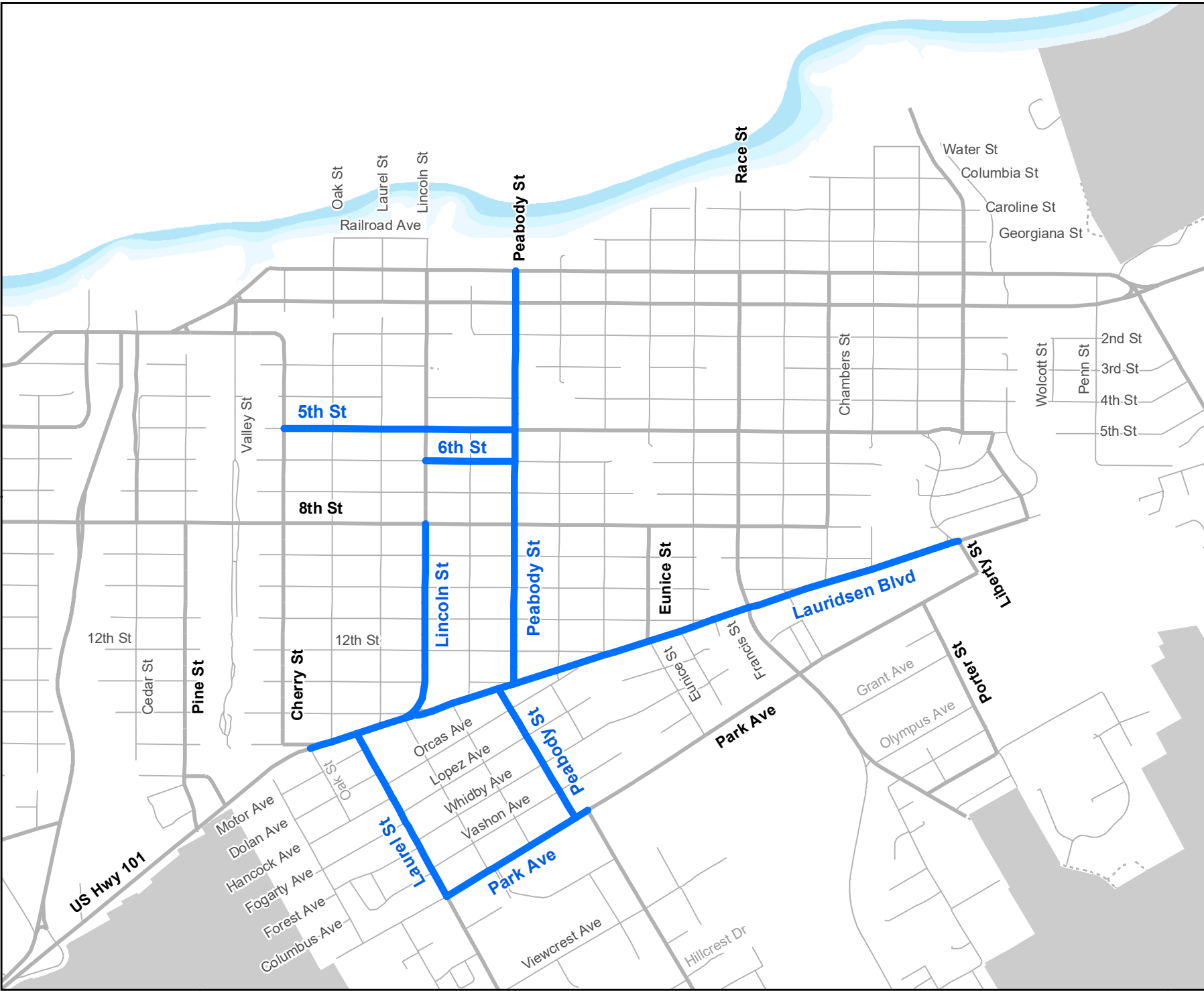


City Streets

Arterial

SideStreet

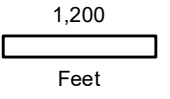
County Roads



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Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91



Street sweeping

Thursday



Map legend

County

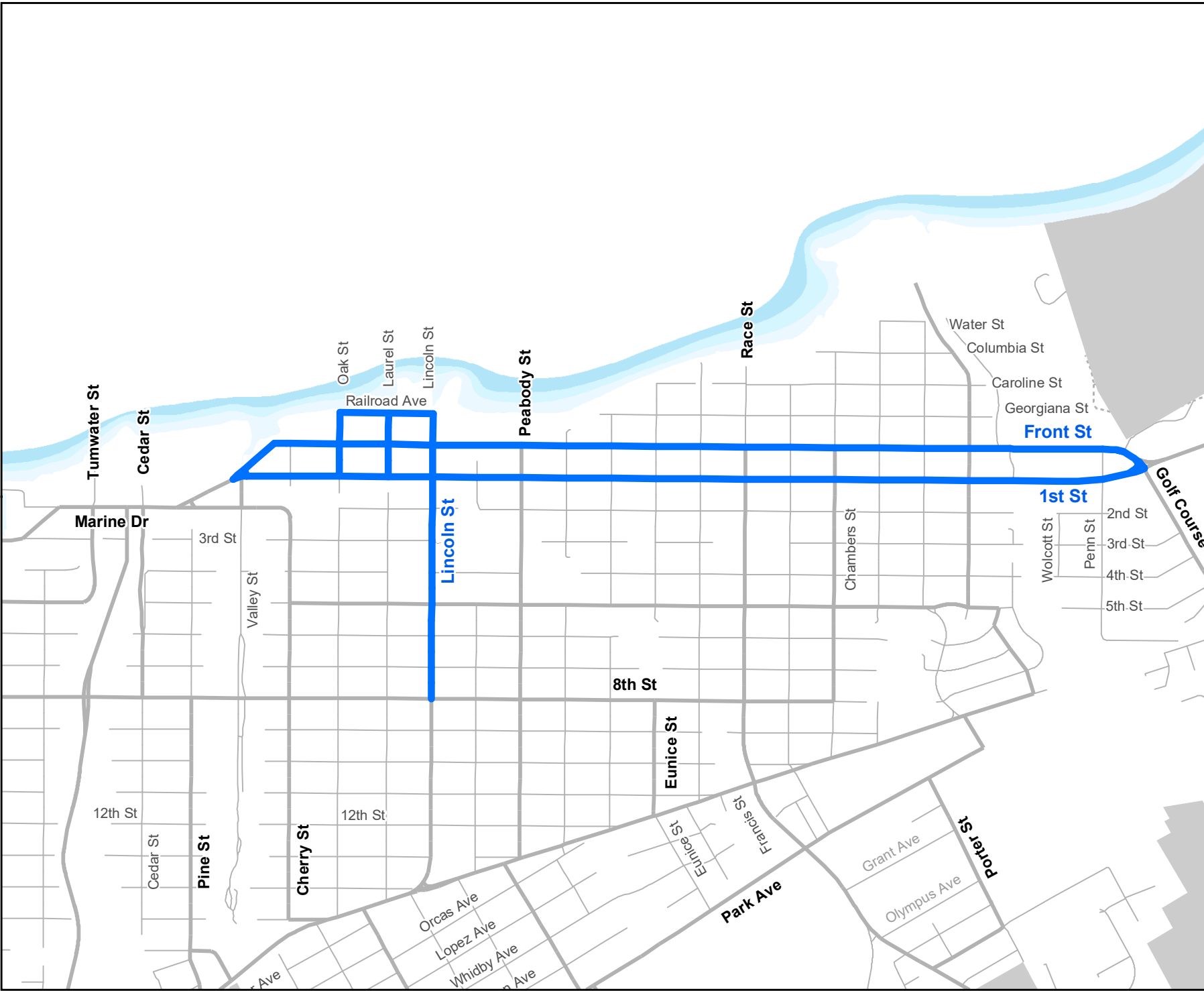


City Streets

Arterial

SideStreet

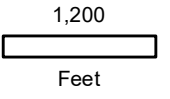
County Roads



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S:\ARC\INFO\Street\8d1 street sweeping map.mxd*



Vertical Datum = NAVD 88
Horizontal Datum = NAD 83/91



Street sweeping

Friday



Map legend

County

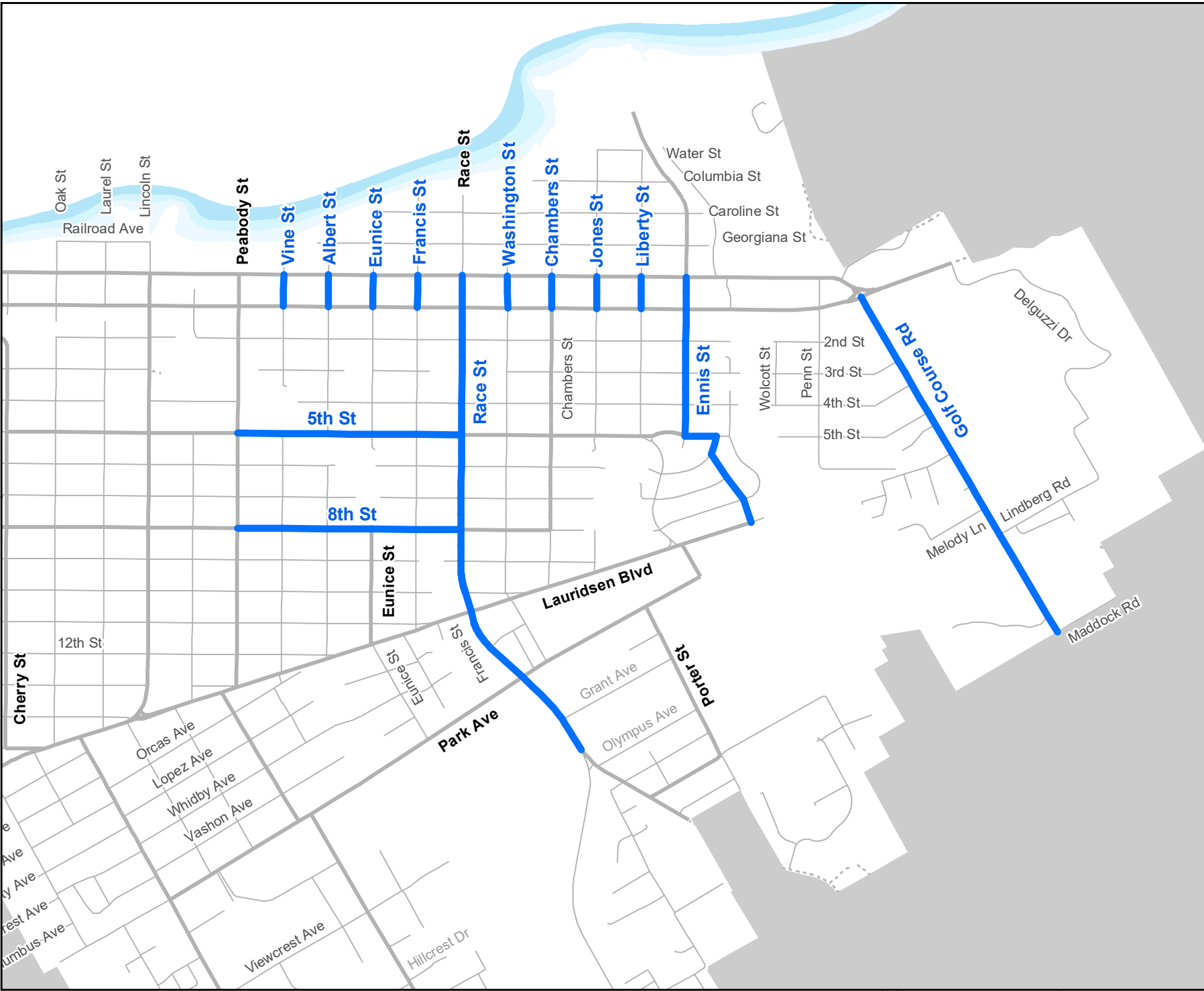


City Streets

Arterial

SideStreet

County Roads



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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 of 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 vector 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).



SNOW AND ICE RESPONSE PLAN

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:



SNOW AND ICE RESPONSE PLAN

- 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.



SNOW AND ICE RESPONSE PLAN

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 (<u>Cody Manzer</u> - 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.

- ⑥ Flashlight
- ⑥ Flat bar
- ⑥ Hammer
- ⑥ Pliers



SNOW AND ICE RESPONSE PLAN

- ⑥ Extra plow flags
- ⑥ Shovel
- ⑥ Tow chain
- ⑥ Extra chain strap ties
- ⑥ De-ice and scraper for windows
- ⑥ Extra chain lengths and cross pieces
- ⑥ 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



SNOW AND ICE RESPONSE PLAN

# 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

- ⑥ Hydraulic problems - hoses and fittings. Spare hose materials shall be in stock.
- ⑥ 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.
- ⑥ Augers
- ⑥ Motors and sprockets
- ⑥ Skids
- ⑥ Rubber bits
- ⑥ Pumps - need spare in stock
- ⑥ Cylinders

5.1.4.3 PLOWS

- ⑥ Hoses and connections to trucks
- ⑥ Cylinders - seals, cracks and pins
- ⑥ Blade cracks - structural bonds
- ⑥ Bits - rubber - metal, tears or breaks
- ⑥ Shoes -adjustable - pad wear
- ⑥ Quick connects, operate easily, will fit any plow truck
- ⑥ Splash shield - tears and properly attached
- ⑥ Safety flags - bright and in good repair

5.1.4.4 SANDERS

- ⑥ Augers - straight, flights in good shape
- ⑥ Cover pans - easy to attach and stay in place
- ⑥ Gears and chains - lubricated and adjusted
- ⑥ Spinners - no bends in frame, spinner tubs in good shape, turns true
- ⑥ Hoses - no cracks or leaking fittings.

5.1.4.5 TRUCKS

- ⑥ Complete safety check



SNOW AND ICE RESPONSE PLAN

- ⑥ All lighting, including cleaning of lenses
- ⑥ Particular attention to brakes, charging system, battery condition, glass, mirrors, etc.
- ⑥ Mechanical check
- ⑥ Check to make sure that all plow trucks are interchangeable with all plows (except the patch truck)
- ⑥ 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]



SNOW AND ICE RESPONSE PLAN

- 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



SNOW AND ICE RESPONSE PLAN

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 Category 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.



SNOW AND ICE RESPONSE PLAN

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 vector 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 vector 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 biofiltration.

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 biofiltration.

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.

PUBLIC WORKS DEPARTMENT - POLICY AND PROCEDURES



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 $\frac{3}{4}$ -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 $\frac{1}{3}$ 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



PUBLIC WORKS DEPARTMENT - POLICY AND PROCEDURES

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.



PUBLIC WORKS & UTILITIES DEPARTMENT POLICY AND PROCEDURES

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
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 - 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**

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APPENDIX C

BMP Maintenance Tables (2019 SWMMWW, Volume V)

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APPENDIX D

Existing City of Port Angeles Policies and Procedures Index (revised 1/2016)

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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.

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- 0306 Smoking at Public Works Facilities
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- 0611 Engineering Services and Infrastructure Configuration Control
- 0612 Reporting Loss of Operating Capability

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- 0702 Special Equipment Rental Rates
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- 0704 Equipment Rental Rates
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POLICY AND PROCEDURE INDEX

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1009 Waste Acceptance Policy
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1011 Landfill Closure Plan
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1014 Chemical Hazard Communication Program - Collection
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9003 Early Check Request
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9005 Hold Harmless for Entry Onto Private Property
9006 Construction Code Board of Appeals Handout
9007 deleted - see 1124_01
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9011 Handout - Counter Service Comment Page
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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)

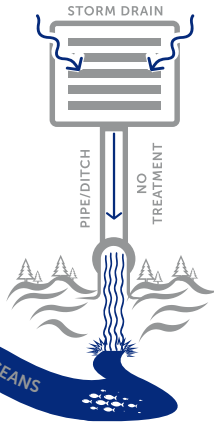
- **II-3.2 Construction Source Control BMPs**
 - BMP C101: Preserving Natural Vegetation
 - BMP C102: Buffer Zones
 - BMP C103: High-Visibility Fence
 - BMP C105: Stabilized Construction Access
 - BMP C106: Wheel Wash
 - BMP C107: Construction Road / Parking Area Stabilization
 - BMP C120: Temporary 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

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DID YOU KNOW:
WATER COLLECTED
BY A STORM DRAIN
IS NOT TREATED
AND GOES DIRECTLY
INTO OUR NATURAL
ENVIRONMENT.



How Can Stormwater Pollution Be Prevented?
By implementing source control best management practices in local businesses!

What is a Source Control Best Management Practice (BMP)?

A **Source Control BMP** is 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 may generate pollutants.

Structural BMPs are physical, structural, or mechanical devices, or facilities that are intended to prevent pollutants from entering stormwater. *Example: Installation of an oil/water separator.*

Operational BMPs are non-structural practices that prevent or reduce pollutants from entering stormwater. *Example: Dispose of wash water in mop sink floor drain.*

Are you a local business owner or manager?

You need to know that in accordance with state regulations, stormwater source control inspections are beginning in 2023 for all commercial, industrial, and institutional businesses that have

the potential to pollute and are located within City limits. These inspections will be performed by City officials, who will recommend applicable BMPs for your business.



In accordance with state regulations, the City has developed a comprehensive list of businesses and/or activities that have the potential to generate surface water pollutants. City stormwater specialists will conduct source control inspections to learn about your business activities that have the potential to pollute our local waterways.

They will then recommend applicable best management practices (BMPs) to help your business implement actions and systems to prevent harmful chemicals or materials from entering our waterways.

SOURCE CONTROL
BUSINESS INSPECTIONS
TO BEGIN

JANUARY 1, 2023

**REGISTER YOUR
BUSINESS TODAY!**

*BE THE SOLUTION TO
WATER POLLUTION*
City of Port Angeles Stormwater
Source Control Inspection Program



CITY OF PORT ANGELES
**STORMWATER
SOURCE CONTROL
INSPECTION
PROGRAM**

PAMC 13.63.275

321 E 5th Street
Port Angeles, WA 98362
360-417-4825
stormwater@cityofpa.us



Visit www.cityofpa.us/sourcecontrol and fill out the form with your business information and preferred method of contact by **JANUARY 20, 2023**.

ACTIVITIES THAT MAY GENERATE POLLUTANTS
& Examples of Applicable Source Control Requirements

Landscaping
Best Management Practice



Clean Fallen Leaves from Storm Drains & Dispose of in Yard Waste Bin

Construction
Best Management Practice



Sweep Often to Avoid Track-Out

Food Services
Best Management Practice



Close Dumpsters When not in Use

Manufacturing
Best Management Practice



Use Secondary Containment

Auto Repair
Best Management Practice



Use Drip Pans

WANT TO LEARN MORE?

Explore a full list of businesses and activities that are considered potential sources of pollutants:

https://www.cityofpa.us/DocumentCenter/View/11514/WWAPhII_Appendix8-Final

Find other ways to prevent pollutants at your business before they enter our waterways:

www.cityofpa.us/sourcecontrol

REMEMBER, "PIPE"
to follow Source Control etiquette to reduce pollutants from business activities!

PLAN so equipment does not leak harmful chemicals or fluids on the ground or into the storm system.

INFORM your staff on surface water pollution sources such as spills, leaks, chemical use, and storage.

PREVENT spills before they enter storm drains by utilizing spill plans and kits and covering work and storage areas. Repair or replace equipment with any leaks or cracks.

EXEMPLIFY standards within your workplace to help staff keep water pollution prevention on their minds.



The City of Port Angeles assures full compliance with Title VI of the Civil Rights Act of 1964, as amended, and any related statutes and regulations, by prohibiting discrimination against any person on the basis of race, color, national origin, age, disability, income, Limited English Proficiency or sex in the provision of benefits and services resulting from all programs and activities. Limited English Proficiency persons may request language interpretation services from the City of Port Angeles. For more information, please contact the City's Public Works Title VI Coordinator at contracts@cityofpa.us or (360) 417-4541.

NEXT STEPS

A brief timeline of the Source Control Program is shown below.



An inspection fee of \$140.00/year (per PAMC 13.63.095) will be administered to each business to recover program implementation costs.

WHAT DO WE NEED FROM YOU?

Please follow the link below and fill out the associated form with your business information and preferred method of contact. This information will allow the City to schedule the inspection with you in advance, as opposed to being forced to show up unannounced, and it will allow the City to pass important preparatory information and resources to you in advance of your scheduled inspection.

Visit the link below or follow the QR Code to complete the form:

www.cityofpa.us/sourcecontrol





«Business_Name»

ATTN: BUSINESS OWNER

«Location_Address1»

«Location_City», «Location_State» «Location_Zip»

December 23, 2022

Dear Business Owner:

We want to partner with you. By working together, the City of Port Angeles and local businesses can improve the water quality in our local waterways. This letter is an introduction to the new City of Port Angeles, Source Control Business Inspection Program. Source Control practices are intended to prevent pollutants (trash, sediment, grease, oil, paint, detergent, chemicals, etc.) from coming into contact with stormwater *before* entering the stormwater drainage system, which flows directly into our local streams, wetlands, groundwater, and harbor.

This Source Control program was added to the most recent Western Washington Phase II Stormwater Permit, issued by the Washington State Department of Ecology. Therefore, the City of Port Angeles will begin conducting routine inspections of commercial, institutional, and industrial facilities for proper implementation of Source Control best management practices (BMPs). These practices help to prevent pollutants from coming into contact with stormwater. BMPs may include operational procedures and structural actions. Examples include proper storage and containment of chemicals, spill cleanup, and maintaining clean dumpster areas. A full list of Source Control BMPs based on potential pollutant-generating activities can be found in the Stormwater Management Manual for Western Washington, Volume IV (available online).

Reminder: Only rainwater should enter the storm drain.

This letter is an informational notice to raise awareness that the City's Source Control Inspector will be coming to inspect your site, inquire about your business activities, and determine if any actions are needed to reduce the risk of stormwater pollution.

What will happen if issues or deficiencies are found? The Inspector will identify required actions to address based on issues observed at the site. Some issues may be quickly resolved, such as covering open waste containers. Other issues may take additional time for remediation. The Source Control Inspector will work with you individually to answer questions and provide technical assistance, as needed.

What do we need from you? Please follow the link or QR code at the end of this notice, then fill out the Source Control EZ Contact webform with your business information and preferred method of contact.

This information will allow the City to schedule the inspection with you in advance, as opposed to being forced to show up unannounced. It will also allow the City to pass important preparatory information and resources to you in advance of your scheduled inspection.

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

Thank you in advance for working with the City to manage your business and protect our shared and valuable downstream resources. More information can be found on the informational brochure included with this letter and on the City's website.

If you have additional questions related to this program or need technical assistance with stormwater management at your site, please contact the City's Source Control Inspector, Howard Carlseen, at Hcarlseen@cityofpa.us or at (360) 417-4693. You may also contact me, the City's Stormwater Engineer, at Vmcintyr@cityofpa.us or at (360) 417-4701.

Sincerely,



Vince McIntyre, P.E.
Engineer II, Public Works & Utilities
City of Port Angeles, Washington

Enclosure: Source Control Informational Brochure, Dec. 2022

CC: Jonathan Boehme, City Engineer
Mike Healy, Interim Director of Public Works

Links to Source Control EZ Contact webform: www.cityofpa.us/sourcecontrol





Source Control Program | Business Inspection List

Data Source: WA Dept. of Revenue (DOR)
 Query Date: June 11, 2021

Program Manager: V. McIntyre
 SC/PPA Inspector: H. Carlseen

PAMC: 13.63
 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	Category	2022 Inspections	Enforcement Actions Taken?
1	76 FIRST RACE CAR WASH	907 E 1ST ST	PORT ANGELES	WA	98362	811192	Car Washes	811192 (Repair and Maintenance)	Commercial	0	NA
2	A & A APPLIANCE SERVICE, INC.	914 S EUNICE ST	PORT ANGELES	WA	98362	444190	Other Building Material Dealers	444 (Building Materials, Hardware, Garden Supplies Dealers), 8114xx (Repair and Maintenance)	Commercial	0	NA
3	ALDERSON'S AUTO BODY AND PAINT, INC.	1935 EDGEWOOD DR	PORT ANGELES	WA	98363	811121	Automotive Body, Paint, and Interior Repair and Maintenance	8111xx (Repair and Maintenance)	Commercial	0	NA
4	ALL METAL RECYCLING	124 S ALBERT ST	PORT ANGELES	WA	98362	423930	Recyclable Material Merchant Wholesalers	423930 (Wholesale Trade- Durable Goods)	Commercial	0	NA
5	ALLURE ACADEMY or STUDIO 121	1222 E FRONT ST	PORT ANGELES	WA	98362	611310	Colleges, Universities, and Professional Schools	6113xx, 6115xx (Educational Services)	Commercial	0	NA
6	ANGELES BREWING SUPPLIES	116 N LINCOLN ST	PORT ANGELES	WA	98362	312120	Breweries	312 (Beverage, Food, and Tobacco Manufacturing), 445 (Food and Beverage Stores)	Commercial	0	NA
7	ANGELES COMPOSITE TECHNOLOGIES, INC.	2138 W 18TH ST	PORT ANGELES	WA	98362	325211	Plastics Material and Resin Manufacturing	325 (Chemical Manufacturing)	Commercial	0	NA
8	ANGELES ELECTRIC, INC.	524 E 1ST ST	PORT ANGELES	WA	98362	238210	Electrical Contractors and Other Wiring Installation Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
9	ANGELES MACHINE WORKS, INCORPORATED.	404 E 2ND ST	PORT ANGELES	WA	98362	332710	Machine Shops	332 (Fabricated Metal Product Manufacturing)	Commercial	0	NA
10	ANGELES MILLWORKS & LUMBER CO., INC.	1601 S C ST	PORT ANGELES	WA	98362	444190	Other Building Material Dealers	444 (Building Materials, Hardware, Garden Supplies Dealers)	Commercial	0	NA
11	ANGELES PLUMBING & PUMPS	917 W 8TH ST	PORT ANGELES	WA	98363	238220	Plumbing, Heating, and Air-Conditioning Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
12	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 Stations)	Commercial	0	NA
13	ARROW MARINE GROUP aka ARROW LAUNCH SERVICE, INC	916 MARINE DR	PORT ANGELES	WA	98362	-	-	336 (Transportation Equipment Manufacturing)	Commercial	0	NA
14	ASIAN BUFFET	1940 E 1ST ST STE 160	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
15	AUTOZONE #4110	1936 E 1ST ST	PORT ANGELES	WA	98362	441310	Automotive Parts and Accessories Stores	441 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
16	AVIS CAR RENTAL or HECKMAN ENTERPRISES	111 E 8TH ST	PORT ANGELES	WA	98362	532111	Passenger Car Rental	5321xx (Rental and Leasing Services)	Commercial	0	NA
17	BAR N9NE	229 W 1ST ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)	Commercial	0	NA
18	BARHOP BREWING	124 W RAILROAD AVE	PORT ANGELES	WA	98362	424810	Beer and Ale Merchant Wholesalers	4248xx (Wholesale Trade- Nondurable Goods)	Commercial	0	NA
19	BARHOP BREWING	2506 W 19TH ST	PORT ANGELES	WA	98362	424810	Beer and Ale Merchant Wholesalers	4248xx (Wholesale Trade- Nondurable Goods)	Commercial	0	NA
20	BAYVIEW TRANSMISSION AND MUFFLER INC	2026 E 1ST ST	PORT ANGELES	WA	98362	811113	Automotive Transmission Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
21	BELLA ITALIA	118 E 1ST ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
22	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)	Commercial	0	NA
23	BOURBON WEST	125 W FRONT ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)	Commercial	0	NA
24	BRUCE'S SPECIALTY AUTO	109 N ENNIS	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
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)	Commercial	0	NA
26	C STREET MINI MART AND FOOD	901 S C ST	PORT ANGELES	WA	98363	445120	Convenience Stores	445 (Food and Beverage Stores)	Commercial	0	NA
27	CAPTAIN T'S	114 E FRONT ST	PORT ANGELES	WA	98362	453220	Gift, Novelty, and Souvenir Stores	722 (Food Services and Drinking Places)	Commercial	0	NA
28	CAUDILL DISTILLERY	125 MOTOR AVE	PORT ANGELES	WA	98362	312120	Breweries	312 (Food, Beverage, and Tobacco Manufacturing)	Commercial	0	NA
29	CENTURYLINK QC	406 S LAUREL	PORT ANGELES	WA	98362	237130	Power and Communication Line and Related Structures Construction	237 (Heavy and Civil Engineering Construction)	Commercial	0	NA
30	CHESTNUT COTTAGE RESTAURANT	929 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
31	CLALLAM TRANSIT SYSTEM	4100 TUMWATER TRUCK RTE	PORT ANGELES	WA	98362	485210	Interurban and Rural Bus Transportation	485 (Transit and Ground Passenger Transportation)	Institutional	0	NA
32	COUNTRY AIRE NATURAL FOODS	200 W 1ST ST	PORT ANGELES	WA	98362	445299	All Other Specialty Food Stores	445 (Food and Beverage Stores)	Commercial	0	NA
33	COYOTE BBQ PUB	201 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
34	DAREN'S POINT S TIRE & SERVICE	320 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	-	-	-	Commercial	0	NA
35	DAVE'S HEATING & COOLING SERVICE, INC.	1206 S C ST	PORT ANGELES	WA	98363	238220	Plumbing, Heating, and Air-Conditioning Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
36	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)	Commercial	0	NA
37	DOWN TO EARTH LANDSCAPING	306 S VALLEY ST	PORT ANGELES	WA	98362	561730	Landscaping Services	238 (Specialty Trade Contractors)	Commercial	0	NA
38	DOWNRIGGERS RESTAURANT	115 E RAILROAD AVE	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
39	DRAKES U-BAKE PIZZA & SUBS	819 S LINCOLN ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
40	EARTH TECH CONSTRUCTION LLC	232 W 8TH ST	PORT ANGELES	WA	98362	238990	All Other Specialty Trade Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
41	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)	Commercial	0	NA
42	ELECTRIC CLOUD COFFEE LLC	630 E 1ST ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)	Commercial	0	NA
43	ENTERPRISE RENT-A-CAR	902 E 1ST ST STE D	PORT ANGELES	WA	98362	532111	Passenger Car Rental	5321xx (Rental and Leasing Services)	Commercial	0	NA
44	EVANS AUTOMOTIVE	1938 E ENNIS CREEK RD	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
45	EVERGREEN COLLISION CENTERS, INC.	820 E FRONT ST STE A	PORT ANGELES	WA	98362	811121	Automotive Body, Paint, and Interior Repair and Maintenance	8111xx (Repair and Maintenance)	Commercial	0	NA
46	EVERGREEN MEATS	306 S VALLEY ST	PORT ANGELES	WA	98362	424470	-	-	Commercial	0	NA
47	EVERGREEN TOWING	820 E FRONT	PORT ANGELES	WA	98362	811121	Automotive Body, Paint, and Interior Repair and Maintenance	8111xx (Repair and Maintenance)	Commercial	0	NA
48	EXTRA MILE TECH & ELECTRICAL	1246 W HIGHWAY 101	PORT ANGELES	WA	98362	238210	Electrical Contractors and Other Wiring Contractors	-	Commercial	0	NA
49	FAIRMOUNT MARKET	1137 W HIGHWAY 101	PORT ANGELES	WA	98363	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
50	FAIRMOUNT RESTAURANT aka FAIRMOUNT DINER	1127 HWY 101 W	PORT ANGELES	WA	98363	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
51	FAST BURRITOS	940 EAST FIRST STREET	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
52	FASTENAL COMPANY	724 E 1ST ST	PORT ANGELES	WA	98362	423710	Hardware Merchant Wholesalers	4237xx (Wholesale Trade- Durable Goods), 444 (Building Materials, Hardware, Garden Supplies Dealers)	Commercial	0	NA
53	FIESTA JALISCO OF PORT ANGELES	636 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
54	FIREHOUSE GRILL	117 E 8TH ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
55	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 Stations)	Commercial	0	NA
56	FIRST STREET HAVEN	107 E 1ST ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA

Count	Business Name	Location Address1	Location City	Location State	Location Zip	NAICS1	NAICS1 Code Description	Appendix 8 Code	Category	2022 Inspections	Enforcement Actions Taken?
57	FKC CO., LTD.	2708 W 18TH ST	PORT ANGELES	WA	98363	333248	Other Industrial Machinery Manufacturing	333 (Machinery, Computer, and Electronic Product Manufacturing)	Commercial	0	NA
58	FOGTOWN COFFEE BAR	1105 E FRONT ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)	Commercial	0	NA
59	FOOD MART aka MARATHON	331 W 1ST ST	PORT ANGELES	WA	98362	457110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
60	FRANK'S AUTO REPAIR & PARTS INC.	1416 E FRONT ST	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
61	FRESH WOK	1603 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
62	FRUGALS	1520 E FRONT ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)	Commercial	0	NA
63	FULL WESTERN INDUSTRIAL	4130 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	811121	Added by Howard Carlseen 2/6/23 thru mailer response	-	Commercial	0	NA
64	GATEWAY	120 N LINCOLN ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)	Commercial	0	NA
65	GEORGE ZINK SALVAGE	3140 SADDLE CLUB RD	PORT ANGELES	WA	98362	423930	Recyclable Material Merchant Wholesalers	423930 (Wholesale Trade- Durable Goods)	Commercial	0	NA
66	GORDY'S PIZZA & PASTA	1123 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
67	GRANDVIEW GROCERY, INC	802 C ST SOUTH	PORT ANGELES	WA	98362	445110	Supermarkets and Other Grocery (except Convenience) Stores	445 (Food and Beverage Stores)	Commercial	0	NA
68	GRAY MOTORS	1937 E 1ST ST	PORT ANGELES	WA	98362	441120	Used Car Dealers	441 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
69	GRAYSON'S	205 E 8TH ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
70	H2O	222 N LINCOLN ST STE 104	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
71	HARBINGER BREWERY	2358 W HIGHWAY 101	PORT ANGELES	WA	98362	312130	Wineries	312 (Beverage, Food, and Tobacco Manufacturing)	Commercial	0	NA
72	HARBOR FREIGHT TOOLS #596	1940 E 1ST ST STE 168	PORT ANGELES	WA	98362	444130	Hardware Stores	444 (Building Materials, Hardware, Garden Supplies Dealers)	Commercial	0	NA
73	HAWK DIESEL, LLC	934 MARINE DR	PORT ANGELES	WA	98363	811490	Other personal and household goods repair and maintenance	-	Commercial	0	NA
74	HECKMAN ENTERPRISES, INC.	111 E 8TH ST	PORT ANGELES	WA	98362	532111	Passenger Car Rental	5321xx (Rental and Leasing Services)	Commercial	0	NA
75	HIGH TIDE SEAFOODS, INC.	808 MARINE DR	PORT ANGELES	WA	98363	424460	Fish and Seafood Merchant Wholesalers	4244xx (Wholesale Trade- Nondurable Goods)	Commercial	0	NA
76	HIGHER GROUNDS ESPRESSO CORPORATION	802 C ST	PORT ANGELES	WA	98363	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)	Commercial	0	NA
77	HOAGLAND INC aka THURMAN SUPPLY	1807 E FRONT ST	PORT ANGELES	WA	98362	444190	Other Building Material Dealers	444 (Building Materials, Hardware, Garden Supplies Dealers)	Commercial	0	NA
78	HOCH CONSTRUCTION	4201 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	236115	New Single-Family Housing Construction (except For-Sale Builders)	236 (Construction of Buildings)	Commercial	0	NA
79	HWY 101 SERVICES LLC	2450 W HIGHWAY 101	PORT ANGELES	WA	98363	811192	Car Washes	8111xx (Repair and Maintenance)	Commercial	0	NA
80	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)	Commercial	0	NA
81	JASMINE BISTRO	222 N LINCOLN ST STE 111	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
82	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)	Commercial	0	NA
83	JOSHUA'S RESTAURANT	113 DELGUZZI DR	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
84	JUST REWARDS ESPRESSO	1001 E 1ST ST # A	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)	Commercial	0	NA
85	KNIGHT FIRE PROTECTION	2509 W 19TH ST	PORT ANGELES	WA	98362	238220	Plumbing, Heating, and Air-Conditioning Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
86	KOKOPELLI GRILL	203 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
87	LAKESIDE INDUSTRIES, INC.	163 ECLIPSE WEST DR	PORT ANGELES	WA	98363	238990	All Other Specialty Trade Contractors	238 (Specialty Trade Contractors), 3241xx (Petroleum and Coal Products Manufacturing)	Commercial	0	NA
88	LAUREL LANES CAFÉ	108 8TH ST W	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)	Commercial	0	NA
89	LAURIER ENTERPRISES INC aka PENINSULA MCDONALD'S	1706 E FRONT	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
90	LD'S WOODFIRE GRILL	929 WEST 8TH STREET	PORT ANGELES	WA	98363	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
91	LINCOLN INDUSTRIAL CORPORATION, INC. DBA LINCOLN WELDING	4130 TUMWATER TRUCK RTE	PORT ANGELES	WA	98362	333924	Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing	333 (Machinery, Computer, and Electronic Product Manufacturing), 8113xx (Repair and Maintenance)	Commercial	0	NA
92	LINCOLN MOBIL	504 S LINCOLN ST	PORT ANGELES	WA	98362	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
93	LINCOLN STREET COFFEE POT	902 LINCOLN ST # A	PORT ANGELES	WA	98363	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)	Commercial	0	NA
94	LITTLE DEVIL'S LUNCHBOX	315 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
95	LOLA'S CAFE	112 A S LINCOLN ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
96	M&P GARAGE DOORS INC	502 1/2 W 8TH ST	PORT ANGELES	WA	98362	238350	Finish Carpentry Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
97	MARINE DRIVE CHEVRON	402 MARINE DR	PORT ANGELES	WA	98363	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
98	MCKINLEY PAPER COMPANY, WASHINGTON MILL	1815 MARINE DR	PORT ANGELES	WA	98363	322121	Paper (except Newsprint) Mills	3221xx (Paper Manufacturing)	Industrial	0	NA
99	MCPHEE'S PARKWAY GROCERY	717 S RACE ST	PORT ANGELES	WA	98362	445110	Supermarkets and Other Grocery (except Convenience) Stores	445 (Food and Beverage Stores)	Commercial	0	NA
100	MIGHTY PINE BREWING, LLC	540 E 8TH ST	PORT ANGELES	WA	98362	312120	Breweries	312 (Beverage, Food, and Tobacco Manufacturing)	Commercial	0	NA
101	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), 238 (Specialty Trade Contractors)	Commercial	0	NA
102	MYOPIC MEATS aka BARBECUE	110 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
103	N C MACHINERY CO	73 ECLIPSE INDUSTRIAL PKWY	PORT ANGELES	WA	98362	423810	Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers	4238xx (Wholesale Trade- Durable Goods)	Commercial	0	NA
104	NEW DAY EATERY	102 W FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
105	NEW MOON CRAFT TAVERN	130 S LINCOLN ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)	Commercial	0	NA
106	NEXT DOOR GASTROPUB	113 W 1ST STE #A	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
107	NORTH POINTE CONSTRUCTION, LLC.	1135 E FRONT ST	PORT ANGELES	WA	98362	236115	New Single-Family Housing Construction (except For-Sale Builders)	236 (Construction of Buildings)	Commercial	0	NA
108	NORTHWEST FUDGE AND CONFECTIONS	108 W 1ST ST	PORT ANGELES	WA	98362	445292	Confectionery and Nut Stores	445 (Food and Beverage Stores)	Commercial	0	NA
109	OCEAN BOATWORKS LLC	812 W BOATHAVEN DR	PORT ANGELES	WA	98363	811490	Other Personal and Household Goods Repair and Maintenance	8114xx (Repair and Maintenance)	Commercial	0	NA
110	OKASAN JAPANESE RESTAURANT	1617 E FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
111	OLYMPIC DELIVERY SERVICES INC	110 NORTH LIBERTY STREET	PORT ANGELES	WA	98362	492210	Local Messengers and Local Delivery	4244xx (Wholesale Trade- Nondurable Goods)	Commercial	0	NA
112	OLYMPIC ELECTRIC COMPANY, INC.	4230 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	238210	Electrical Contractors and Other Wiring Installation Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
113	OLYMPIC POWERSPORTS	221 S PEABODY ST STE A	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
114	OLYMPIC PRINTERS, INC.	310 E 1ST ST	PORT ANGELES	WA	98362	323111	Commercial Printing (except Screen and Books)	323 (Printing and Related Support Activities)	Commercial	0	NA

Count	Business Name	Location Address1	Location City	Location State	Location Zip	NAICS1	NAICS1 Code Description	Appendix 8 Code	Category	2022 Inspections	Enforcement Actions Taken?
115	OLYMPIC TIRE & AUTO REPAIR, INC.	731 E 1ST ST	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
116	ORCHARD LLC or TACO BELL/KFC	2001 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
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 Stations)	Commercial	0	NA
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 Equipment (except Automotive and Electronic) Repair and Maintenance	8113xx (Repair and Maintenance)	Commercial	0	NA
119	PACIFIC WAREHOUSE AND FREIGHT aka ARROW MARINE SERVICES, INC.	830 MARINE DR	PORT ANGELES	WA	98362	-	Boat Building	336 (Transportation Equipment Manufacturing)	Commercial	0	NA
120	PAPA MURPHYS	1405 E FRONT ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	-	Commercial	0	NA
121	PAYNE CUSTOMS, LLC	4317 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	811121	Automotive Body, Paint, and Interior Repair and Maintenance	8111xx (Repair and Maintenance)	Commercial	0	NA
122	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 Activities)	Commercial	0	NA
123	PENINSULA AUTOMOTIVE LLC	2012 S OAK ST	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
124	PENINSULA BOTTLING CO., INC.	311 S VALLEY ST	PORT ANGELES	WA	98362	445310	Beer, Wine, and Liquor Stores	445 (Food and Beverage Stores), 4244xx (Wholesale Trade-Nondurable Goods)	Commercial	0	NA
125	PENINSULA COLLEGE	1502 E LAURIDSEN BLVD	PORT ANGELES	WA	98362	722310	Food Service Contractors	722 (Food Services and Drinking Places)	Commercial	0	NA
126	PENINSULA COLLEGE	1502 E LAURIDSEN BLVD	PORT ANGELES	WA	98362	611310	Colleges, Universities, and Professional Schools	6113xx (Educational Services)	Commercial	0	NA
127	PETROCARD, INC.	501 MARINE DR	PORT ANGELES	WA	98363	447190	Other Gasoline Stations	447 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
128	PETROCARD, INC.	605 TUMWATER TRUCK RD	PORT ANGELES	WA	98363	447190	Other Gasoline Stations	447 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
129	PETROCARD, INC.	832 BOATHAVEN DR	PORT ANGELES	WA	98362	447190	Other Gasoline Stations	447 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
130	PHO NEW SAIGON	106 W FRONT ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
131	PLATYPUS MARINE, INC.	518 MARINE DR	PORT ANGELES	WA	98362	336612	Boat Building	336 (Transportation Equipment Manufacturing)	Industrial	0	NA
132	POFOKES PIZZA	834 E FRONT ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
133	PORT ANGELES AUTO GLASS	833 E 1ST ST	PORT ANGELES	WA	98362	811122	Automotive Glass Replacement Shops	-	Commercial	0	NA
134	PORT ANGELES DISTILLING COMPANY	127 E 1ST ST STE 4W	PORT ANGELES	WA	98362	312140	Distilleries	312 (Beverage, Food, and Tobacco Manufacturing)	Commercial	0	NA
135	PORT ANGELES HARDWOOD, LLC	333 ECLIPSE INDUSTRIAL PARKWAY	PORT ANGELES	WA	98362	321211	Hardwood Veneer and Plywood Manufacturing	321 (Wood Product Manufacturing)	Industrial	0	NA
136	PORT ANGELES PAPA MURPHY'S, INC	1405 E FRONT ST STE A	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
137	PORT ANGELES SCHOOL DISTRICT	304 E PARK	PORT ANGELES	WA	98362	722310	Food Service Contractors	722 (Food Services and Drinking Places)	Institutional	0	NA
138	PORT ANGELES TIRE FACTORY	320 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	441320	Tire Dealers	441 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
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 Stations)	Commercial	0	NA
140	RAINBOW SWEEPERS, INC.	4101 TUMWATER TRUCK RTE	PORT ANGELES	WA	98363	238990	All Other Specialty Trade Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
141	RANDY'S AUTO SALES INC & MOTORSPORTS	819 E 1ST	PORT ANGELES	WA	98362	441120	Used Car Dealers	441 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
142	RICHMOND 2-WAY RADIO aka GRITCO, LLC	1246 W HIGHWAY 101	PORT ANGELES	WA	98363	443142	Electronics Stores	238 (Specialty Trade Contractors)	Commercial	0	NA
143	RODOCKER WOODWORKS, LLC	302 S TUMWATER TRUCK RTE	PORT ANGELES	WA	98362	444190	Other Building Material Dealers	444 (Building Materials, Hardware, Garden Supplies Dealers)	Commercial	0	NA
144	ROOSEVELT	115 E RAILROAD AVE	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
145	RUDY'S AUTOMOTIVE	202 N FRANCIS ST	PORT ANGELES	WA	98362	811111	General Automotive Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
146	SAAR'S SUPER SAVER FOODS PORT ANGELES	114 E LAURIDSEN BLVD	PORT ANGELES	WA	98362	445110	Supermarkets and Other Grocery (except Convenience) Stores	445 (Food and Beverage Stores)	Commercial	0	NA
147	SABAI THAI	903 W 8TH ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
148	SAFEWAY FUEL STATION # 1492	110 E 3RD ST	PORT ANGELES	WA	98362	445110	Supermarkets and Other Grocery (except Convenience) Stores	445 (Food and Beverage Stores), 447 (Automotive Services and Gasoline Service Stations)	Commercial	0	NA
149	SAFEWAY STORE #1492	110 E 3RD ST	PORT ANGELES	WA	98362	445110	Supermarkets and Other Grocery (except Convenience) Stores	445 (Food and Beverage Stores), 447 (Automotive Services and Gasoline Service Stations)	Commercial	0	NA
150	SAPOR	117B E 1ST ST	PORT ANGELES	WA	98362	722320	Caterers	445 (Food and Beverage Stores), 722 (Food Services and Drinking Places)	Commercial	0	NA
151	SASQUATCH DONUTS LLP	135 E 1ST ST	PORT ANGELES	WA	98362	311811	Retail Bakeries	311 (Beverage, Food, and Tobacco Manufacturing)	Commercial	0	NA
152	SERGIO'S HACIENDA	205 E 8TH ST STE B	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
153	SHELL ROAD RUNNER FOOD MART aka LOVELL ROAD RUNNER 76	1023 FRONT ST E	PORT ANGELES	WA	98362	447110	Gasoline Stations with Convenience Stores	447 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
154	SHIRLEY'S CAFE	612 S LINCOLN ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
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)	Commercial	0	NA
156	SODEXO AMERICA- #72001096	731 MARINE DR	PORT ANGELES	WA	98363	722310	Food Service Contractors	722 (Food Services and Drinking Places)	Commercial	0	NA
157	SONGOKU	134 W FRONT ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
158	SPRUCE	128 E FRONT ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)	Commercial	0	NA
159	STEVE'S MUFFLER SHOP	931 W 8TH ST	PORT ANGELES	WA	98363	811112	Automotive Exhaust System Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
160	STRAIT ALIGNMENT & BRAKES	120 S ALBERT	PORT ANGELES	WA	98362	811118	Other Automotive Mechanical and Electrical Repair and Maintenance	8111xx (Repair and Maintenance)	Commercial	0	NA
161	STRAIT AUTO INC (LITTLE CAR CORNER)	402 E 1ST ST	PORT ANGELES	WA	98362	441120	Used Car Dealers	441 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
162	SUNRISE CARWASH	1333 E 1ST ST	PORT ANGELES	WA	98362	811192	Car Washes	8111xx (Repair and Maintenance)	Commercial	0	NA
163	SUNRISE MEATS, INC.	1325 E 1ST ST	PORT ANGELES	WA	98362	445210	Meat Markets	445 (Food and Beverage Stores)	Commercial	0	NA
164	TACO TIME	1105 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
165	TENDY'S GARDEN	920 E 1ST ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
166	TERBOR ENTERPRISES LLC or DOMINO'S PIZZA	1210 E FRONT ST STE B	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
167	THE ANSWER FOR YOUTH	826 E 1ST ST	PORT ANGELES	WA	98362	813410	Civic and Social Organizations	444 (Building Materials, Hardware, Garden Supplies Dealers)	Commercial	0	NA
168	THE BEANERY	116 EAST W FRONT ST	PORT ANGELES	WA	98362	453220	Gift, Novelty, and Souvenir Stores	722 (Food Services and Drinking Places)	Commercial	0	NA
169	THE BLACKBIRD COFFEEHOUSE	336 E 8TH ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)	Commercial	0	NA
170	THE DAILY GRIND LLC	1919 E 1ST ST	PORT ANGELES	WA	98362	722515	Snack and Nonalcoholic Beverage Bars	722 (Food Services and Drinking Places)	Commercial	0	NA
171	THE EMPOSSIBLE EDEN CAFE,LLC	704 MARINE DR	PORT ANGELES	WA	98363	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
172	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)	Commercial	0	NA
173	THE GREAT ESCAPE	114 N LINCOLN ST	PORT ANGELES	WA	98362	238160	Roofing Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
174	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)	Commercial	0	NA
175	THE METTA ROOM	132 E FRONT ST	PORT ANGELES	WA	98362	722410	Drinking Places (Alcoholic Beverages)	722 (Food Services and Drinking Places)	Commercial	0	NA
176	THE RAIL	128 E RAILROAD AVE	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA

Count	Business Name	Location Address1	Location City	Location State	Location Zip	NAICS1	NAICS1 Code Description	Appendix 8 Code	Category	2022 Inspections	Enforcement Actions Taken?
177	THE STRAIT SLICE	121 1/2 W 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
178	TOGA'S SOUP HOUSE DELI & GOURMET	122 W LAURIDSEN BLVD	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
179	TRANCO TRANSMISSIONS	703 E 1ST ST	PORT ANGELES	WA	98362	811113	Automotive Transmission Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
180	TRINITY ATV	221 S PEABODY ST, #A	PORT ANGELES	WA	98362	811490	Other Personal and Household Goods Repair and Maintenance	8114xx (Repair and Maintenance)	Commercial	0	NA
181	VAN DYKE FLOORS	821 E 1ST ST	PORT ANGELES	WA	98363	238330	Flooring Contractors	238 (Specialty Trade Contractors)	Commercial	0	NA
182	VIRIDIS TROPICALS	827 E 1ST ST	PORT ANGELES	WA	98362	444220	Nursery, Garden Center, and Farm Supply Stores	444 (Building Materials, Hardware, Garden Supplies Dealers)	Commercial	0	NA
183	WATERFRONT AUTOMOTIVE	930 MARINE DR	PORT ANGELES	WA	98363	811111	General Automotive Repair	8111xx (Repair and Maintenance)	Commercial	0	NA
184	WESTPORT, L.L.C. aka WESTPORT YACHT	637 MARINE DR	PORT ANGELES	WA	98362	336612	Boat Building	336 (Transportation Equipment Manufacturing)	Industrial	0	NA
185	WESTSIDE PIZZA	612 S LINCOLN ST	PORT ANGELES	WA	98362	722511	Full-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA
186	WHISKEY WAGON	115 E RAILROAD AVE	PORT ANGELES	WA	98362	611620	Sports and Recreation Instruction	445 (Food and Beverage Stores)	Commercial	0	NA
187	WILDER AFFORDABLE HOMES	1536 E FRONT ST	PORT ANGELES	WA	98362	441110	New Car Dealers	441 (Automotive Dealers and Gasoline Service Stations)	Commercial	0	NA
188	WILDER RV	1527 E FRONT ST	PORT ANGELES	WA	98362	441110	New Car Dealers	-	Commercial	0	NA
189	WILLY'S SMOKE SHOP	1409 E 1ST ST	PORT ANGELES	WA	98362	445120	Convenience Stores	445 (Food and Beverage Stores)	Commercial	0	NA
190	WTCWEND OR WENDYS	1830 E 1ST ST	PORT ANGELES	WA	98362	722513	Limited-Service Restaurants	722 (Food Services and Drinking Places)	Commercial	0	NA

ORDINANCE NO. 3694

AN ORDINANCE of the City of Port Angeles, Washington amending Chapters 13.62 and Chapter 13.63 of the Port Angeles Municipal Code relating to stormwater-utility and regulations.

THE CITY COUNCIL OF THE CITY OF PORT ANGELES DO HEREBY ORDAIN

AS FOLLOWS:

Section 1. Ordinance 2394 as amended, and Chapter 13.62 of the Port Angeles Municipal Code relating to stormwater-connections and extensions are hereby amended by amending section 13.62.100 of Chapter 13.62 as follows:

CHAPTER 13.62 -- CONNECTIONS AND EXTENSIONS

...

13.62.100 Minimum size for side sewer in private property.

Any one single family dwelling shall be connected with not less than four-inch diameter pipe on private property; provided that where a dual connection of two single family dwellings, or a multiple dwelling or commercial building with a single family dwelling is permitted by the Director, such connection shall be made with not less than six-inch diameter pipe below the point of dual connection. Any multiple dwelling, industrial or commercial building shall be connected with not less than six-inch diameter pipe on private property; provided, with the permission of the Director, ~~three or less two-inch downspouts or one motel unit~~ may be connected with four-inch diameter pipe on private property.

Section 2. Ordinance 3367 as amended, and Chapter 13.63 of the Port Angeles Municipal Code relating to stormwater-utility and regulations are hereby amended by amending sections of Chapter 13.63 as follows:

CHAPTER 13.63 -- STORMWATER—UTILITY AND REGULATIONS

13.63.010 Purpose.

The purpose of this chapter is to establish a storm and surface water management program and utility in order to accomplish the following goals:

- A. Establish a stormwater capital facilities plan and small project funding program for projects which will:
 - 1. Protect property owners adjacent to developing and developed land from increased runoff rates, which could cause erosion of abutting property;
 - 2. Decrease drainage-related damage to public and private property;
 - 3. Maintain safe City streets and rights-of-way;
 - 4. Minimize water quality degradation and control of sedimentation of creeks, streams, ponds, and other water bodies; and
 - 5. Preserve and enhance the aesthetic quality of waters.
- B. Promote sound development policies and construction procedures, which respect and preserve the City's watercourses;
- C. Provide public education, outreach, participation, and involvement in the protection of water quality; and
- D. Establish general rules and regulations for the service and extension of service from the stormwater system.

E. Define and implement regulatory programs intended to identify sources of pollution and reduce or prevent adverse impacts from urban stormwater on receiving waters and the environment.

The storm and surface water management program shall consist of stormwater regulations and a stormwater utility, which shall be implemented and operated by the City's Department of Public Works and Utilities in accordance with standards established by the appropriate governmental entities with jurisdiction.

13.63.020 Incorporated by reference.

The City hereby incorporates the following documents into this chapter:

- A. The City of Port Angeles' Urban Services Standards and Guidelines adopted pursuant to Chapter 18.08 PAMC; the most recent version or update.
- ~~B. — Chapters 2, 3, and 4, and Appendices 1-C, 1-D and 1-E, Volume I; Chapters 3 and 4, Volume II; the entirety of Volume III; the entirety of Volume IV, and the entirety of Volume V of the Department of Ecology's 2014 Stormwater Management Manual for Western Washington (SWMMWW [2014]), or the most recent update.~~
- B. Ecology's Stormwater Management Manual for Western Washington (SWMMWW); the most recent update or version.
- ~~C. — Appendix I of the City of Port Angeles' Western Washington Phase II Municipal Stormwater Permit, issued in August 2012, effective August 2013, and revised in January 2014; or the most recent update.~~

C. Ecology's Western Washington Phase II Municipal Stormwater Permit with Appendices; the most recent update or version.

D. 2012 Low Impact Development Technical Guidance Manual for Puget Sound, published by Washington State University and the Puget Sound Partnership, or the most recent update.

E. The City of Port Angeles' Illicit Discharge Detection and Elimination (IDDE) Response Policy and Procedures; the most recent update or version.

All of these documents are on file within the office of the City Engineer and can be viewed upon request.

13.63.030 Applicability.

The provisions of this chapter shall apply to all direct and indirect connections to the City's stormwater system, including direct outfalls to the City's streams or marine waters.

13.63.040 Definitions.

The following definitions shall apply to this chapter: o

A. *AKART* - All known, available, and reasonable methods of prevention, control, and treatment.

B. *Arterial - PRINCIPAL ARTERIALS*: Principal arterials provide service for principal traffic movements within the City. They serve centers of activity; intra-area travel between Port Angeles and other large communities and between principal trip generators. Principal arterials serve the longest trips and carry the principal portion of trips entering and leaving the overall area. Typically they are the highest traffic volume corridors in the City. The design year ADT is approximately 5,000 to 30,000 vehicles per day or more. They frequently carry important intra-urban as well as intercity bus routes.

The spacing of principal arterials usually varies from about one mile in highly developed business areas to five miles or more in rural areas. Service to abutting land should be subordinate to the provisions of travel service to principal traffic movements; this service should be incidental to the primary functional responsibility of the street. Desirably it is located on community and neighborhood boundaries or adjacent to but not through principal shopping centers, parks, and other homogeneous areas.

MINOR ARTERIALS: Minor arterials interconnect with and augment the principal arterial system. Minor arterials connect principal arterials to collector arterials and small generators. They provide medium size trip generators, such as less intensive commercial development, high schools and some junior high/grade schools, warehousing areas, active parks and ballfields, and other land uses with similar trip generation potential. They distribute travel to smaller geographic areas and communities than those identified with the principal arterial system. They provide service for trips of moderate length of a somewhat lower level of travel mobility than principal arterials. The design year ADT is approximately 2,500 to 15,000.

COLLECTOR ARTERIALS: Collector arterials provide both land access service and traffic circulation within residential neighborhoods and commercial and industrial areas. It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods,

distributing trips from the arterials through the areas to their ultimate destinations. The collector also collects traffic from local streets in residential neighborhoods and channels it onto minor and principal arterials. The collector arterial street may also carry local bus routes.

C. *Best management practices (BMPs)* - mean schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices, that when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State (as per the Department of Ecology's SWMMWW [2014]).

D. *Certified erosion and sediment control lead (CESCL)* - means an individual who has current certification through an approved erosion and sediment control training program that meets the minimum training standards established by the Washington State Department of Ecology (see BMP C160 in the Department of Ecology's SWMMWW (2014)). A CESCL is knowledgeable in the principles and practices of erosion and sediment control. The CESCL must have the skills to assess site conditions and construction activities that could impact the quality of stormwater and, the effectiveness of erosion and sediment control measures used to control the quality of stormwater discharges (as per the Department of Ecology's SWMMWW [2014]).

E. *Clean Water Act* - means the federal Water Pollution Control Act (33 USC Section 1251 et seq.), and any subsequent amendments thereto.

F. *Commercial/multiple property* - means all property zoned or used for multi-family, commercial, retail, public, government, non-profit and all other non-residential uses.

G. *Compost-amended soil* - means establishment of a minimum soil quality and depth to regain stormwater functions in the post development landscape, provide increased treatment of pollutants and sediments that result from development and habitation, and minimize the need for some landscaping chemicals.

H. *Director* - means the City of Port Angeles Director of Public Works and Utilities or his or her designee.

I. *Effective impervious surface* - means those impervious surfaces that are connected via sheet flow or discrete conveyance to a drainage system. Impervious surfaces are considered ineffective if: 1) the runoff is dispersed through at least 100 feet of native vegetation in accordance with BMP T5 30 - "Full Dispersion," as described in Chapter 5 of Volume V of the Department of Ecology's SWMMWW (2014); 2) residential roof runoff is infiltrated in accordance with downspout full infiltration systems, per BMP 5.10A in Volume III of the Department of Ecology's SWMMWW (2014); or 3) approved continuous runoff modeling methods indicate that the entire runoff file is infiltrated (as per the Department of Ecology's SWMMWW [2014]).

J. *Feasibility* - Low impact development best management practices (BMP) are required where feasible. A BMP is determined feasible when infeasibility criteria are not triggered as defined in the Department of Ecology SWMMWW and City of Port Angeles Urban Service Standards and Guidelines Chapter 5, Appendix D.

K. *Groundwater* - means water in a saturated zone or stratum beneath the surface of the land or below a surface water body.

L. *Hard surface* - means an impervious surface, a permeable pavement, or a vegetated roof.

- M. *Hazardous materials* - means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.
- N. *Highway* - means a main public road connecting towns and cities.
- O. *Hyperchlorinated* - means water that contains more than ten milligrams per liter (mg/liter L) chlorine. For water quality chemistry purposes, mg/L and parts per million (ppm) are equivalent units of measure.
- P. *Illicit discharge* - means any direct or indirect non-stormwater discharge to the City's stormwater system, except as expressly allowed by this chapter.
- Q. *Illicit connection* - means any man-made conveyance that is connected to a municipal separate storm sewer without a permit, excluding roof drains and other similar type connections. Examples include sanitary sewer connections, floor drains, channels, pipelines, conduits, inlets, or outlets that are connected directly to the municipal separate storm sewer system.
- R. *Impaired capacity system* - means the flow volume or rate is greater than what a facility (e.g., pipe, pond, vault, swale, ditch, drywell, etc.) is designed to safely contain, receive, convey, reduce pollutants from, or infiltrate to meet a specific performance standard. System capacity shall be evaluated using a qualitative analysis and/or a quantitative analysis that shall include continuous runoff modeling of the 25-year recurrence interval flow. A system is considered to be impaired when it is not able to convey the 25-year recurrence interval flow without surcharging.
- S. *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 that 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 storage areas, concrete or asphalt paving, gravel roads, packed earthen materials, and oiled, macadam or other surfaces which similarly impede the natural infiltration of stormwater. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for purposes of determining whether the thresholds for application of minimum requirements are exceeded. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of runoff modeling (as per the Department of Ecology's SWMMWW [2014]).
- T. *Land disturbing activity* - means any activity that results in movement of earth, or 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 a land disturbing activity. Vegetation maintenance practices are not considered land disturbing activity.
- U. *Maintenance* - Repair and maintenance includes activities conducted on currently serviceable structures, facilities, and equipment that involves no expansion or use beyond that previously existing and results in no significant adverse hydrologic impact. It includes those usual activities taken to prevent a decline, lapse, or cessation in the use of structures and systems. Those

usual activities may include replacement of dysfunctional facilities, including cases where environmental permits require replacing an existing structure with a different type structure, as long as the functioning characteristics of the original structure are not changed. One example is the replacement of a collapsed, fish blocking, round culvert with a new box culvert under the same span, or width, of roadway. See also Road Maintenance exemptions in Section 1 of the NPDES Appendix included in this chapter.

V. *Municipal separate storm sewer system (MS4)* - means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains), owned or operated by the City of Port Angeles:

1. Designed or used for collecting or conveying stormwater;
2. Which is not part of a publicly owned treatment works (POTW). "POTW" means any device or system used in treatment of municipal sewage or industrial wastes of a liquid nature which is publicly owned; and
3. Which is not a combined sewer. "Combined sewer" means a system that collects sanitary sewage and stormwater in a single sewer system.

W. *National Pollutant Discharge Elimination System (NPDES) Stormwater Discharge Permit* - means a permit issued by the Environmental Protection Agency (EPA) (or by the Washington Department of Ecology under authority delegated pursuant to 33 USC Section 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

X. *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, and vine maple; shrubs such as willow, elderberry, salmonberry, and salal; and herbaceous plants such as sword fern, foam flower, and fireweed.

Y. *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 impervious 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.

Z. *Non-impaired capacity system* - means the flow volume or rate that a facility (e.g., pipe, pond, vault, swale, ditch, drywell, etc.) is designed to safely contain, receive, convey, reduce pollutants from, or infiltrate to meet a specific performance standard. System capacity shall be evaluated using a qualitative analysis and/or a quantitative analysis which shall include continuous runoff modeling of the 25-year recurrence interval flow. System capacity is considered to be non-impaired if it conveys a 25-year recurrence interval flow without surcharging.

AA. *Non-stormwater discharge* - means any discharge to the storm drain system that is not composed entirely of stormwater.

BB. *Permeable pavement* - Pervious concrete, porous asphalt, permeable pavers or other forms of pervious or porous paving material intended to allow passage of water through the pavement

section. It often includes an aggregate base that provides structural support and acts as a stormwater reservoir.

CC. *Person* - means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner of a premises or as the owner's agent.

DD. *Pollutant* - means anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; nonhazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables (objects or substances which float); pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

EE. *Pollution-generating impervious surface (PGIS)* - means those impervious surfaces considered to be a significant source of pollutants in stormwater runoff. Such surfaces include those which are subject to: vehicular use; industrial activities (as further defined in the Department of Ecology's SWMMWW [2014]), or storage of erodible or leachable materials, wastes, or chemicals, and which receive direct rainfall or the run-on or blow-in of rainfall; metal roofs unless they are coated with an inert, non-leachable material (e.g., baked-on enamel coating); or roofs that are subject to venting significant amounts of dusts, mists, or fumes from manufacturing, commercial, or other indoor activities (as per the Department of Ecology's SWMMWW [2014]).

FF. *Pollution-generating pervious surfaces (PGPS)* - means any non-impervious surface subject to vehicular use, industrial activities (as further defined in the Department of Ecology's SWMMWW [2014]); or storage of erodible or leachable materials, wastes or chemicals, and that receive direct rainfall or run-on or blow-in of rainfall, use of pesticides and fertilizers or loss of soil. Typical PGPS include permeable pavement subject to vehicular use, lawns and landscaped areas, including golf courses parks, cemeteries, and sports fields (natural and artificial turf) (as per the Department of Ecology's SWMMWW [2014]).

GG. *Pre-developed condition* - means the native vegetation and soils that existed at a site prior to the influence of Euro-American settlement. The pre-developed condition shall be assumed to be a forested land cover unless reasonable, historic information is provided that indicates the site was prairie prior to settlement.

HH. *Premises* - means any building, lot, parcel of land, or portion of land, whether improved or unimproved, including adjacent sidewalks and parking planting strips.

II. *Project site* - means that portion of a property, properties, or right-of-way subject to land disturbing activities, new impervious surfaces, or replaced impervious surfaces.

JJ. *Rain garden* - means a non-engineered shallow, landscaped depression, with compost-amended native soils and adapted plants. The depression is designed to pond and temporarily store stormwater runoff from adjacent areas, and to allow stormwater to pass through the amended soil profile.

KK. *Receiving waters* - means bodies of water or surface water systems to which surface runoff is discharged via a point source of stormwater or via sheet flow.

LL. *Redevelopment* - On a site that is already substantially developed (i.e., has 35 percent or more of existing impervious surface coverage), the creation or addition of impervious 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 impervious surface that is not part of a routine maintenance activity; and land disturbing activities.

MM. *Replaced impervious surface* - means, for structures, the removal and replacement of any exterior impervious surfaces or foundation. For other impervious surfaces, the removal down to bare soil or base course and replacement.

NN. *Single-family property* - means all property used for single-family residential uses.

OO. *Site* - means the area defined by the legal boundaries of a parcel or parcels of land that is (are) subject to new development or redevelopment. For road projects, the length of the project site and the right-of-way boundaries define the site.

PP. *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 Department of Ecology's SWMMWW (2014) 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 nonstructural practices that prevent or reduce pollutants from entering stormwater. For further examples or details, refer to the Volume IV of the Department of Ecology's SWMMWW (2014).

QQ. *Stormwater* - means runoff during and following precipitation and snowmelt events, including surface runoff and drainage.

RR. *Stormwater Management Manual for Western Washington (SWMMWW)* – Washington State Dept. of Ecology's stormwater manual. As applicable, the City has adopted the most recent version of this manual to guide the City's stormwater management program.

RR:SS. *Stormwater pollution prevention plan (SWPPP)* - means a document which describes the best management practices and activities to be implemented by a person to identify sources of pollution or contamination at a premises and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

SS:TT. *Stormwater system* - means all natural and manmade systems which function together or independently to collect, store, purify, discharge and convey stormwater. Included are all stormwater facilities as well as natural systems such as streams and creeks and all natural systems which convey, store, infiltrate or divert stormwater.

TT:UU. *Threshold discharge area* - means an on-site area draining to a single natural discharge location or multiple natural discharge locations that combine within one-quarter mile downstream (as determined by the shortest flowpath). The examples in Figure 2.1 illustrate this definition. The purpose of this definition is to clarify how the thresholds of the stormwater requirements are applied to project sites with multiple discharge points.

UU:VV. *Wetland* - means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a

prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from non-wetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from non-wetland areas to mitigate the conversion of wetlands.

.....

13.63.050 Stormwater utility established.

There is hereby created and established a storm and surface water utility (also referred to as the "stormwater utility"). The stormwater utility shall be administered ~~under direction of~~ by the Director of Public Works and Utilities. The stormwater utility shall perform the functions, and have the authority, as set forth in Chapter 35.67 RCW and in this chapter for managing, regulating, and controlling the City's stormwater management program.

13.63.060 Jurisdiction.

The City shall have jurisdiction over all stormwater and surface water facilities within the City's boundaries. No modifications or additions shall be made to the City's stormwater and surface water facilities without the prior approval of the City.

.....

13.63.080 Transfer of property.

All equipment, properties, and property rights and interests owned or held by the City, however acquired, insofar as they relate to or concern stormwater or surface water sewage, are hereby transferred to the stormwater utility. This includes by way of example and not limitation, all properties and property rights and interests acquired by adverse possession or by prescription in and to the drainage and storage of stormwater or surface waters over and under lands, watercourses, streams, ponds and sloughs to the full extent of inundation caused by the largest storm or flood condition.

13.63.090 Annual charge.

A. The owners of all real property in the City containing impervious surfaces shall ~~pay~~ be assessed ~~a monthly~~ an annual stormwater utility charge at the rate as set forth in this section.

B. *Single-family and duplex residential fees.*

1. Effective January 1, 2022, the annual stormwater utility charge for each non-discounted single-family and duplex residential property shall be \$204.06.
 2. Effective January 1, 2022, the annual stormwater utility charge for single-family and duplex residential property for those qualifying for discounts per section 13.20 PAMC shall be \$153.05 for 25% discount eligible and \$132.64 for 35% discount eligible.
- C. The annual stormwater utility charge for all commercial, industrial, or multiple dwelling commercial/multiple property shall be calculated by dividing the total impervious area in square feet by 3,000 square feet, times the rate of \$203.03. The minimum annual fee for a commercial, industrial, or multiple dwelling property shall be not less than the annual fee rate of \$203.03 and the maximum annual fee shall be not more than 25 times that rate.
- D. The annual stormwater utility charge for all non-taxable federal property shall be calculated by dividing the total impervious area in square feet by 3,000 square feet, times the rate of \$193.55. The minimum annual fee for a non-taxable federal property shall not be less than the annual fee rate of \$193.55 and the maximum monthly annual fee shall be not more than 25 times that rate.
- E. City streets, State highways, private streets with stormwater and surface facilities in place meeting City standards, and other public or private owned properties or portions thereof having their own NPDES permitted storm and surface water runoff facilities which do not discharge to City facilities shall be exempt from the monthly annual charges set forth in this section.

13.63.095 Stormwater Program Charge.

Each private property or businesses subject to routine Stormwater Programmatic Inspections shall be charged a fixed-rate fee to accommodate staff time, equipment, tracking software, reporting, and all other associated costs bore by the City in facilitating the program. This rate will be applied annually per PAMC 13.63.110. This annual charge assumes each participant's full compliance with the program and does not factor in extra resources expended by the City in response to situations of non-compliance. The City may recoup additional costs incurred from the non-compliant property owner or other responsible party via assignment of civil penalty, as described in PAMC 13.63.480, 13.63.500, and 13.63.510.

- A. The Source Control Program for Existing Development has a program charge of \$140.00 per year.
- B. The Operations and Maintenance (O&M) Program for Private Stormwater Facilities has a program charge of \$225.00 per year.

13.63.100 Rate adjustment.

- A. Stormwater rebates may be issued for retrofit, new development or redevelopment projects that meet the following conditions:
 1. Overall project with less than 5,000 square feet of new or replaced hard surfaces, and implements two or more of the following:
 - a. Permeable pavement;

- b. Compost amended soils per BMP T5.13 in all disturbed area not covered by new improvements;
- c. Rain gardens.
 - 2. LID facilities and best management practices (BMPs) listed in subsection A.1 above, must be designed and maintained in accordance with the Department of Ecology's SWMMWW (2014).
 - 3. Stormwater rebates as available funding allows include the following:
 - a. Permeable pavement - \$1.00 per square foot towards materials, up to a maximum rebate of \$1,000.00 per household or business.
 - b. Compost amended soils - Voucher for ten cubic yards of Garden Glory compost.
 - c. Rain gardens - Rebate for materials to install a rain garden, up to a maximum rebate of \$1,000.00, per household or business.
- B. Stormwater rebates may be issued for retrofit, new development, or redevelopment project that meet the following conditions:
 - 1. Overall project is less than the minimum requirement #5 threshold (see Chapter 5 of the City of Port Angeles Urban Service Standards and Guidelines) or is a retrofit project that implements a rain garden.
 - 2. Rain gardens must be designed and maintained in accordance with the Department of Ecology's SWMMWW (2014).
 - 3. Stormwater rebates as available funding allows include a rebate for materials to install a rain garden, up to a maximum rebate of \$1,000.00, per household or business.
- C. A property owner may request a rate adjustment to the ~~monthly~~ annual charge set forth in PAMC 13.63.100, only if the property contains no hard surfaces or if the property owner disagrees with the City's calculations of the rate, or the amount of hard surface area used by the City in calculating the rate, under PAMC 13.63.100.C. A request for an adjustment shall be submitted in writing to the Director of Public Works and Utilities. If the property contains no hard surfaces, the rate shall be adjusted to zero. If the City's calculations or amount of hard surfaces under PAMC 13.63.100.C is incorrect, the rate shall be adjusted accordingly. Approved adjustments will be applied prospectively except that reimbursement for overcharges paid by the property owner will be made by the City for the year during which the adjustment is requested and for the prior year.
- D. Any person aggrieved by a decision of the Director of Public Works and Utilities relating to a request for a rate adjustment authorized by PAMC 13.63.110 may appeal the Director's decision to the City Manager within 30 days of the date of the Director's decision. The City Manager's decision shall be final.

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13.63.130 Non-stormwater, illegal discharges and dumping prohibited.

A. Except as provided in subsections B. and C. below, no person shall throw, drain or otherwise discharge, cause or allow others under ~~it's~~ its control to throw, drain or otherwise discharge into the stormwater system any materials other than stormwater.

B. The following discharges into the stormwater system are prohibited, unless the stated conditions are met:

1. Discharges from potable water sources, including waterline flushing, hyperchlorinated waterline flushing, fire hydrant system flushing and pipeline hydrostatic test water. Planned discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH adjusted, if necessary (to meet water quality standards), and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4.

2. Discharges from lawn watering and other irrigation runoff shall be minimized.

3. Dechlorinated swimming pool, spa and hot tub discharges. The discharges shall be dechlorinated to a concentration of 0.1 ppm or less, pH adjusted and re-oxygenized, if necessary, and volumetrically and velocity controlled to prevent resuspension of sediments in the MS4 and the property owner has obtained a stormwater discharge permit from the City. 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.

4. Street and sidewalk wash water, water used to control dust, and routine external building wash down that does not use detergents. To avoid washing pollutants into the MS4, permittee must minimize the amount of street wash and dust control water used. At active construction sites, street sweeping must be performed prior to washing the street.

5. Other non-stormwater discharges. The discharges shall be in compliance with the requirements of the stormwater pollution prevention plan reviewed by the City, which addresses such discharges.

6. Any discharges from a construction site. Discharges must be in conformance with the stormwater pollution prevention plan (SWPPP) reviewed by the permittee.

7. Combined sewer overflow (CSO) discharges. This discharge must be in conformance with a current National Pollution Discharge Elimination System Permit, approved by the Washington State Department of Ecology.

C. The following categories of non-stormwater discharges are specifically allowed:

1. Diverted stream flows.

2. Rising groundwaters.

3. Uncontaminated groundwater infiltration (as defined at 40 CFR 35 2005(20)).

4. Uncontaminated pumped groundwater.

5. Foundation drains.

6. Air conditioning condensation.

7. Irrigation water from agricultural sources that is commingled with urban stormwater.

8. Springs.
9. Uncontaminated water from crawl space pumps.
10. Footing drains.
11. Flows from riparian habitats and wetlands.
12. Non-stormwater discharges covered by another NPDES or State waste discharge permit.
13. Discharges from emergency firefighting activities in accordance with the City of Port Angeles' Stormwater NPDES Permit Section S2 Authorized Discharges. The City's Stormwater NPDES Permit is available to view in the office of the City Engineer.

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13.63.160 Unpolluted stormwater discharge shall have approved outlet.

- A. Stormwater shall be discharged to such sewers as are specifically designated as storm sewers, or to a natural outlet approved by the Director.
- B. Storm drainage from hard-surfaced or graded areas, such as parking lots, service station yards, and storage yards, shall enter the public storm sewer system or other outlet approved by the Director and as required by this chapter and as such facilities are available. Such storm drainage shall not be connected to or allowed to enter a sanitary sewer, ~~unless otherwise approved in writing by the Director based on lack of feasible alternatives or other appropriate factors.~~

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13.63.275 Source Control Program for Existing Development.

- A. The City's regulatory source control program hereby is initiated to satisfy Ecology's minimum requirements described in the 2019-2024 Phase II Municipal Stormwater Permit and developed to serve the community and future generations by working to protect human and environmental health from contaminated stormwater runoff. The purpose of this program is to prevent and reduce pollutants in runoff from businesses and operations occurring within City limits.
- B. Local business owners, identified by the City as having the potential to pollute (as described in the City's Stormwater Management Program (SWMP) Plan), are required to participate in the program. Business owner participation in the program consists of:
 1. Engaging with the City in all necessary communications, scheduling, information gathering, documentation, and records requests in a timely and professional manner.
 2. Utilize the City's Source Control Program digital tracking and reporting platform, as it becomes available.
 3. Provide access to the site and all applicable parameters of the site for inspections or re-inspections.
 4. The business owner, or qualified designee, shall attend each inspection or re-inspection.

5. Implement operational and structural stormwater best management practices (BMPs) that apply to the site and are required by the City.

6. Document applicable source control policies and procedures.

7. Provide business specific stormwater management and source control trainings to staff.

8. Under the umbrella of AKART, comply with City issued directives deemed necessary to reduce pollution or risk of pollution being generated in stormwater runoff from their site.

C. Stormwater Best Management Practices (BMPs) for source control are described in Volume IV of the SWMMWW. All business owners are required to implement or apply BMPs listed as *Applicable to All Sites*. Activity specific BMPs that are applicable to a site shall be implemented and applied appropriately. 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.

D. All structural or operational BMPs that apply to a business site or activity shall be documented and maintained in the business owner's policies and procedures and used to train staff and perform self-inspections, maintenance, and updates. In cases where the SWMMWW lacks guidance for a specific source of pollutants, the business owner/operator shall work with the City to implement or adapt BMPs based on the best professional judgement of the City.

E. After an inspection, the City will communicate inspection results with the business owner, or other responsible party, in writing. Items or deficiencies identified by the City as requiring improvement, upgrade, or maintenance will be listed along with a reasonable timeframe for the work to be completed.

F. In situations where deficiencies are found or elevated risk can and should be reduced using AKART, the City will attempt to provide or connect the responsible party with relevant education, technical expertise, and resources. Despite the City's efforts to assist, support, and provide resources, the responsible party maintains full responsibility for the deficient situation and for achieving satisfactory resolution.

G. A business maintains compliance with the Source Control program by:

1. participating in the program, as described in section B above,

2. implementing the required BMPs applicable to the site, and by

3. satisfying post-inspection directives necessary to reduce or eliminate contaminated runoff or risk of pollution given by the City and within the timeframes specified.

If the City determines, through inspections or otherwise, that a business is noncompliant with program requirements, the City will implement progressive enforcement until compliance is regained.

H. Progressive enforcement is intended to encourage the business owner to address the issues of non-compliance resulting in reducing or eliminating pollution or risk of pollution by incrementally applying progressively adverse consequences to continued non-compliance. The City's progressive enforcement policy, applicable to the Source Control Program, as well as the overall Stormwater Management Program, is as follows:

1. Issuance of a Notice of Noncompliance (NoNC) to the business and/or property owner(s), defining:

- i. the specific issue(s) of non-compliance
 - ii. specific corrective actions to be taken, if applicable
 - iii. a pathway for the responsible party to regain compliance, if applicable
 - iv. a reasonable time for the responsible party to comply that is appropriate to the situation and as determined solely by the City.
 - v. contact information for a person or department at the City capable of providing assistance to the responsible party regarding the NoNC
2. Issuance of an Order to Maintain or Repair, if applicable, and as defined in PAMC 13.63.470. If appropriate, an Order to Maintain or Repair may be issued in conjunction with a Notice of Violation.
3. Issue a Notice of Violation (NOV), as defined in PAMC 13.63.480. Progressive enforcement after issuance of a NOV is described in multiple subsections of this chapter, depending on circumstances, and may include assessment of civil penalty and initiation of a lawsuit.
4. Assessment of Civil Penalties and other costs associated, as described in PAMC 13.63.480 and 13.63.500.
5. Initiate appropriate legal remedies to collect civil penalties, as described in PAMC 13.63.510.
- The City's progressive enforcement policy may be applied by the City to an extent deemed appropriate by the City and as determined to be in the best interest of the City. The City retains the right to skip steps in the progressive enforcement policy, if warranted, as determined by the City. Recourse to any single remedy shall not preclude recourse to any other remedies available to the City.
- I. Resolution to a hazardous or potentially hazardous situation is described in PAMC 13.63.530.

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13.63.330 Extensions—Application.

- A. The person desiring a storm drain main extension shall apply to the Director requesting permission to extend the City's stormwater system.
- B. The Director shall review the application, and, if the requested extension is determined to be a proper extension of the stormwater system, shall provide the petitioner with the design requirements for the extension.
- C. If the requested main extension is determined to be an improper extension of the stormwater system, the application shall be denied.

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13.63.410 Inspection.

A. *Routine Permit-related inspections.* The Director or his designee shall have access to any site for which a site development activity permit has been issued pursuant to section 13.63.270 during regular business hours for the purpose of on-site review and to ~~insure~~ensure compliance with the terms of such permit. The applicant for any such permit shall agree in writing, as a condition of issuance thereof, that such access shall be permitted for such purposes.

B. *Inspection for cause.* Whenever there is cause to believe that a violation of this title has been or is being committed, the director or his designee is authorized to inspect the project or property, and any part thereof reasonably related to the violation, during regular business hours, and at any other time reasonable ~~in~~ under the circumstances. The applicant for any site development activity permit under this chapter shall, as a condition of issuance of such permit, agree in writing that ~~such~~ access to the project site which inhibits the collection of information relevant to enforcement of the provisions of this chapter shall be grounds for issuance of a stop work order by the Director or his designee.

C. *Programmatic inspections.* During normal business hours, the Director or their designee shall be provided reasonable access to any property, facility, or business required to participate in the City's Source Control Program for Existing Developments, Operations and Maintenance Program for Private Stormwater Facilities regulated by the City, or other programs developed under the City's Stormwater Management Program and necessary to satisfy requirements of Ecology's Phase II Permit. Programmatic inspections require a qualified representative from the business, property, or organization to provide access, attend the inspection, and, where able, participate in the inspection alongside City staff. The City will attempt to schedule the inspection or re-inspection with the responsible party in advance of the inspection. During the inspection, the City shall be permitted to take photos or video documentation of conditions relevant to the inspection. Barring reasonable access to the property will be considered as non-compliance with the program and the City will implement progressive enforcement recourses, as described in PAMC 13.63.275.

CD. The Council shall establish fees for stormwater related inspections. Inspection fees shall be detailed in the PAMC 3.70.110.

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13.63.500 Liability for costs of investigation.

Any person found to be in violation of this chapter shall be responsible for the costs of investigation by the City. Such cost may include staff time, equipment, materials, shipping charges, the analytical services of a certified laboratory, and any other related costs.

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Section 3. - Corrections. The City Clerk and the codifiers of this ordinance are authorized to make necessary corrections to this ordinance including, but not limited to,

the correction of the scrivener's/clerical errors, references to other local, state, or federal laws, codes, rules or regulations, or ordinance numbering, section/subsection numbers and any references thereto.

Section 4. - Severability. If any provisions of this Ordinance, or its application to any person or circumstances, are held invalid, the remainder of the Ordinance, or application of the provisions of the Ordinance to other persons or circumstances, is not affected.

Section 5. - Effective Date. This Ordinance, being an exercise of a power specifically delegated to the City legislative body, is not subject to referendum. This ordinance shall take effect five (5) days after passage and publication of an approved summary thereof consisting of the title.

PASSED by the City Council of the City of Port Angeles at a regular meeting of said Council held on the 5th day of July, 2022.



Kate Dexter, Mayor

APPROVED AS TO FORM.


William E. Bloor, City Attorney

ATTEST:


Kari Martinez-Bailey, City Clerk

Summary of Ordinances Adopted by the Port Angeles City Council on July 5, 2022

ORDINANCE NO. 3693

AN ORDINANCE of the City of Port Angeles, Washington amending Chapters 3.70 of the Port Angeles Municipal Code as follows.

ORDINANCE NO. 3694

AN ORDINANCE of the City of Port Angeles, Washington amending Chapters 13.62 and Chapter 13.63 of the Port Angeles Municipal Code relating to stormwater-utility and regulations.

These Ordinances, being an exercise of a power specifically delegated to the City legislative body, are not subject to referendum. These ordinances shall take effect five (5) days after passage and publication of an approved summary thereof consisting of the title.

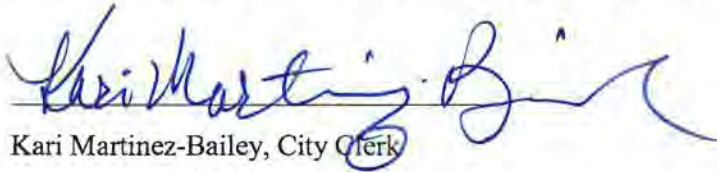
The full texts of Ordinances are available at City Hall in the Clerk's office, on the City's website at www.cityofpa.us or will be mailed upon request.

Kari Martinez-Bailey
City Clerk

Published by summary: Saturday, July 9, 2022



On June 21, 2022, the Port Angeles City Council had the first reading for Ordinance No. 3694. A second reading was held on July 5, 2022. Between the first and second readings, minor edits were made, however no substantial changes were made to the Ordinance. Unfortunately, an older and incorrect draft of the Ordinance was submitted to the City Council packet for signature at the second reading. This incorrect draft was subsequently signed by City Council. In light of this scrivener's error, the Port Angeles City Clerk now includes the correct, intended, Ordinance No. 3694 to this official file.



Kari Martinez-Bailey, City Clerk

Businesses and Pollutants by Land Zoning

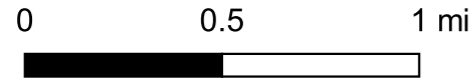
Legend

Source Control Business Inventory

- Institutional, Commercial, or Industrial Businesses
- ▭ CityBoundary
- PortAngeles WA Rivers

Pollutants by Land Zoning

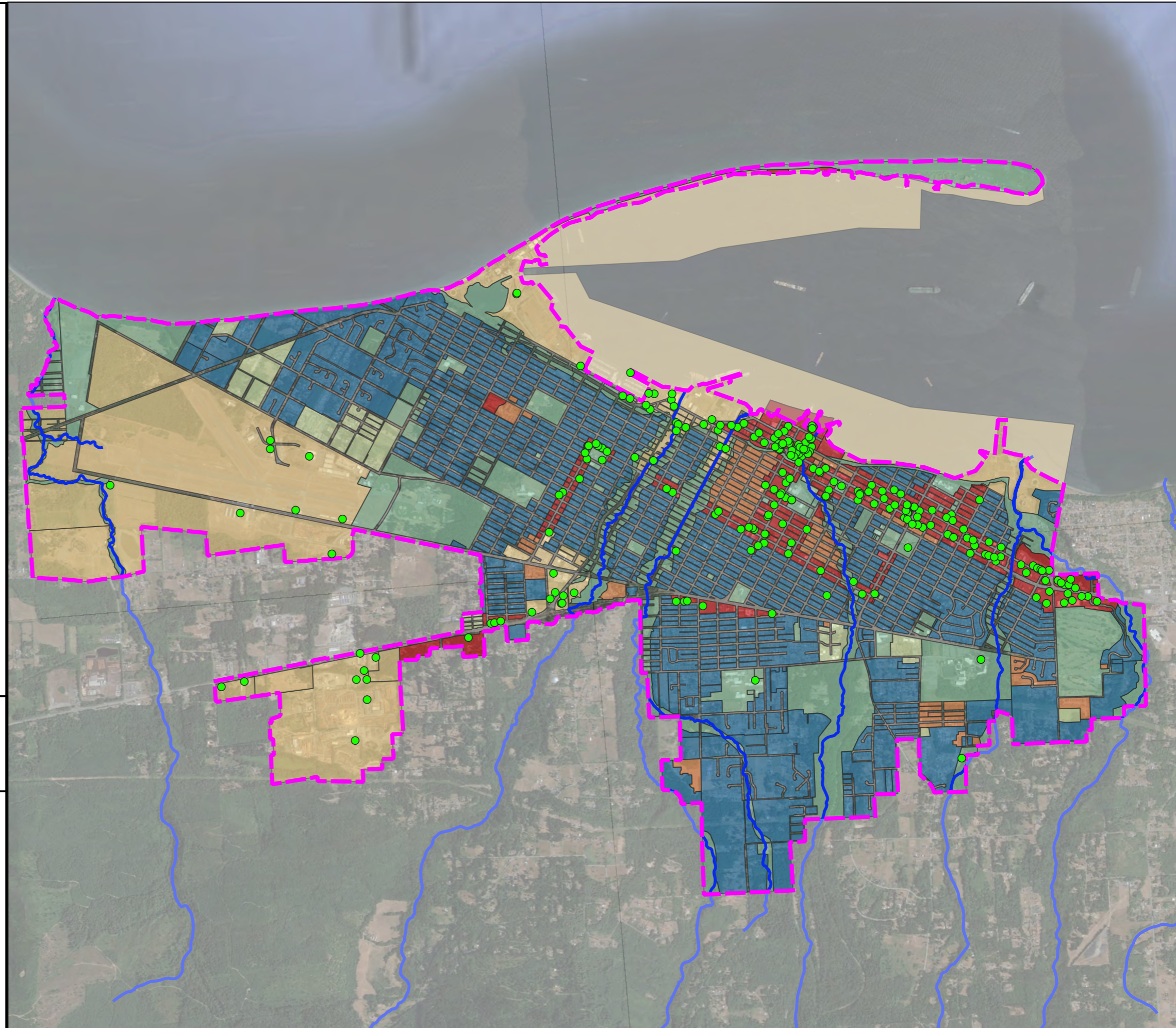
- Commercial - Metals (Zinc, Copper, Lead, Chromium), Volatile Organic Compounds
- High Density Residential - Zinc, Organotins (Dibutyltin (DBT) and Monobutyltin (MBT) from PVC pipes), Lead, E-coli
- Industrial - Heavy Metals (Zinc, Copper, Lead), Total Suspended Solids, Volatile Organic Compounds, pH
- Medium Density Residential - Zinc, Pesticides, Total Suspended Solids
- Parks and Public Buildings - Nitrate, Bacteria, Nitrogen, Phosphorous, Organic Carbon, Total Suspended Solids, Phosphate, E-coli, Enterococci
- Single Family Residential - Zinc, Pesticides, Total Suspended Solids



City of Port Angeles
08/24/2022

Land Zoning data provided by the City of Port Angeles.

OSBORN
CONSULTING
INCORPORATED



DATE AUGUST 1, 2022

TO VINCE MCINTYRE, PE, PROJECT MANAGER, CITY OF PORT ANGELES

FROM ANN BRYANT, PE, PROJECT MANAGER, OSBORN CONSULTING, INC.

SUBJECT CITY OF PORT ANGELES – STORMWATER PERMIT IMPLEMENTATION SUPPORT

CITY OF PORT ANGELES STORMWATER PERMIT IMPLEMENTATION SUPPORT

BUSINESS INVENTORY DEVELOPMENT AND MAINTENANCE PLAN MEMORANDUM

PURPOSE

The Washington State Department of Ecology (Ecology) administers the Western Washington (WWA) NPDES Phase II Municipal Stormwater Permit (Permit) which requires Permittees to develop a Source Control Program per Section S5.C.8. The City of Port Angeles (City) is a Phase II Permittee. The Source Control Program is meant to prevent and reduce pollutants in runoff from areas that discharge to the Permittee's municipal separate storm sewer system (MS4). The program must include:

- 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.
- Inspections of pollutant generating sources at public and privately owned institutional, commercial, and industrial sites to enforce implementation of required BMPs to control pollution discharging into the MS4.
- 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.
- Practices to reduce polluted runoff from the application of pesticides, herbicides, and fertilizers from the sites identified in the inventory.

By August 1, 2022, Permittees are required to adopt and make effective an ordinance requiring the application of source control BMPs and establish a business inventory that identifies publicly and privately owned institutional, commercial, and industrial sites which have the potential to generate pollutants to the MS4. The inventory must include:

- Businesses and/or sites identified based on the presence of activities that are pollutant generating according to Appendix 8 of the Permit.
- Other pollutant generating sources based on complaint response, such as: home-based businesses and multi-family sites.

The City does not have previous records of complaint responses; therefore, the City is required to develop an initial inventory that includes types of businesses and/or sites identified in Appendix 8. Appendix 8, included in Appendix A of this document, includes a list of North American Industry Classification System (NAICS) and Standard Industrial Codes (SIC), which are assigned to businesses with a registered business license, that are often associated with potential pollutants. Commercial, industrial, and institutional businesses within the City limits that have NAICS and SIC codes identified in Appendix 8 and drain to the City's MS4 will be included in the business inventory. Home-based businesses and multi-family sites may be added to the business inventory in the future if a complaint is filed and verified by the City. Permittees are required to update this list once per permit cycle; however, the City will be updating this list annually in order to collect annual source control fees from all businesses requiring source control inspections.

This document explains the process for developing the business inventory list for the City and provides instructions to update and maintain the list.

PROCESS FOR CREATING AN INVENTORY OF BUSINESSES FOR THE SOURCE CONTROL PROGRAM

Step 1 – Gather Data

The first step in developing an inventory of businesses for the Source Control Program was to gather a list of all recorded active businesses within the Port Angeles city limits from the Washington State Department of Revenue (DOR). Using the Contact Form on the [DOR website](#), a public records request was submitted for the following information for all active businesses within Port Angeles city limits: business name, business address, parcel number, active status, SIC/NAICS codes, business contact information, initial date of business license submittal, most recent business license renewal date, and description of business. The DOR fulfilled the public records request in approximately 30 days by providing the requested data in an Excel spreadsheet via email. Data provided by the DOR included: Unified Business Identifier (UBI) number, business name, business location, business mailing address, NAICS codes and descriptions, date license opened, and date of latest license renewal for businesses with a Port Angeles address. The Excel worksheet tab containing this data was renamed *DOR Original*. The City did not have records of complaint responses; therefore no additional businesses were added to the list at this stage.

Step 2 – Filter by NAICS Codes

The next step was to narrow down the businesses to only those which have NAICS codes that align with Appendix 8 of the Permit. NAICS codes are six-digit numbers that are used to group similar business types together. Appendix 8 lists the group descriptions and initial three+ digits of codes for businesses with potential pollutant sources that apply to the Source Control

Program. These businesses may be private or public, residential, commercial, institutional, or industrial. In the *DOR Original* worksheet tab, filters were applied to the primary and secondary NAICS code columns so that only businesses with NAICS codes listed in Appendix 8 were visible. A new worksheet tab was created in the Excel file with the title *NAICS Business Verified*. The businesses with NAICS codes of interest were copied to the *NAICS Business Verified* worksheet tab and the filters were removed from the *DOR Original* worksheet tab leaving the original data provided by the DOR unedited.

Step 3 – Verify Business is Located within the City Limits and Determine Type

Consistent with other City policies, all businesses within the City limits are presumed to discharge to the City's MS4. All businesses on the *NAICS Business Verified* worksheet tab were reviewed using Google Maps and GIS data provided by the City to determine if the business location is within the City limits and if the business is located in an area zoned Commercial/Industrial or Residential. A copy of the *NAICS Business Verified* worksheet tab was made and renamed *All Businesses in City Limits*. A column labeled "GIS ID" and a column labeled "Residential or Commercial Zoning" was added. Businesses located outside of the City limits were removed from the *All Businesses in City Limits* worksheet tab. Businesses located in an area with a City Land Zoning designation of Commercial, Industrial, or Parks and Public Buildings were labeled as Commercial. Businesses located in an area with a City Land Zoning designation of High Density Residential, Medium Density Residential, or Single Family Residential were labeled as Residential.

Step 4 – Verify Business Active Status, Name, Location, and Type

In the *All Businesses in City Limits* worksheet tab, columns labelled "Appendix 8 Code," "Active Status," "Method of Verification," and "Notes" were added. The respective NAICS Major Group and Group Description that align with Appendix 8 of the Permit were added to the "Appendix 8 Code" column to provide additional information for verifying business types.

A desktop review was conducted to determine if the businesses were active, may be active, or closed. A Google search was performed for each business name and address on the *All Businesses in City Limits* worksheet tab. The search results were then used for verification. Search results used to determine the active status of the business included:

- Information about the business featured in a box on the right-hand side bar of the screen (Figure 1). This information included reviews, links to websites, Google Maps, social media links, phone numbers, business hours and when they were last verified. If the business is permanently closed, that information was sometimes noted here too.
- The business' official website. If the website was up to date (recent copyright date, upcoming events noted, etc.), the business was determined to be active.
- Reviews of the business found on websites such as Google, TripAdvisor, Facebook, or HomeAdvisor. If a review had been written in the last few months, the business was determined to be active.
- Recent news articles referencing the business. News articles included references to active businesses as well as business that were closing their doors.

- Social media platforms such as Instagram or Facebook. Recent activity such as posting news or information indicated that a business was active. Business contact information was also found on these sites.
- Opencorporates.com. This website contains information regarding the status of the business, recent filings, and annual report dates (Figure 2). The business' status was noted as Active, Administratively Dissolved, Voluntarily Dissolved or Delinquent. Administratively Dissolved, Voluntarily Dissolved, or Delinquent. Any status that was not Active indicated that the business was closed. If the business' status was listed as Active, recent filings, such as the annual report, were verified that they were from the current calendar year.
- Phone number. If a phone number was available and the status of the business was not clear from information gathered in the Google search, the business was called to verify their status.

Based on the results of the desktop review, the businesses were labeled as Active, May be Active, or Closed in the "Active Status" column, and the method of verification used was noted in the "Method of Verification" column. Businesses were labelled as May be Active if there was no available phone number or a lack of information beyond that provided by the DOR. Businesses were labelled as Closed when a business was noted as Permanently Closed or Temporarily Closed in the featured box in the Google search results, if it was noted as Administratively Dissolved, Voluntarily Dissolved, or Delinquent on opencorporates.com, or if the closure was verified through another method, such as a phone call, online reviews, or the company's official website.

Google Maps was used to verify that the business was operating at the location and under the name provided by the DOR. If Google search results, satellite imagery, or street-view imagery revealed that a business was located at a different address than the one provided by the DOR or had a different name than the one provided by the DOR, the updated address or name was added to the "Notes" column, and the incorrect business name or address was color coded in pink.

Google Maps was also used to verify that businesses labeled as Residential were home based businesses and whether they should be presumed exempt from the Source Control Program unless a complaint is filed in the future. If a business appeared to be a commercial building in a residentially zoned area, or a residential home in a commercial/industrial zoned area, notes were added to the "Notes" column and the business was flagged for further review by City staff. If the business was not able to be identified as residential or commercial for any reason, it was labeled as Unable to Verify and notes were added to the "Notes" column.

A copy of the *All Businesses in City Limits* worksheet tab was made and renamed *Active Businesses in City Limits*. Businesses labeled as Closed were removed from this worksheet tab. Only businesses labeled as Active or May be Active remained. Businesses labeled as May be Active are assumed to be active until proven otherwise. A new column labeled "City Response" was added to the *Active Businesses in City Limits* worksheet tab.

Step 5 – City Verification

A copy of the data included in the *Active Businesses in City Limits* worksheet tab was sent to the City for review. City staff performed a high level review of all businesses, and a more detailed reviewed businesses with locations that were unable to be verified, or that had discrepancies between business zoning (commercial or residential) and business type (commercial or home-based). The City populated the “City Response” column.

During this review, it was determined that the City’s Corp Yard should not be included in the Inventory of Businesses for the Source Control Program. Per Page 4 of [Chapter 3: Source Control Inventory Development, Updates, and Prioritization](#), of the Source Control (Business/Site) Inspection Program Guidance Manual prepared by Herrera in April 2022 for the Washington Stormwater Center, City owned properties already addressed under S5.C.7 Operation and Maintenance of the Permit are exempt from the Source Control Program.

Step 6 – Finalize Business Inventory

Comments provided by the City during their review were added to the “City Response” column in the *Active Businesses in City Limits* worksheet tab. Columns titled, “Business Type,” “Include in Business Inventory,” and “Business Type Differs from Zoning” were added. Businesses that were zoned Commercial and appeared to be located in a commercial building were designated as Commercial in the “Business Type” column, and a Yes was assigned to the “Include in Business Inventory” column. Businesses that were zoned Commercial but appeared to be located at a residence were designated as Home-Based in the “Business Type” column, a No was assigned to the “Include in Business Inventory” column, and an X was added to the “Business Type Differs from Zoning” column. Businesses that were zoned Residential and appeared to be located at a residence were designated as Home-Based in the “Business Type” column, and a No was assigned to the “Include in Business Inventory” column. Businesses that were zoned Residential but appeared to be located in a commercial building were designated as Commercial in the “Business Type” column, a Yes was assigned to the “Include in Business Inventory” column, and an X was added to the “Business Type Differs from Zoning” column.

A copy of the *Active Businesses in City Limits* worksheet tab was created and renamed to *City Verified Businesses*. In the *City Verified Businesses* worksheet tab, City review comments were incorporated by revising the data as noted in the “City Response” column.

A copy of the *City Verified Businesses* worksheet tab was created and renamed to *Final Inventory of Businesses*. In the *Final Inventory of Businesses* worksheet tab, all businesses with a No in the “Include in Business Inventory” column were deleted. The businesses remaining in *Final Inventory of Businesses* worksheet tab are all commercial, industrial, and institutional businesses presumed to be active with NCAIS codes listed in Appendix 8 of the Permit within the City limits.

Step 7 – Refine Business Inventory

The *Final Inventory of Businesses* worksheet tab will be updated and maintained by City staff as new information becomes available through the initial Source Control Program outreach and Source Control Program inspections. Any data manually revised during the outreach and

inspection process should be marked in some way so that the new information does not get overwritten during the annual updating process.

A flow chart summarizing this process to create an inventory of businesses is illustrated in Figure 3.

PROCESS FOR UPDATING THE INVENTORY OF BUSINESSES FOR THE SOURCE CONTROL PROGRAM

Per the Permit requirements, the inventory of businesses must be updated once per the five-year permit cycle; however, the City will need to update this list once per year to administer the Source Control Program fee for billing purposes. To update the inventory of businesses:

- Submit a public records request from the DOR as described in Step 1 of the previous section and save in a new Excel spreadsheet. Give this spreadsheet a unique name by adding the year to the file name.
- Narrow down the new list to the businesses which have NAICS codes identified in Appendix 8 of the Permit as described in Step 2 in the previous section. Once the new list is refined, create a new worksheet tab and copy in the *NAICS Business Verified and Final Inventory of Businesses* worksheet tabs from the previous year.
- Using the VLOOKUP function in excel (<https://support.microsoft.com/en-us/office/vlookup-function-0bbc8083-26fe-4963-8ab8-93a18ad188a1>) determine which businesses are not included in the previous year's *NAICS Business Verified* list based on the Universal Business Identifier (UBI) and repeat the remaining steps described in the previous section to determine if these new businesses are active, within the city limits, whether the business is zoned residential or commercial, and if it should be exempt from the source control program. Add all applicable new businesses to the *Final Inventory Businesses* list from the previous year.
- Determine which businesses were listed on the previous year's *NAICS Business Verified list* that are not listed on the current year *NAICS Business Verified list* using the VLOOKUP function. These businesses are no longer considered active and should be removed from the *Final Inventory of Businesses* list.
- Review any complaints from residential businesses over the previous calendar year and add these to the *Final Inventory of Businesses* list.
- Compare business names and addresses in the *Final Inventory of Businesses* list to the *NAICS Business Verified* list using the VLOOKUP function. As some of this information may have been manually updated by City staff during the previous year's outreach and inspections, review any discrepancies and update the *Final Inventory of Businesses* list with the most current information.

NEXT STEPS

For the initial year of the City's Source Control Program, the City will be conducting outreach to provide information regarding the City's new Source Control Program and inspection process, and to gather contact information from each of the businesses on the *Final Inventory of*

Businesses list. Each year, the City is required to inspect twenty percent of the businesses on the *Final Inventory of Businesses* list. Inspections will begin in 2023.

FIGURE LIST

Figure 1 – Example of Google search results featured on right-hand column of the Google search results screen.

Figure 2 – Example of business information on opencorporates.com.

Figure 3 – Flow Chart for Creating a Business Inventory.

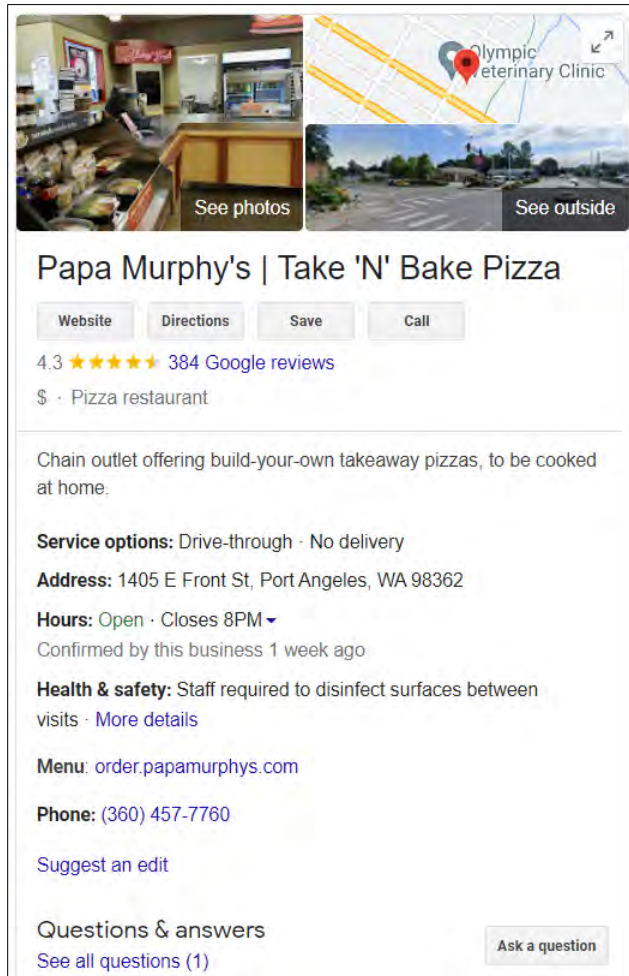


Figure 1 – Example of Google search results featured on right-hand column of the Google search results screen.

opencorporates
The Open Database Of The Corporate World

Company name or number: SEARCH

Companies Officers Log in/Sign up

UNBRIDLED SOUL ACRES LLC

Company Number: 604422174
Status: Voluntarily Dissolved *Active Status (Active, Administratively Dissolved, Voluntarily Dissolved, or Delinquent)*

Incorporation Date: 29 March 2019 (over 2 years ago)
Dissolution Date: 12 April 2021

Company Type: WA LIMITED LIABILITY COMPANY
Jurisdiction: Washington (US)

Registered Address: 540 FINN HALL RD
 PORT ANGELES
 98362-8495
 WA
 UNITED STATES

Agent Name: UNITED STATES CORPORATION AGENTS, INC
Agent Address: 14205 SE 36TH ST STE 100, BELLEVUE, WA, 98006-1553, UNITED STATES

Inactive Directors / Officers: BETH KREMER, governor
 LEGALZOOM.COM, INC, executor
 UNITED STATES CORPORATION AGENTS, INC, agent

Registry Page: <https://www.sos.wa.gov/corps/business>

Recent filings for UNBRIDLED SOUL ACRES LLC *Recent filings: Annual Report found here*

10 Jun 2021	STATEMENT OF RESIGNATION
12 Apr 2021	CERTIFICATE OF DISSOLUTION
17 Feb 2021	ANNUAL REPORT <i>Annual Report</i>
1 Feb 2021	ANNUAL REPORT DUE DATE NOTICE
18 Mar 2020	ANNUAL REPORT
1 Feb 2020	ANNUAL REPORT DUE DATE NOTICE
29 Mar 2019	CERTIFICATE OF FORMATION

Company network: Not yet available for this company. Click to find out more

Latest Events:

- 2019-03-29 - 2020-04-13: Addition of officer BETH KREMER, governor
- 2021-02-28 - 2021-04-19: Change of status from 'Active' to 'Voluntarily Dissolved'
- 2021-04-12: Became inactive

See all events

Corporate Grouping: [ESBA CONTRIBUTED](#)
 None known [Add one now?](#)
 See all corporate groupings

Hi, got a moment to share some feedback about OpenCorporates? You'll be helping us on our mission to bring about global corporate transparency

[TAKE SURVEY](#)

Source: Washington Secretary of State - Corporations Division: <https://cdfs.sos.wa.gov/>, 11 Jun 2021 (Public Domain)

Figure 2 – Example of business information on opencorporates.com.

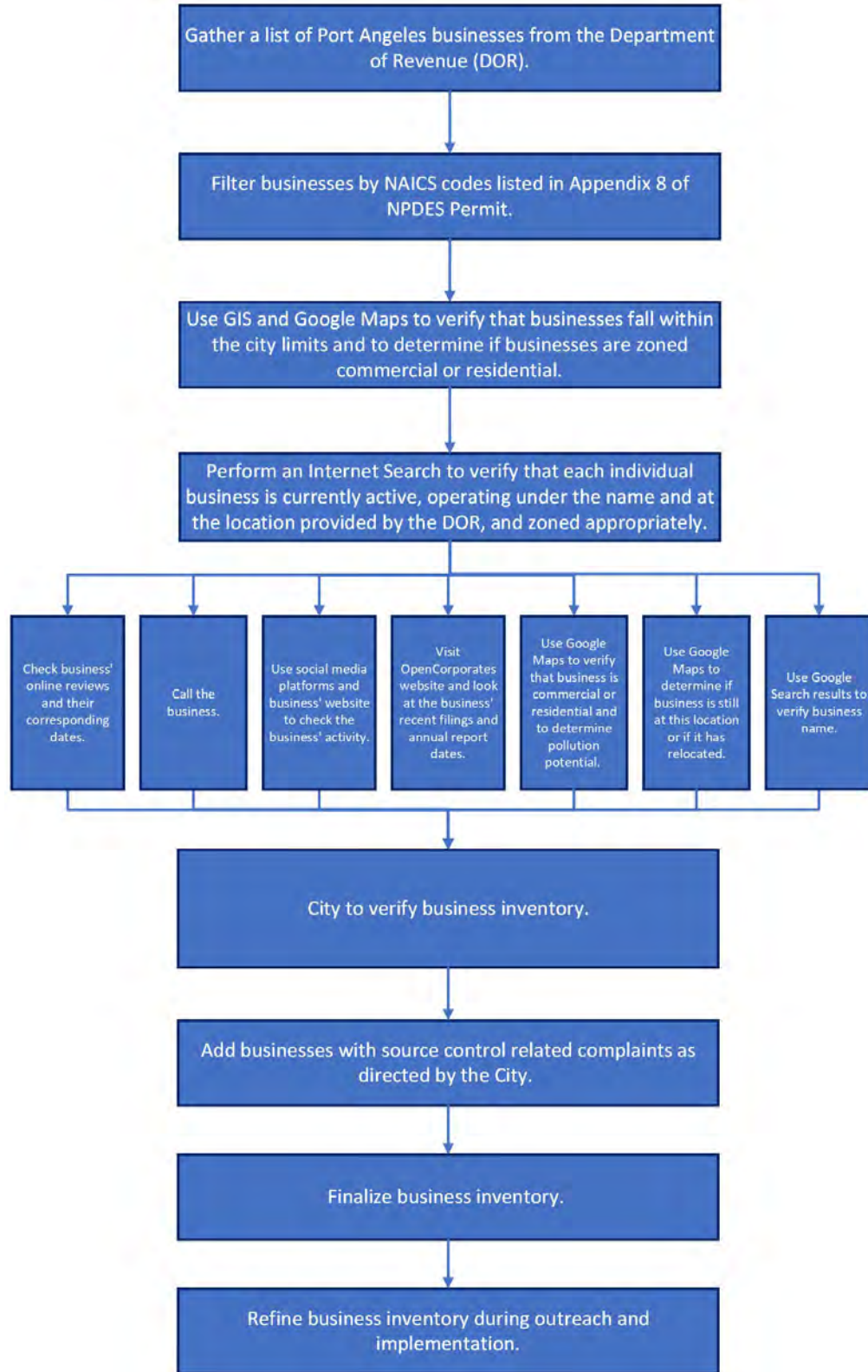


Figure 3 – Flow Chart for Creating a Business Inventory.

APPENDIX A

WASHINGTON STATE DEPARTMENT OF ECOLOGY, WESTERN WASHINGTON NPDES PHASE II PERMIT, APPENDIX 8 – BUSINESSES AND ACTIVITIES THAT ARE POTENTIAL SOURCES OF POLLUTANTS

APPENDIX 8 – Businesses and Activities that are Potential Sources of Pollutants

Use this appendix to help identify businesses and/or activities with potential outdoor pollutant-generating sources that discharge to the MS4 and should be included in the Permittee’s source control inventory, developed pursuant to S5.C.8.b.ii. The Standard Industrial Code (SIC), Major Group, and NAICS numbers are provided for reference. Permittees may include additional outdoor pollutant-generating sources that are located within their jurisdictions.

Group Description	SIC Major Group	SIC Industry Group No.	NAICS Major Group
Support Activities for Animal Production		074, 075	1152xx,
Construction of Buildings	15		236
Heavy and Civil Engineering Construction	16		237
Specialty Trade Contractors	17		238
Beverage, Food, and Tobacco Manufacturing	20		311, 312
Wood Product Manufacturing	24		321
Paper Manufacturing	26		3221xx, 3222xx
Printing and Related Support Activities	27		323
Chemical Manufacturing	28		325
Petroleum and Coal Products Manufacturing	29		3241xx
Plastics and Rubber Product Manufacturing	30		326
Leather and Allied Product Manufacturing	31		316
Nonmetallic Mineral Product Manufacturing	32		327
Primary Metal Manufacturing	33		331
Fabricated Metal Product Manufacturing	34		332
Machinery, Computer, and Electronic Product manufacturing	35		333, 334
Electrical Equipment, Appliance, and Component Manufacturing	36		335
Transportation Equipment Manufacturing	37		336
Rail Transportation	40		482

Group Description	SIC Major Group	SIC Industry Group No.	NAICS Major Group
Transit and Ground Passenger Transportation	41		485
Truck Transportation and Warehousing	42		484, 493
Support Activities for Transportation		473, 474, 478	4881xx, 4882xx, 4884xx, 4889xx,
Utilities	49		2211xx
Wholesale Trade – Durable Goods		501, 503, 505, 506, 507, 509	423140, 423930, 423110, 4233xx, 4237xx, 4238xx,
Wholesale Trade – Nondurable Goods		514, 515, 516, 517, 518, 519	424930, 4244xx, 4246xx, 4247xx, 4248xx,
Building Materials, Hardware, Garden Supplies Dealers		521, 523, 526	444
Food and Beverage Stores	54		445
Automotive Dealers and Gasoline Service Stations	55		441, 447
Food Services and Drinking Places	58		722
Rental and Leasing Services		735	5321xx, 5324xx
Repair and Maintenance	75		811192, 8111xx, 8112xx, 8113xx, 8114xx,
Ambulatory Health Care Services and Hospitals		806, 807	621910,
Educational Services	82		6111xx, 6112xx, 6113xx, 6115xx
Museums, Historical Sites, and Similar Institutions		842	712

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

- Passed ordinance (Ord. 3694, PAMC 13.63) defining the program, compliance with the program, and progressive enforcement pathway applicable to non-compliant businesses.
- Developed a webpage to provide information about the program
- Developed outreach materials (physical mailer and digital postings)
- Developed webform to receive feedback and contact information from businesses
- Sent out mailer to entire business list.
- Created new position and hired an Engineering Tech I – Source Control Inspector.
- Partnered with the Pollution Prevention Assistance (PPA) Program to partially fund the program.
- Provided training to the new SC Inspector, Howard Carlseen.
- Purchased equipment and supplies needed to perform the work.
- Sourced a vehicle for the SC Inspector
- Provided job-shadowing opportunities w/ City of Redmond and City of Everett
- Created physical and Survey 123 SC inspection forms
- Began contacting local businesses and scheduling SC inspections starting January 1st, 2023.
- First business inspection performed on February 1st, 2023
- Documented inspection results and provided guidance to businesses inspected.
- Tracking progress for 2023 annual report and compliance verification.
- Progressive enforcement policy is defined in municipal code and will be applied when necessary and appropriate. While there have been issues observed and requiring correction, to-date, the City has not encountered a situation of non-compliance.

More to come in 2023:

- Continue building ArcGIS HUB platform for the SC Program
- Continue scheduling and performing inspections
- Continue documenting and tracking inspections
- Continue on-going staff training
- Continue building up education and outreach materials



POLLUTION PREVENTION ASSISTANCE PARTNERSHIP

2019–2021 BIENNIUM REPORT



DECEMBER 2021
ECOLOGY PUBLICATION 21-04-049





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MEET THE PARTNERSHIP

In 2007, the Washington State Legislature allocated funding to establish the Local Source Control Partnership, a pollution prevention assistance program that helps small businesses reduce and manage potential wastes to protect water, soil, and air quality.

Local Source Control was rebranded as Pollution Prevention Assistance (PPA) in 2016. This new name was part of an effort to emphasize the benefits of the program to the public and businesses.

The partnership uses a unique team approach involving local, regional, and state staff with the expertise to solve pollution problems through source control.

Through interagency agreements with the Department of Ecology, local jurisdictions get funding to provide free, one-on-one technical assistance to small businesses. Specialists in these jurisdictions show businesses how to manage their wastes properly and help diagnose and fix stormwater-related issues. Specialists can also offer businesses help with complicated regulatory issues.

WHAT IS PPA?

The PPA Partnership is comprised of local governments including cities, counties, and health districts.

PPA: A technical assistance program that helps small businesses prevent pollution.

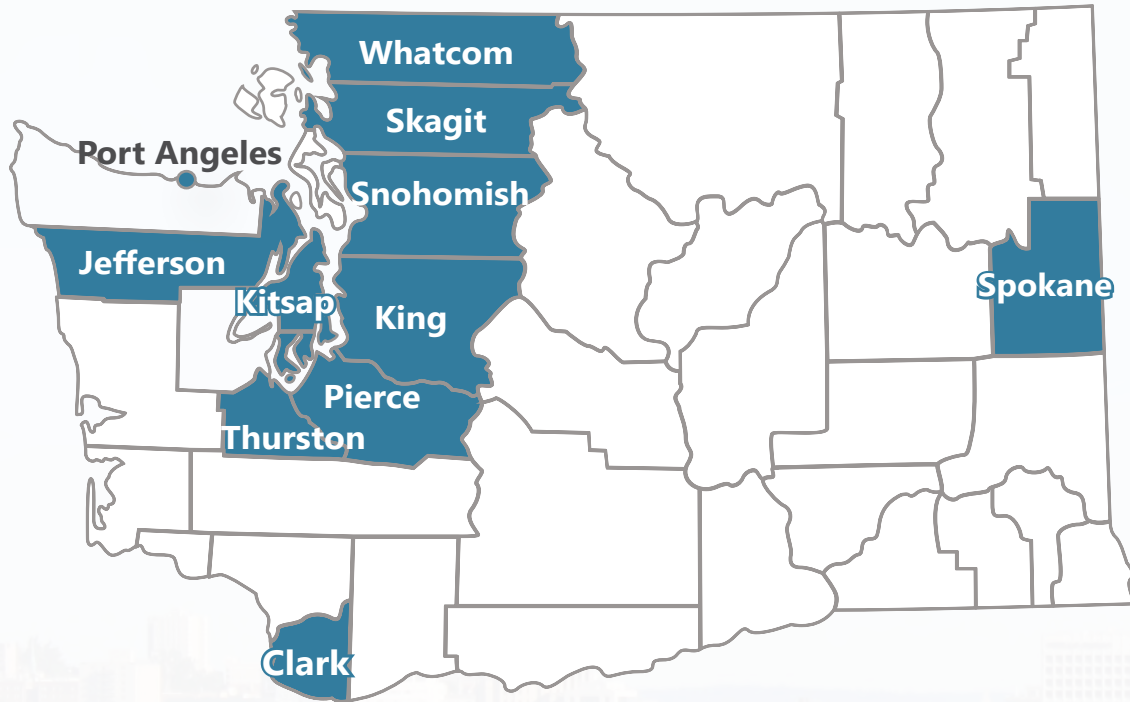
The problem: Small businesses typically have limited access to expertise on stormwater management or hazardous waste handling and disposal. Hands-on assistance and regulatory advice can be hard to come by.

The solution: PPA specialists in participating jurisdictions offer free, onsite technical assistance to help small businesses identify and resolve possible causes of pollution. This assistance and regulatory advice reduces health risks for employees and prevents polluted runoff from harming Washington's rivers and streams, as well as Puget Sound.

Thanks to Pollution Prevention Assistance, businesses:

- Adopt safer material-handling and storage practices.
- Manage interior and exterior drainage systems to reduce impacts to stormwater.
- Plan for spill prevention and preparedness.
- Use fewer toxics in their processes or replace toxic chemicals with safer alternatives.

PARTNER JURISDICTIONS



During the 2019–2021 biennium, the partnerships consisted of 42 specialists from 22 jurisdictions. PPA Partners were located in three critical areas: Puget Sound, the Columbia River Basin, and the Spokane River Basin.



2019–2021 PARTNER JURISDICTIONS

Clallam County

City of Port Angeles

Clark County

Clark County Department of
Public Works

Clark County Public Health
City of Vancouver

Jefferson County

Jefferson County Public Health

King County

City of Bothell
City of Issaquah
City of Kirkland
City of Redmond
City of Shoreline
King County Water and Land
Seattle Public Utilities

Kitsap County

Kitsap Public Health District

Pierce County

City of Puyallup
City of Sumner
Tacoma-Pierce County Health
Department

Skagit County

Skagit County Department of
Public Health

Snohomish County

Snohomish Health District

Spokane County

Spokane Regional Health District

Thurston County

Thurston County Public Health

Whatcom County

City of Bellingham
Whatcom County Health
Department



INDUSTRIES SPECIALISTS SERVE

Specialists can **serve most industries**. During the 2019–2021 biennium, some of the most common industries served included:

- Restaurants, cafes, and bars.
- General automotive repair facilities.
- Commercial and personal laundry services.
- Gas stations with convenience stores.
- Hotels (except casino hotels) and motels.
- Supermarkets and other grocery stores.
- Landscaping companies.
- Elementary and secondary schools.



ISSUES SPECIALISTS CAN HELP WITH

Specialists conduct onsite visits to address possible causes of pollution at businesses that generate small quantities of dangerous waste.

Specialists look closely at business practices, offer solutions to practices that could pollute the environment, and suggest alternatives to the hazardous materials that businesses use, store, and dispose of every day. Recommendations often contribute to a safer environment for employees and customers and can save the business money.

Their goal is to help businesses make changes to limit or eliminate potential pollution and reduce impacts to state waters. Specialists encounter many different types of wastes and sometimes draw on Ecology and other regulatory agency staff for their expertise in dealing with those wastes.

Partner jurisdictions attempt to resolve pollution problems locally, but in some cases, specialists refer the business to Ecology or another regulatory program for additional assistance.



ISSUES AND RESOLUTION

In the 2019–2021 biennium, PPA specialists made 5,322 visits to small businesses. Those businesses with complex or high-priority issues received one or more follow-up visits from specialists. Specialists found a total of 2,811 issues. By the end of the biennium, they helped resolve 75 percent (2,122) of the issues. Despite business closure and physical-distancing restrictions resulting from the COVID-19 pandemic, our PPA specialists made significant strides in reducing and preventing pollution.

The eight most common issues found during the 2019–2021 biennium:

- No or Inadequate Spill Response Materials — 431 Issues (15% of all issues)
- No or Inadequate Spill Response Procedures — 352 Issues (13%)
- Other Stormwater Related Issues — 210 (7%)
- Improper Housekeeping — 191 (7%)
- Lack of Spill Response Plan – 190 (7%)
- Improper Maintenance of Storm Drains — 185 (7%)
- Universal Waste Management Issues — 160 (7%)
- Secondary Containment for dangerous waste — 136 (5%)

During the 2019–2021 biennium, none of the eight most common issues listed above were considered high priority issues. In total, high-priority issues represented 20 percent of all issues found during business visits this biennium.

The top five most common high-priority issues found during the 2019–2021 biennium:

- Improper Storage of Products/Wastes — 113 (5%)
- Improperly Stored Dangerous Waste — 127 (5%)
- Waste Not Disposed of Properly — 97 (3%)
- Discharge of Process Wastewaters to Storm Drains — 85 (3%)
- Improperly Stored Containerized Materials — 65 (2%)

TRAINING FOR PPA SPECIALISTS

Specialists must be aware of and communicate the regulatory requirements for handling many types of wastes and processes while understanding best management practices that apply to a wide range of businesses.

To support new and veteran PPA specialists, Ecology provides regular trainings. Semi-annual all-staff trainings give specialists a chance to learn about best management practices and regulatory updates. Ecology also facilitates eight to nine webinars per year. These webinars keep specialists up to date on changing regulations and introduce them to new topics. Partner jurisdictions or other agencies will often give presentations during the webinars, which allow for a wide array of learning topics and points of view.

In response to COVID-19 pandemic restrictions, we redesigned our annual New Specialist Training, which was previously held over two days in person. We also made the change to be able to offer training to new specialists in a timely manner. For the 2020 training and beyond, Ecology (with the help of the PPA training committee for new specialists), developed a self-paced online modular training system for new specialists. In addition to the training modules, new specialists must participate in six live discussion panels held every other month. These discussion panels allow new trainees to ask questions and discuss various scenarios they may encounter with Ecology and our more experienced specialists.

Additionally, all specialists around the state have access to Ecology staff expertise, creating a broad system of information exchange and enhancing assistance to businesses. Specialists also have access to each other. Ecology provides contact information for all the specialists and happily facilitates these conversations. Communication between partners and Ecology allows for collaboration across the partnership between new and experienced specialists. No specialists are on their own—we are one big team!

SECONDARY CONTAINMENT & SPILL KITS

SECONDARY CONTAINMENT

Secondary containment is a very important part of spill prevention. Maybe you've seen secondary containment around but didn't know its purpose. Most often, it's the yellow pallet below drums of waste—it could also be the 5-gallon bucket used to collect smaller waste items. Secondary containment helps protect both the environment and businesses. Businesses that spend money on preventing spills and contamination up front are less likely to be involved in very expensive cleanup operations in the future. An ounce of prevention is worth a pound of waste, and a business may be able to get one of these pallets for free by working with their local PPA specialist.

PPA specialists can help businesses by providing secondary containment, free of charge, in a couple of different ways. Specialists often provide pallets as seen in the photos below. These pallets are designed to capture any spills when wastes are being added to or removed from containers, or to collect any overflow if the containers become too full. Containing spills and catching overflow prevents dangerous waste from impacting the ground or surface water, and protects employees, customers, and the public from these wastes.

Seattle Public Utilities

Here's an example of secondary containment provided by Seattle Public Utilities. In King County, businesses can apply for a voucher to help with the cost of purchasing secondary containment pallets and other items and services.



Before: Without secondary containment, any oil spilled during adding/removing materials from the drums would spill to the ground, causing soil contamination.



After: With secondary containment, even if there is a spill or overflow, any spilled materials will be captured with the secondary containment pallet and can be properly managed.

City of Redmond

Sometimes it takes a little persistence. The next example comes from our specialists with the City of Redmond. They worked with a business to get secondary containment pallets for their hydraulic waste oil. The waste oil was next to their back door—an easy place for things to go wrong! City staff returned to visit with the business five times, for six total visits, but in the end, the business began using the secondary containment, protecting themselves, the environment, and their community.



Before: With containers of used oil and other wastes located next to the back external door, there was plenty of opportunity for spills. People and vehicles coming in and out of the door could cause the oil and other waste to spill.



After: Containers moved to the other side of the door and placed on secondary containment pallet. Now, if there's a spill or overflow, any extra materials will be captured by the secondary containment pallet.

Skagit County

Our specialists in Skagit County worked with a local tire shop to address some spill and containment issues with secondary containment pallets.



Before: The area lacked secondary containment. These drums were located next to stairs leading to the pit below. Spills in this area would be extra difficult to clean up.



After: With secondary containment, the chances of the oil spilling to the stairs and needing to be cleaned up is reduced.

City of Shoreline

City of Shoreline specialists also had the opportunity to work with an auto shop in their area to address secondary containment and storage of used oil.



Before: They stored several drums of used oil outside without cover or secondary containment. Just asking for trouble!



After: Drums of used oil placed on secondary containment pallets and moved inside under cover. This is a cleaner and safer way to store used oil.

Tacoma-Pierce County Health Department

Our specialists from the Tacoma-Pierce County Health Department helped a small vehicle repair shop address their used oil waste. The shop used a container that was too large for how much used oil they generated. Specialists helped the facility find appropriately sized containers and provided secondary containment for the new containers. They also provided a drum drain top to make adding used oil to containers easier and less likely to result in a spill.

These are just a few of the examples from the last biennium that show how our specialists help businesses with waste storage and secondary containment.

SPILL KITS

Partners also help businesses with best management practices to avoid and respond to spills. During the 2019–2021 biennium partner jurisdictions distributed over 400 spill kits to businesses. Once the business has completed a spill response plan, specialists review the plan with the business and set up a date and time to drop off the spill kit.



PARTNER SUCCESS STORIES

CLARK COUNTY

Since industrial and commercial businesses faced many challenges due to the COVID-19 pandemic restrictions, PPA specialists in Clark County focused on increased collaboration with other public health programs. Recreational Water Safety, a division of Clark County Public Health, routinely inspects water quality, safety equipment and the physical conditions of all public swimming pools, spas, float tank facilities and recreational water features in Clark County.

At a local athletic club, an inspector noted that there was excessive corrosion of metal surfaces and electrical equipment in the chemical storage room. The corrosion was believed to be due to excessive fugitive emissions from the muriatic acid handling and feed system. The facility manager was referred to PPA to get help improving their chemical management practices.

Repairing the room ventilation system was too expensive, so the management decided to install a separate acid-resistant storage shed and move their containers into it. PPA specialists helped find better vapor-tight connectors for the acid drum feed lines. They also provided spill containment pallets to place the drums inside the shed. This solution provided proper containment and segregation between incompatible wastes.



After: The new vapor-tight connector from the acid drum to the feed line.



After: The new covered storage with secondary containment for chemical management.

SPOKANE

What is a rage room? We got to find out, while also providing a bit of technical assistance to an emerging business model. Rage rooms are business locations that provide space and equipment to their customers to break various household items to relieve stress or frustration. Some business provide the items to be broken, while others let customers bring in their own items.

Our team responded to a complaint submitted to Ecology by a concerned citizen. They were worried that a new business in Spokane was allowing the public to break electronics as part of its rage room business model, which could potentially expose customers and employees to heavy metals and gas vapors.

Ecology asked Spokane Regional Health District (SRHD) to follow up with the facility on behalf of the PPA Partnership, and provide technical assistance to the business regarding waste management.

The timing worked out great in this instance. The business was just getting started and had not broken electronics at the time that SRHD followed up with them. The business was getting ready to purchase 172 televisions to break at their facility. Fortunately, they were advised against this by our PPA specialist and decided not to purchase them after our visit.

After speaking to our specialist and learning about the concerns and issues related to destroying electronics, the business owner updated their list of approved items and removed the listing of televisions and electronics. The owner also agreed to update the information on their website related to what items are acceptable and what items are not acceptable, removing TV's and any other

electronics. Additionally, the owner is going to stock a supply of Spokane-Kootenai Waste & Recycle Directory flyers so that when folks bring in items that are not allowed to be smashed, she can supply them with informational flyers about the waste directory to find an appropriate disposal options for prohibited items brought to the business.

Working with our specialists from SRHD, this business was able to prevent pollution and learn about the proper management of any waste they produce. Good timing, professional conduct, and a passion for pollution prevention led to this success story. Thank you Spokane Regional Health District!



Personal Protective Equipment (PPE) provided by the business for customers to wear to protect themselves from flying debris.



Additional PPE provided by the business. Coveralls, hard hats, closed toe shoes (not provided by the business), and gloves are required before breaking items.



Room of breakable items for customers to choose from.



A room with debris left over from a rage room break session.

JEFFERSON COUNTY MARINAS

Since much of Jefferson County is rural they rely on ditches, swales, and limited catch basin systems to transport stormwater. Isolating contaminants and tracking them back to their source can be difficult, yet Jefferson County and the majority of its citizens make every effort to limit stormwater pollution.

One such effort in reducing pollution involved a unique cooperative effort between three agencies that resulted in four successful technical assistance visits to Jefferson County marinas. Our PPA specialists at Jefferson County Public Health worked with the Puget Soundkeeper Alliance, and Washington Sea Grant, as part of the Clean Marina program. Together, they visited four marinas located in Jefferson County.

The highlight of the collaborative fieldwork was working with a marina that had been unable to comply with water quality benchmarks for several years, but is now making great strides to address this issue.

Our specialists advised the marina in question to move oil collection away from the waterfront to a more centralized location. Oil collection is now covered, locked, and has an oil/water separator to capture stormwater runoff. Bilge water is collected and stored next to the oil collection and is stored in intermediate bulk containers (also called totes) with a covered funnel.

Specialists found other minor issues at the remaining three marinas. The representatives at these locations were receptive to our feedback and suggestions and were eager to bring their

marinas into compliance. They fixed many of the issues within a matter of days.

All in all, it was an incredible collection of like-minded entities working together to ensure that our Pacific Northwest waterways are as healthy as possible. Our specialists look forward to working with these groups again in the future to help only rain go down the drain.



Signage posted near marinas in Jefferson County. Signs help educate the public about the impacts to the water from debris, dust, and spill-related issues.



Centralized oil collection location. Putting all the oil collection and management devices in one location lessens the impact from oil sitewise and means that there is only one place to worry about when it comes to oil management.

KING COUNTY

Our King County partner worked with several businesses over the last year on proper management, storage, and disposal of used cooking oil and grease. Improper management of this waste can contaminate the environment, lead to clogged pipes, and create a public health issue.

King County performed an initial pollution prevention visit at a local restaurant in February 2021. The specialist saw that the restaurant's used cooking oil container was full and there were grease spills nearby. The restaurant owner had placed uncovered 5-gallon buckets nearby to store even more used cooking lard. King County discussed the observations with the business owner and provided education on proper grease management. The business owner expressed difficulty in communicating with the grease vendor, who was, at the time, picking up grease from the property approximately every 2 weeks and not emptying the used cooking oil container during each visit. The business owner asked the vendor for more frequent pickups but was not receiving this service. King County and the owner agreed that King County would call the vendor to ask for more frequent pick-ups.

Over the following month, both King County and the business owner communicated with the grease vendor about more frequent pick-ups. Ultimately, the business owner decided to change grease vendors to improve the management of their grease. King County and the owner continued to communicate with the existing grease vendor to coordinate clean-up of the grease spills and removal of the existing used cooking oil container. All grease spills were cleaned up and

the business owner is now able to better manage his restaurant's used cooking lard, keeping this material off the ground and out of the stormwater system.



Before: Fats, oils, and greases (F.O.G) being stored in open-top 5-gallon buckets. This type of storage increases the likelihood of spills to the environment. In this photo, you can see spilled F.O.G. next to the containers.



Before: Same photo from a different angle. You can see the clear signs of spillage on the container itself and the ground next to the container.



After: The F.O.G. collection container has been cleaned up, and the spill next to the container has been cleaned up.



After: The F.O.G. is now being collected in larger containers with securely fastened lids, greatly reducing the chances of spills or improper management.

BOTHELL VIRTUAL WORKSHOP CASE STUDY

The City of Bothell used some of their funding to hold a pollution prevention workshop for local businesses. When the COVID-19 Stay at Home order went into effect, it became clear that there would be new challenges associated with this workshop.

Taking advantage of additional office time available during the quarantine, specialists focused on the development of the workshop content. They chose landscapers as their audience and proper use and disposal of dangerous wastes and products as the content focus. Our specialists also decided to pursue both an online option (rather than an in-person workshop) as well as in-language translation for attendees that didn't speak English as a first language. Outreach to possible attendees began in June of 2020. Specialists contacted landscapers via phone for any business that had business listings in Bothell, as well as those that worked in Bothell.

The Bothell PPA team scheduled a virtual workshop for March 12, 2021. The workshop had five businesses in attendance and a total of seven attendees. Of those who attended, one participant spoke Spanish as a first language and another spoke Vietnamese. Each of those attendees were able to enter a breakout room in Zoom to receive the same training in their respective languages. Specialists felt like the workshop was successful and worth their time to offer, but due to the unique challenges of the COVID-19 pandemic, it took creative thinking and networking to execute it fully.



RESPONDING TO THE COVID-19 PANDEMIC

The COVID-19 pandemic had a significant impact on when and how the PPA Partners worked with businesses on pollution prevention measures. For approximately 97% of this biennium, field work was curtailed due to the Governor's Stay-Home Stay-Healthy Proclamation followed by the continuing need to physical distance after the proclamation was lifted.

Additionally, our Partners needed to consider the impacts to the businesses they may visit. Businesses closed, lost revenue, and lost staff, so a visit from their local PPA specialist often wasn't their primary interest. However, despite this our PPA partners were still able to complete 89% of their proposed business technical assistance visits.

Many of our PPA Partners are local health jurisdictions, so they had to redirect their PPA staff to pandemic response duties such as COVID-19 contact tracing and business health and safety outreach. These partners found that the skills and experience developed through their PPA outreach transferred well to their pandemic outreach. For example, Skagit County Public Health developed and implemented a "COVID Business Assistance Program" to assist schools, workplaces, and other community organizations prevent and reduce further spread of COVID-19. Skagit's program used many of the same approaches and skills that are used to perform PPA visits.

During our work from home time, the partnership took on several projects to strengthen our future. Taking advantage of the extra time out of the field, we:

- Developed new education and outreach materials;
- Improved the look, branding, and message consistency throughout the partnership;
- Excelled at transitioning our training meetings to a virtual format;
- Utilized over 80% of our budget.

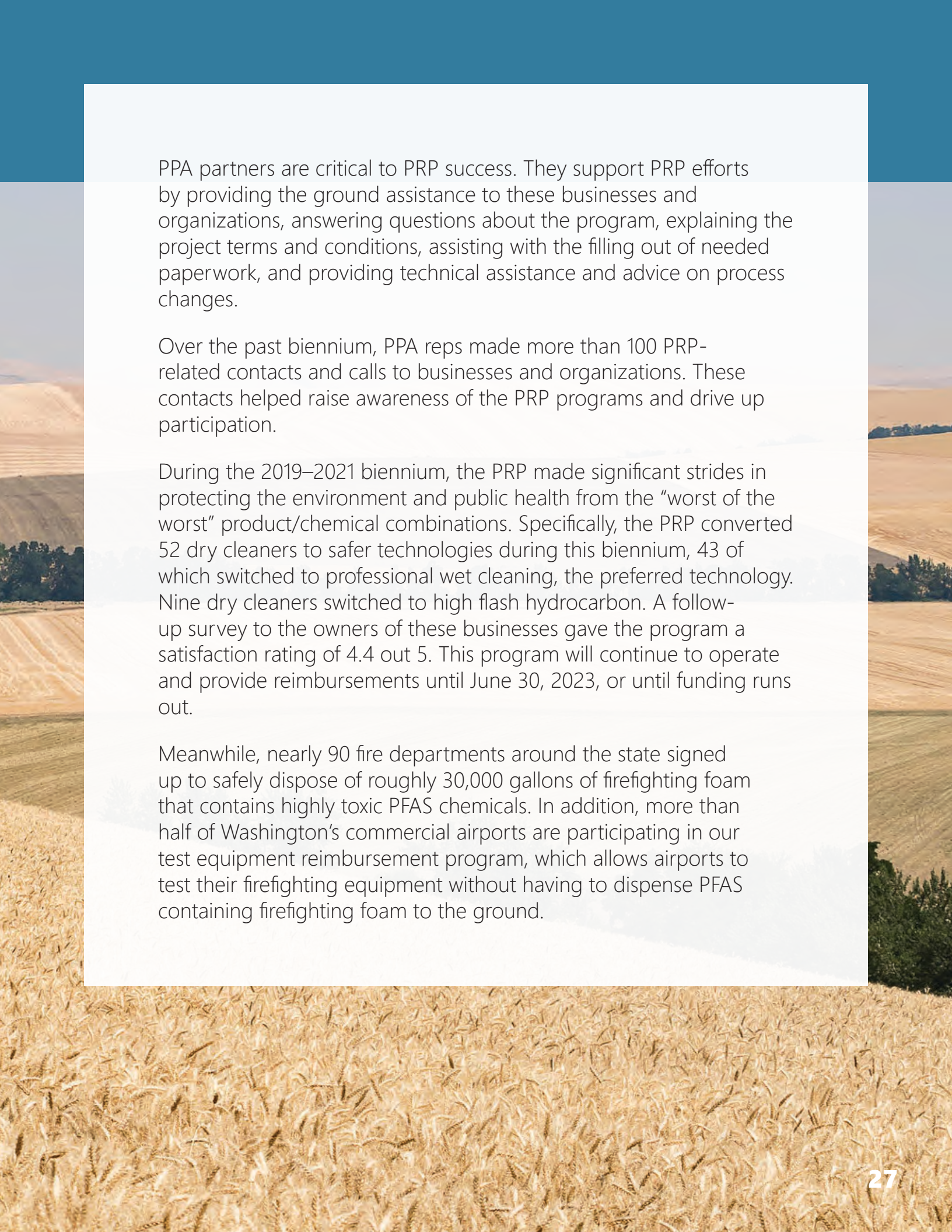
“The events of the past several months have taught us the need to be innovative and flexible as we reprioritized our resources and worked within the limitations brought about by the pandemic.”

—Spokane Regional Health

PRODUCT REPLACEMENT PROGRAM

Our Product Replacement Program (PRP) is a cutting-edge, preventative program designed to identify and address the most problematic chemicals impacting our state. Through this program, we can proactively address these problems before they become much bigger and more costly. It provides:

- Reimbursement funding
- Collection and disposal services
- Opportunities for businesses to transition to less toxic options



PPA partners are critical to PRP success. They support PRP efforts by providing the ground assistance to these businesses and organizations, answering questions about the program, explaining the project terms and conditions, assisting with the filling out of needed paperwork, and providing technical assistance and advice on process changes.

Over the past biennium, PPA reps made more than 100 PRP-related contacts and calls to businesses and organizations. These contacts helped raise awareness of the PRP programs and drive up participation.

During the 2019–2021 biennium, the PRP made significant strides in protecting the environment and public health from the “worst of the worst” product/chemical combinations. Specifically, the PRP converted 52 dry cleaners to safer technologies during this biennium, 43 of which switched to professional wet cleaning, the preferred technology. Nine dry cleaners switched to high flash hydrocarbon. A follow-up survey to the owners of these businesses gave the program a satisfaction rating of 4.4 out 5. This program will continue to operate and provide reimbursements until June 30, 2023, or until funding runs out.

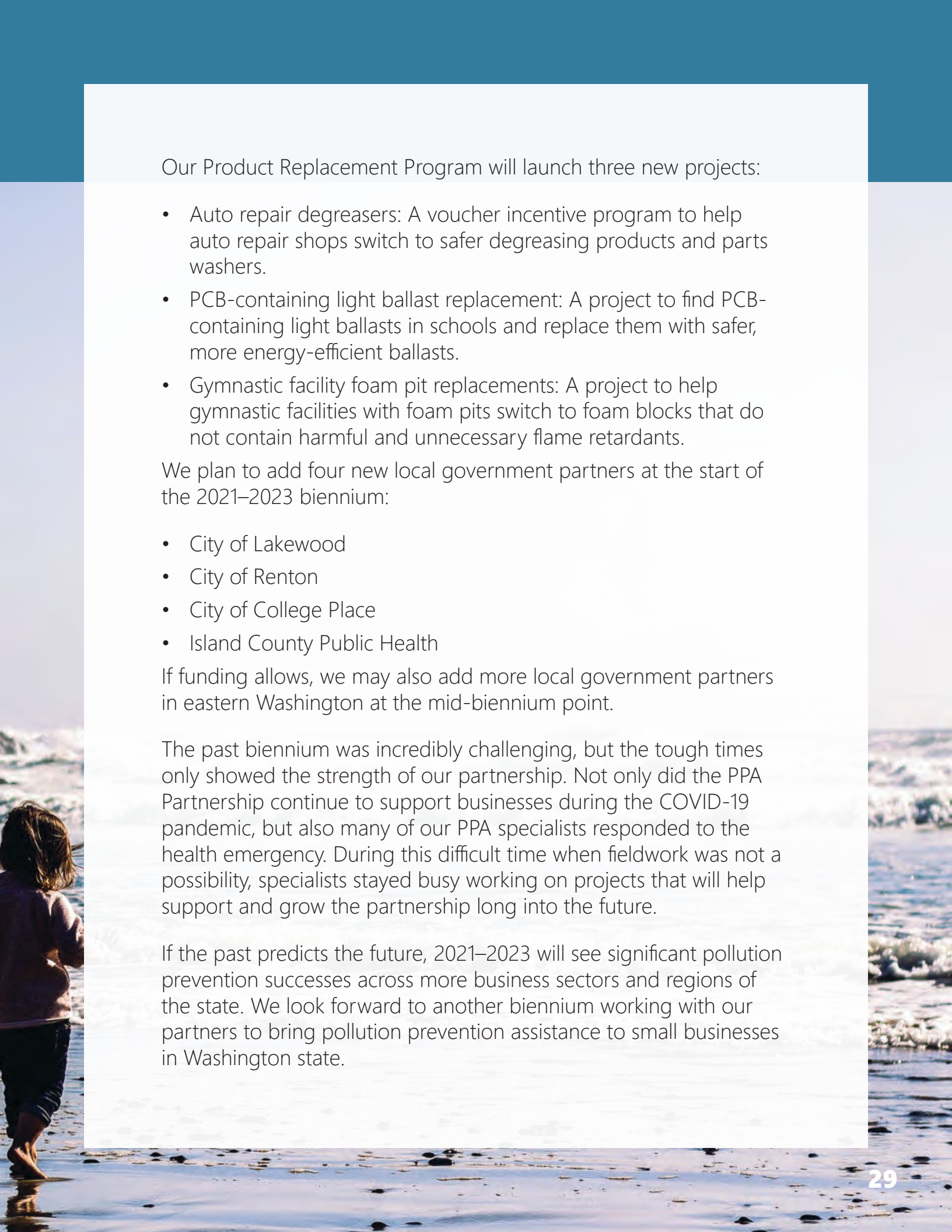
Meanwhile, nearly 90 fire departments around the state signed up to safely dispose of roughly 30,000 gallons of firefighting foam that contains highly toxic PFAS chemicals. In addition, more than half of Washington’s commercial airports are participating in our test equipment reimbursement program, which allows airports to test their firefighting equipment without having to dispense PFAS containing firefighting foam to the ground.

A person wearing a grey hoodie and khaki pants is walking away from the camera on a dark sand beach. They are carrying a pair of black shoes in their right hand and a green bottle in their left. The ocean waves are breaking in the background under a clear blue sky. The scene is captured from a low angle, emphasizing the person's presence in the natural environment.

A LOOK FORWARD

During the 2021–2023 biennium, a committee will develop outreach videos to show examples of pollution prevention activities and best management practices businesses can use to reduce their environmental impact. The videos will be developed in multiple languages to ensure increased equity in our outreach.

To help businesses with the financial costs of implementing pollution prevention measures, we are also developing a “small changes” voucher program. This voucher, which is part of our Product Replacement Program, will reimburse businesses for some of the cost for materials and services such as secondary containment, spill kits, and catch basin cleaning.



Our Product Replacement Program will launch three new projects:

- Auto repair degreasers: A voucher incentive program to help auto repair shops switch to safer degreasing products and parts washers.
- PCB-containing light ballast replacement: A project to find PCB-containing light ballasts in schools and replace them with safer, more energy-efficient ballasts.
- Gymnastic facility foam pit replacements: A project to help gymnastic facilities with foam pits switch to foam blocks that do not contain harmful and unnecessary flame retardants.

We plan to add four new local government partners at the start of the 2021–2023 biennium:

- City of Lakewood
- City of Renton
- City of College Place
- Island County Public Health

If funding allows, we may also add more local government partners in eastern Washington at the mid-biennium point.

The past biennium was incredibly challenging, but the tough times only showed the strength of our partnership. Not only did the PPA Partnership continue to support businesses during the COVID-19 pandemic, but also many of our PPA specialists responded to the health emergency. During this difficult time when fieldwork was not a possibility, specialists stayed busy working on projects that will help support and grow the partnership long into the future.

If the past predicts the future, 2021–2023 will see significant pollution prevention successes across more business sectors and regions of the state. We look forward to another biennium working with our partners to bring pollution prevention assistance to small businesses in Washington state.



ACCESSIBILITY

To request materials in a format for the visually impaired, contact the Hazardous Waste and Toxics Reduction Program at 360-407-6700 or hwtrpubs@ecy.wa.gov. Persons with impaired hearing may call Washington Relay Service at 711. Persons with a speech disability may call TTY at 877-833-6341.

Vince McIntyre

From: Larson-Pugh, Laurie J <laurie.larson-pugh@wsu.edu>
Sent: Monday, October 3, 2022 7:37 PM
To: Larson-Pugh, Laurie J
Cc: dadams@kitsap.gov; rbailey@cityofup.com; rickybailey23@yahoo.com; chance.berthiaume@ci.bremerton.wa.us; Rachel Bowen; Ann Bustamante; joseph.butcher@ci.bremerton.wa.us; ccarter@gigharborwa.gov; scollier@bainbridgewa.gov; dcoonan@gigharborwa.gov; bcrosswhite@gigharborwa.gov; mcdemyers@gmail.com; afrender@parametrix.com; ggilmore@ci.tumwater.wa.us; brandon.hurst@ci.bremerton.wa.us; cjohnson@cityofup.com; mjoseph@ci.tumwater.wa.us; David Kangiser; victor.knight@navy.mil; paulknippel@cityofferndale.org; olarsen@cityofup.com; Paul Marrinan; Vince McIntyre; bmckinnon@portorchardwa.gov; smeyer@gigharborwa.gov; Matthew Moore; jnelson@gigharborwa.gov; kenny.oberg@sheltonwa.gov; dano@burienwa.gov; solson@kitsap.gov; craig.peters@piercecountywa.gov; nomrahdeer1@gmail.com; trevor.j.richardson3.civ@us.navy.mil; deeqa.roble@mercerisland.gov; jschager@cityofpoulsbo.com; tsmith@cityofup.com; Bryana Solis; briant@burienwa.gov; avankirk@parametrix.com; sarah.wilson@ci.bremerton.wa.us
Subject: Source Control Oct. 6 Inspection Training in Bremerton
Attachments: Brem_Oyster BayDirections.docx; Electronic_SC_Inspection_Form_Instructions_Oct2022.pdf; SC_Inspection_Training_3slidesperpage_20221006.pdf; SC_Inspection_Training_Agenda_Oct2022_FINAL.pdf; SC_Inspection_Training_Notes_Packet_Oct2022_FINAL.docx; SC_Inspection_Training_Outline_Oct2022_FINAL.pdf; SC_InspectionForm_GroupActivity2.docx; SC_Inspection_Agenda__20220913.docx; SC_Inspection_Training_1slideperpage_20221006.pdf

Hi All,

You are receiving this email because you registered for the Source Control Inspection Training scheduled on October 6 in Bremerton. The training is at the City of Bremerton Oyster Bay facility at 100 Oyster Bay Ave. N., Bremerton WA

Attached are the training materials: *participants will need to print these in advance if they would like to have a hard copy available at the training.*

- **Training agenda** – we will not be providing hard copies of this at the training
- **Training outline** – we will not be providing hard copies of this at the training
- **Training notes packet** – attendees can print this in advance if they would like; we will also have hard copies available at the training
- **Inspection form (Word)** – attendees can print this in advance if they would like; we will also have hard copies available at the training
- **Instructions on how to access the electronic inspection form** – attendees should download the mobile app and follow these instructions either prior to the training or during the lunch break if they would like to try the electronic field form for Group Activity 2 (mock inspection)
- Training slides (1 slide per page PDF) – we will not be providing hard copies of this at the training
- Training slides (3 slides per page PDF) – we will not be providing hard copies of this at the training

Day of Training REMINDERS:

- You must bring your lunch. We also suggest you bring a container for coffee or water. We will provide coffee and snacks.
- The training includes a mock inspection of the facility dress for the weather conditions. Disclaimer: We may stage the area for training purposes. This is not reflective of the site conditions.
- There are no COVID-19 policies in place. There will be hand sanitizer available. It is up to the attendee to decide if they want to wear a mask.

Source Control Guidance Manual webpage: <https://www.wastormwatercenter.org/permit-assistance/municipal/source-control-inspection-program-guidance-manual/>

If you need to contact me on the day of the training, please call my cell phone at: 360-271-8032

We look forward to seeing you on Thursday.

Municipal Program & MuniCon 2023 Manager
WSU Puyallup Research Center | Washington Stormwater Center
2606 W. Pioneer, Puyallup, WA 98371
360-271-8032 cell
<https://www.wastormwatercenter.org/permit-assistance/municipal/>



TRAINING OUTLINE

Source Control Inspection Program Training

- Date** 10/6/22, 10/11/22, 10/19/22, and 10/25/22
- Time** 9:00 a.m. – 3:30 p.m.
- Location** Bremerton, Centralia, Skagit Co., and Federal Way
- Objectives**
- Discuss key topics included in the NPDES Phase II permit (S5.C.8.b.v)
 - Provide an overview of the Source Control (Business/Site) Inspection Program Guidance Manual
 - Highlight critical items related to developing a business/site inspection program and conducting business/site inspections
 - Provide peer-to-peer learning opportunities
 - Practice using inspection forms, asking questions, and identifying potential business/site issues
- Target Audiences**
- Municipal source control inspectors
 - Municipal stormwater program managers
 - Consultants hired by a jurisdiction to support source control inspections

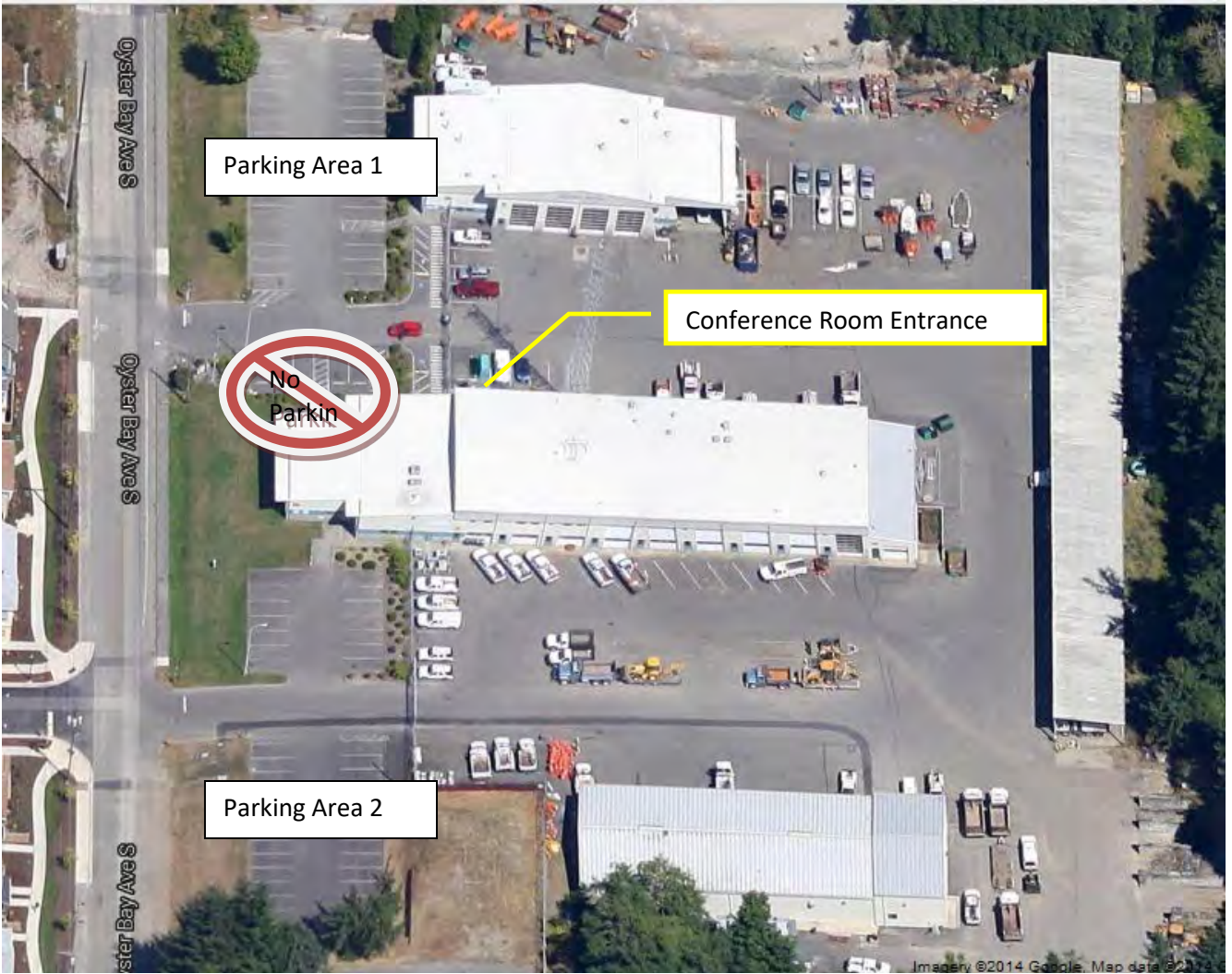
Annotated Outline

Time (approx.)	Length	Topic
9:00-9:05am	5 min	Training logistics and objectives
9:05-9:20am	15 min	Introductions and project overview
9:20-9:30am	10 min	NPDES permit requirements overview
9:30-9:45am	15 min	Source control best management practices (BMP) overview
9:45-10:15am	30 min	Source Control Inspection Program Guidance manual overview <ul style="list-style-type: none"> • 8 chapters • Hybrid format • Supplemental resources developed for Chapters 2, 3, 4, 5, & 7

Time (approx.)	Length	Topic
Focus on Inspections		
10:15-10:45am	30 min	<p>Pre-inspection activities</p> <p><u>Program development</u></p> <ul style="list-style-type: none"> Establish contacts within your organization: code enforcement, IDDE, O&M, etc. Consider developing SOPs Coordinate with other inspectors (PPA, Dept. of Health, Ecology) to arrange joint inspections or count their inspections Determine preferred inspection form content <p><u>Pre-inspection logistics</u></p> <ul style="list-style-type: none"> Determine if an appointment is needed or plan to drop-in Determine whether site-specific safety plan is in place Prepare inspection form <p><u>Business/site research</u></p> <p>*Not all activities are required before conducting an inspection</p> <ul style="list-style-type: none"> Check to see if business business/site contact is available: check business website, identify property manager for shared dumpsters/facilities Research business type and potential pollutant generating sources Determine if the site has an existing stormwater or water quality permit Review records from previous inspections Research the water quality complaint history and IDDE records Review the onsite drainage as-builts Review information about potential source control BMPs related to anticipated site activities <p><u>Materials and equipment preparation</u></p> <ul style="list-style-type: none"> Documents (business cards, inspection form, outreach materials, etc.) Safety equipment (hard hat, eye protection, etc.) Inspection equipment (manhole cover hook or lid lifter, camera, etc.)
10:45-11:05am	20 min	<p>Small group discussion</p> <p><u>Goal:</u> Knowledge sharing</p> <p><u>Instructions:</u> Split into discussion groups based on what participants are using (or interested in using) for data management and field data collection.</p> <p><u>Questions:</u></p> <ol style="list-style-type: none"> What do you use for data management and field data collection? What are the advantages and disadvantages of your system?

Time (approx.)	Length	Topic
11:05-11:15am	10 min	Break
11:15-11:45am	30 min	<p>Business/site inspection and documentation</p> <p><u>Safety check</u></p> <ul style="list-style-type: none"> • Appropriate PPE • Precautions, warnings, traffic • Determine whether site-specific safety plan is in place <i>*Industrial sites</i> <p><u>At the door</u></p> <ul style="list-style-type: none"> • Friendly introduction • Identify the appropriate business/site contact • Explanation of inspection purpose + mutual objective (aka Elevator Speech): technical assistance, moving toward compliance, etc. • Opportunity for relationship building and listening • Refusal of site visit: Ways to get your foot in the door vs. when to move on <p><u>Site walk-through and Documentation</u></p> <ul style="list-style-type: none"> • Key items to look for • Document inspection: data collection, photos <p><u>Inspection close-out</u></p> <ul style="list-style-type: none"> • Verify contact information • Share educational materials • Discuss next steps • Follow-up • Enforcement • When to contact Ecology
11:45am-12:15pm	30 min	<p>Group activity 1</p> <p><u>Goal:</u> Identify common issues and actions</p> <p><u>Instructions:</u> Review site maps and photos for the following example sites:</p> <ul style="list-style-type: none"> • Automotive Repair Facility with Fueling • Landscaping/Nursery • Multi-Use Site: Fast Food, Fueling Station, and Car Wash <p><u>Questions:</u></p> <ol style="list-style-type: none"> 1. What do you see? 2. What actions does the business owner need to take? 3. What actions should the inspector take?
12:15-1:00pm	45 min	Lunch (on your own)

Time (approx.)	Length	Topic
1:00-1:30pm	30 min	<p>Follow-up (post-inspection) activities</p> <ul style="list-style-type: none"> • Update business/site inspection information in data management system • Record and communicate inspection results • Set appointment reminders for follow-up inspections (if needed) • Progressive enforcement and options for support, technical assistance, etc. • Follow-up coordination with external agencies/internal staff or resources as needed (see Pre-inspection activities: Program development) • Begin the enforcement process (if required)
Focus on Education and Outreach Materials		
1:30-1:50pm	20 min	<p>Review education and outreach resources developed as part of this project and resources available with the online guidance manual</p> <ul style="list-style-type: none"> • General information • Dumpsters • Spills • Storm drainage system maintenance • Washwater • Specific business sectors
Focus on Implementation		
1:50-2:20pm	30 min	Notes from the field: Case studies and lessons learned
2:20-3:20pm	60 min	<p>Group activity 2</p> <p><u>Goals:</u></p> <ul style="list-style-type: none"> • Identify common issues and actions • Test out inspection form (hard copy or electronic) <p><u>Instructions:</u></p> <ul style="list-style-type: none"> • Walk/drive to nearby maintenance facility for mock inspection • Recap back in the training room <p>NOTE: This activity is a mock inspection. Areas of the site may be modified for the training and may not represent actual conditions at the site. Identified action items will be used for training purposes only and not for enforcement.</p>
3:20-3:30pm	10 min	<p>Wrap-up and training evaluation</p> <ul style="list-style-type: none"> • Related trainings • Mentorship opportunities • ECOSS spill kit program • Voucher incentive programs (e.g., King County, Kitsap County)



Parking Area 1



Conference Room Entrance

Parking Area 2

Certified Erosion and Sediment Control Lead (CESCL) Certification Information

Web address: <https://apps.ecology.wa.gov/wqcescl/QueryResults.aspx>

Export Date: 3.23.2023

First Name	Last Name	Company	City	CESCL #	Expired	Status	Training Provider
Caleb	Adams	City of Port Angeles	Port Angeles	CWT21-1156	4/8/2024	Current	CWT
Zachery	Alderson	City of Port Angeles	Port Angeles	CWT21-1168	4/14/2024	Current	CWT
Maurice	Armstrong	City of Port Angeles	Port Angeles	CWT21-1167	4/14/2024	Current	CWT
Leyton	Evans	City of Port Angeles	Port Angeles	CWT21-1154	4/8/2024	Current	CWT
Jeffery	Groves	City of Port Angeles	Port Angeles	CWT21-1166	4/14/2024	Current	CWT
Hunter	Heckelaible	City of Port Angeles	Port Angeles	CWT21-1159	4/8/2024	Current	CWT
Luke	Leonard	City of Port Angeles	Port Angeles	CWT21-1171	4/14/2024	Current	CWT
Joshua	Roening	City of Port Angeles	Port Angeles	CWT21-1157	4/8/2024	Current	CWT
Angel	Torres	City of Port Angeles	Port Angeles	CWT21-1170	4/14/2024	Current	CWT
Travis	Truckenmiller	City of Port Angeles	Port Angeles	CWT21-1155	4/8/2024	Current	CWT
Tim	Tucker	City of Port Angeles	Port Angeles	CWT21-1158	4/8/2024	Current	CWT
Lucio	Bacck	City of Port Angeles	Port Angeles	CWT21-1183	4/9/2024	Current	CWT
Jonathan	Boehme	City of Port Angeles	Port Angeles	CWT21-1184	4/9/2024	Current	CWT
Rob	Feller	City of Port Angeles	Port Angeles	CWT21-1185	4/9/2024	Current	CWT
Vincent	McIntyre	City of Port Angeles	Port Angeles	CWT21-1186	4/9/2024	Current	CWT
Roger	Vess	City of Port Angeles	Port Angeles	CWT21-1187	4/9/2024	Current	CWT
Eric	Walrath	City of Port Angeles	Port Angeles	CWT21-1188	4/9/2024	Current	CWT
Jason	Paynter	City of Port Angeles	Port Angeles	CWT21-1189	4/9/2024	Current	CWT
Jordan	Sage	City of Port Angeles	Port Angeles	CWT21-1190	4/9/2024	Current	CWT
Greg	Haskins	City of Port Angeles	Port Angeles	CWT21-1191	4/9/2024	Current	CWT
Michael	Poats	City of Port Angeles	Port Angeles	CWT21-1192	4/9/2024	Current	CWT
Andrew	Reandeau	City of Port Angeles	Port Angeles	CWT21-1193	4/9/2024	Current	CWT
Jad	Groves	City of Port Angeles	Port Angeles	CWT21-1194	4/9/2024	Current	CWT
Richard	Hartley	City of Port Angeles	Port Angeles	CWT21-1195	4/9/2024	Current	CWT
Pat	Bartholick	City of Port Angeles	Port Angeles	CWT21-1196	4/9/2024	Current	CWT
Leon	Leonard	City of Port Angeles	Port Angeles	CWT21-1197	4/9/2024	Current	CWT
Jeremy	Pozernik	City of Port Angeles	Port Angeles	CWT21-1198	4/9/2024	Current	CWT
Timothy	Wright	City of Port Angeles	Port Angeles	CWT21-1203	4/15/2024	Current	CWT
James	Lierly	City of Port Angeles	Port Angeles	CWT21-1204	4/15/2024	Current	CWT
Cody	Romero	City of Port Angeles	Port Angeles	CWT21-1205	4/15/2024	Current	CWT
Gavin	Medley	City of Port Angeles	Port Angeles	CWT21-1206	4/15/2024	Current	CWT
Steven	Rutz	City of Port Angeles	Port Angeles	CWT21-1207	4/15/2024	Current	CWT
Jared	Bridges	City of Port Angeles	Port Angeles	CWT21-1208	4/15/2024	Current	CWT
Joshua	Borte	City of Port Angeles	Port Angeles	CWT21-1209	4/15/2024	Current	CWT
Jeffery	Gagnon	City of Port Angeles	Port Angeles	CWT21-1210	4/15/2024	Current	CWT
Dennis	Edgington	City of Port Angeles	Port Angeles	CWT21-1211	4/15/2024	Current	CWT
Sean	Armstrong	City of Port Angeles	Port Angeles	84114	7/13/2025	Current	NWETC
Matthew	Moore	City of Port Angeles	Port Angeles	CWTA-89888224	11/5/2025	Current	CWT Training Academy

Certificate of Completion

Matthew Moore

Certificate # CWTA- 89888224

CWT Training Academy certifies that the above learner has completed the necessary requirements to earn full certification in the following:

Washington State CESCL Certification

This course grants the learner 16 PDHs for completion.

Issued: 2022-11-04

Expires: 2025-11-03

Session ID: alm2hg2oba



2022 Green Infrastructure Summit of the Salish Sea



Standard \$107.72

Thursday, March 24, 2022 at 9:00 AM - Friday, March 25, 2022 at 1:00 PM (PDT)

Eventbrite Completed

Order Information

Name

Order #3008574329. Ordered by Lucy Hanley on March 9, 2022 2:39 PM

Vince McIntyre



30085743294603253449001

Event Information:

Thank you for registering for the 2022 Green Infrastructure Summit of the Salish Sea - Turning the Tide: Disrupting status quos in infrastructure investment, climate, and the land we occupy.

This virtual event will take place on the summit website on March 24th and March 25th. During the summit times, please log in using the information below:

2022greeninfrastructure.com
Password: GREEN2022

Please log on the site a few minutes before the summit begins each morning (8:55 or so). Once you put in the password, you will be on the "Home" tab where you will see a schedule of events with a "Click to Join Session" button. This will open a Zoom session. You will be in a waiting room until the session launches.

Dept:	Public Works / Engineering
Budget:	406-7412-538-4310
Amount:	\$107.72
Approval:	Vince McIntyre
Sign:	
Date:	3.9.2022

Do you organize events?

Start selling in minutes with Eventbrite!
www.eventbrite.com



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,

A handwritten signature in blue ink, appearing to read 'Thomas Hunter', with a long horizontal flourish extending to the right.

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



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

PO Box 47600 • Olympia, WA 98504-7600 • 360-407-6000

711 for Washington Relay Service • Persons with a speech disability can call 877-833-6341

June 16, 2022

City of Port Angeles
321 E 5th St
Port Angeles, WA 98362
RS-WAR045028

RE: Annual SAM Invoice 2022 - City of Port Angeles

Dear Vince 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

Payment option information is provided in the enclosed invoice. Receipts for SAM payments are maintained in Ecology's Water Quality Permitting and Reporting Information System (PARIS) database.

The 2022 SAM invoice and the 2021 SAM Annual Report are enclosed. Learn more about SAM at [Ecology's SAM webpage](#)¹.

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>

INVOICE

STORMWATER ACTION MONITORING

CITY OF PORT ANGELES

VINCE MCINTYRE

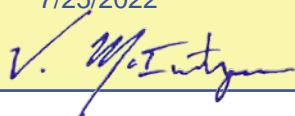
321 E 5TH ST
PORT ANGELES, WA 98362
USA**Invoice date** 6/15/2022**Invoice number** RS-000000317**Due date** 8/15/2022**Amount Due** 9,059.00**Reference** WAR045028 Special Condition S8.A & S8.B

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 onlinePay by credit card (Visa/Mastercard/Discover) or bank account (electronic check) at <https://ecology.wa.gov/EcoEPay>.

Please have your invoice number ready: RS-000000317

Pay by mailDetach 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:	PW / ENG / Stormwater
Date:	7/25/2022
Signature:	

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 08/15/2022**Invoice number** RS-000000317**Reference** WAR045028 Special Condition S8.A & S8.B**Mail Payment To:**CITY OF PORT ANGELES
VINCE MCINTYRE
321 E 5TH ST
PORT ANGELES, WA 98362
USADEPARTMENT OF ECOLOGY
CASHIERING UNIT
PO BOX 47611
OLYMPIA, WA 98504-7611
USA

Stormwater Action Monitoring

2021 Annual Report

June 2022



This is the seventh 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 2021:

While continuing to work remotely, we were able to begin work on many of the Stormwater Work Group (SWG) approved SAM projects that came out of the Round 3 Study selection process in 2020.

Many active SAM projects contracts were modified to add time for completion due to delays from the global pandemic.

Field work was still accomplished but more slowly this year for the streams, mussels, and few of the effectiveness studies. Laboratory analyses were delayed for projects with samples, which in turn delayed analysis of results. Most of the contracts needed time extensions to complete the project. Some of the effectiveness studies were able to adapt to remote work, such as those conducting surveys, workshops and trainings last year were able to use virtual platforms.

New SAM projects from the Round 3 workshops started.

By the year's end, we contracted for five of the new SWG approved projects. Each active SAM project gets its own webpage so that Permittees can easily follow along their own progress and use deliverables for their own jurisdictions updates or discuss in regional meetings. Each new project is discussed in this report.

Looking ahead.

Next year, we will reach the midway point of the permit cycle and will need to begin planning for the Round 4 study solicitation, conduct our mid-cycle performance audit (also known as the report card) with the Pooled Resources Oversight Committee (PRO-C).

SAM 2021 Annual Report

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.

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.

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 scopes of work and amendments. Both the SWG and PRO-C are formal committees whose members represent stakeholder groups.

Communications

SAM funded projects were featured at MuniCon, Green Stormwater Infrastructure Summit, local, APWA stormwater managers meetings, PSEMP Freshwater and Toxics workgroup and other meetings in 2021.

Ecology is now using GovDelivery as our mass emailing software for the SAM newsletter as well as SWG email lists. All contacts were transferred from Listserv. See back page of updated subscription information.

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.

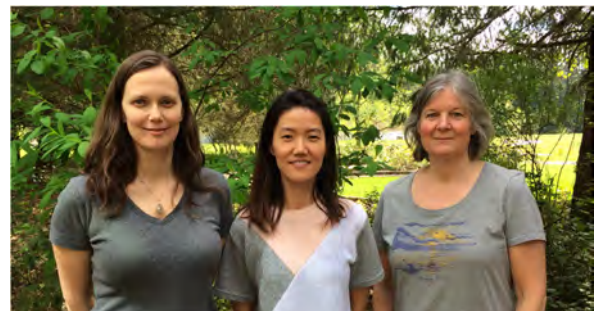
Special accommodations

To request materials in a format for the visually impaired, visit <https://ecology.wa.gov/accessibility>, or call Ecology at (360) 407-6600, Relay Service 711, or TTY (877) 833-6341.

Staff

Ecology is committed to the success of SAM and continues to fund staff for the SWG to ensure a forum for stakeholder input on monitoring, and a process to work together to set priorities for SAM studies as part of the municipal stormwater general permits.

SAM staff (Brandi and Keunyea) manage the program at Ecology and work with project leads to develop detailed scopes of work, review deliverables, approve project invoices, and maintain the website for transparency to permittees and stakeholders. SWG staff (Karen) manage the SWG processes and subgroups.



Brandi Lubliner, SAM Coordinator; Keunyea Song, SAM Scientist; and Karen Dinicola, SWG Project Manager. Not pictured Emma Trehwhitt, SWG Coordinator

Administration

Contracting timeline for new SAM Projects

In November 2020, Ecology received the following eight new SWG approved SAM Effectiveness Studies and Source ID projects from the Round 3 Study Solicitation. Progress was made on five of them in 2021.

Two new SAM Source Identification Projects

- Developing and refining source control inspection programs for businesses
- Mobile businesses, illicit discharges, and multi-jurisdiction coordination

Three new SAM Effectiveness Studies

- Guidance for evaluating the effectiveness of public education and outreach programs
- The role of ditches in pollutant management and how cleaning impacts their biogeochemical function
- Stormwater BMPs maintenance conditions evaluation

Remaining Round 3 projects start in 2022 as SAM staff capacity is available

- Tools and strategies to determine the most effective BMP depending on pollutant type and source
- Evaluation of the influence of bioretention soil infiltration performance rate and safety factors on facility sizing and maintenance
- Replacement and lifecycle costs of permeable pavements compared with conventional pavements

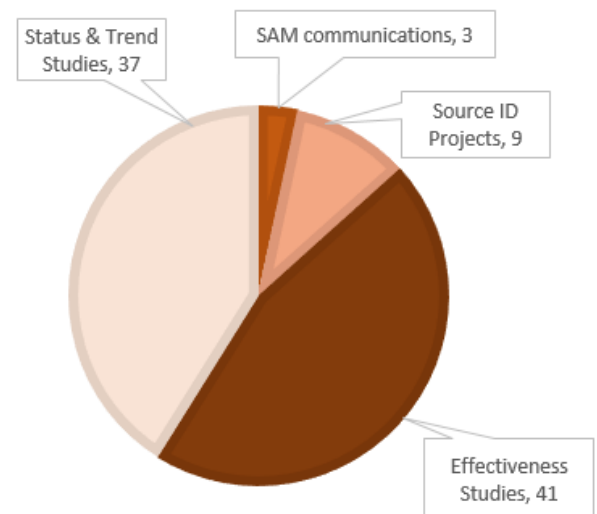
Contracts and Agreements

By the close of 2021, a total of 52 unique contracts have been made to accomplish SAM funded work. Adding to this number the amendments brings the total number of contracting actions for SAM projects since 2014 to 90, as shown in the pie chart.

Many of SAM's contracts seek amendments. Sampling projects often have delays due to weather or site conditions. We are learning that the study leads need assistance early on to understand where to build in contingencies, time to hire sub-contractors, and time to incorporate review processes that are expected by technical committees and Ecology's SAM staff.

Also as noted earlier, the global COVID pandemic also caused many interruptions, delays, or we simply needed to change the contracted projects deliverables, particularly in 2020 and 2021.

NUMBER OF CONTRACTING ACTIONS SINCE 2014



Receiving Water Status & Trends



Are conditions in receiving waters getting better or worse?

SAM is monitoring and assessing the impacts of stormwater runoff in urban and urbanizing areas in the Puget Sound nearshore and small stream environments in both Puget Sound and Lower



Two receiving water status and trends monitoring regions: Watersheds of Puget Sound and Lower Columbia River

Puget Sound Study Design

Both long-term studies are now operating under the updated study designs. Improvements monitoring efficiency and statistical power.

Key study design details include:

- 1) the study frame to be the entire Puget Lowland watershed for both streams and nearshore studies,
- 2) stratification of sites by percent impervious cover of sub-watershed into four categories,
- 3) sampling at 33 randomly selected sites and two reference sites, and
- 4) annual sampling for streams and biannual for nearshore study.

◆ Puget Small Streams (PSS)

U.S. Geological Survey (USGS) successfully completed summer field monitoring at 33 urban gradient sites and two reference (least-disturbed) sites suc-



cessfully. This was the second year using the updated study design.

Monitoring includes water, sediment, macroinvertebrate sampling and physical habitat assessment. Water level and temperature using sensors were monitored continuously throughout the year. As PSS sampling is done annually, reconnaissance of sites for next water year sampling was completed in fall. Restrictions related to the pandemic continued to impact field work, chemical analysis, and reporting. The annual report for water year 2020 due in November 2021 will now likely be published in mid-2022.

◆ Puget Sound Nearshore Mussels

Washington Department of Fish and Wildlife (WDFW) continues to lead the study to assess chemical contamination using caged mussels in Puget Sound nearshore.

WDFW successfully transitioned this year to implement the updated study design, and completed cage deployment in November 2021. The deployed cages will be retrieved in February of 2022.

The final report summarizing trends of last three sampling events using the old design and the annual status deliverable have been delayed due to slowed laboratory analysis. They are both anticipated in mid-2022.



SAM 2021 Annual Report

Lower Columbia River Study Design

The Lower Columbia Urban Streams (LCUS) study to sample annually at 22 urban streams in the Phase I and II permittee jurisdictions in the county. Five sites visited annually and the remaining 17 sites are monitored once within five year cycle under a rotating panel design. Continuous measurements of water conductivity, temperature and water level are made. Samples for sediment chemistry, macroinvertebrate sampling and physical habitat assessment are collected only during the summer following the watershed health protocols.

Clark county leads the study in partnership with Cowlitz Counties, Cities of Battle Ground, Camas, Kelso, Longview, Vancouver, and Washougal, and the Washington State Department of Transportation.

◆ Lower Columbia Urban Streams (LCUS)

Clark County completed the first summer sampling in 2021 successfully. As LCUS sampling is done annually, reconnaissance of sites and sensors deployment for next water year sampling was completed in fall. The first annual report is due in winter 2022.



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. The following studies were active in 2021. Completed SAM projects are shown in the blue boxes. Two effectiveness studies were completed in 2021. All final reports, scopes of work, and other key deliverables are available on the SAM websites under completed studies. SAM staff and the study lead co-author a two-page fact sheet for each final report.



- ◆ **Longevity of bioretention soil mix for toxicity reduction:** WSC is evaluating how long the default 60:40 bioretention soil media can prevent acute toxicity to coho salmon. The original contract with USFWS was terminated in December 2020, and WSC (former subcontractor) continues the study under a new contract approved in 2021.

Stormwater runoff is collected from a busy urban road site and applied to the experimental columns containing three different media depths (6, 12, and 18 inch) of bioretention soil media. Runoff is applied at an accelerated rate to simulate 10 water years in only three calendar years. Juvenile coho salmon are exposed to the treated effluent and impacts assessed. To date all three depths are preventing toxicity.

In 2021, the contract was amended to test for 6PPD-quinone as one of water quality parameters in the runoff influent and effluent of bioretention media in the column study. Analysis of all the frozen water samples for 6PPD-quinone and the final report are expected in 2022.



Photos: Stormwater runoff is pumped from a 250-gallon stainless steel tank to the experimental bioretention columns. After the 24-h dosing period, influent and effluent waters are subsampled for analyses (up). Juvenile coho salmon are exposed to stormwater and bioretention-treated effluent for toxicity test (down). The photos taken by Jason Berg at WSC.

Effectiveness Studies (cont'd)

Oyster Shell Retrofits for Water Quality

SAM Fact Sheet #24, June 2021

King County partnered with the City of Mercer Island and Port of Seattle to evaluate whether oyster shells retrofitted into stormwater catch basins can decrease dissolved metal concentrations and reduce runoff toxicity. Previous studies showed success with using oyster shell at a parking lot and individual building site scale. This study aimed to test this same approach but at a larger scale with more flow.

Water quality of runoff from two catch basins each fitted with two cubic feet of oyster shells was compared to two control catch basins without oyster shells. The oyster shell fitted catch basins did not improve water quality in this study, and the study was halted. The authors reasoned there was insufficient oyster shell material in the catch basin to treat larger amount of stormwater flows.



The ratio was 12 gallon per minute (gpm) of runoff/1ft³ oyster-shells for this study which was substantially higher than the previous study's ratio of 3 gpm runoff/1ft³ oyster-shell. The higher flows are believed to overwhelm the oyster-shell media. Oyster-shells are still believed to be effective for metal reduction if a sufficient volume of treatment media to stormwater flow ratio is used.

◆ ***Hydrologic benefit of individual trees:***

Washington Department of Natural Resources and Washington Stormwater Center (WSC) are quantifying the hydrologic benefits of retaining trees during development. Sensors are monitoring water transpired, through fall, and other hydrologic components of individual native evergreen and deciduous trees at two locations in Western Washington.

First phase of the study monitored 64 mature trees (Douglas fir, western red cedar, big leaf maple and red alder). They presented results to SWG in November, the two evergreen species can transpire and intercept over half the total rainfall. The final report will be published in early 2022.



The second phase of the study monitoring younger trees was approved by SWG in November. This will be managed as a new contract in Ecology.

◆ ***Orifice control of bioretention for water quality treatment:***

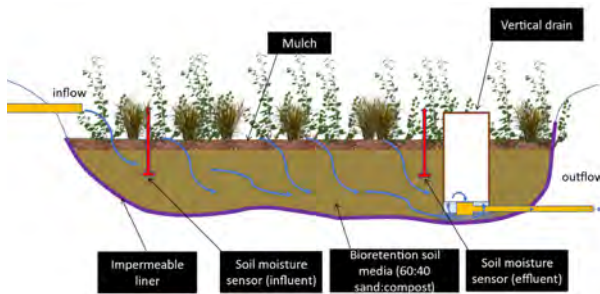
Washington State University (WSU) is evaluating the impacts of small orifice as part of a bioretention underdrain system on water quality and quantity performance improvements.



First phase of the study focusing on monitoring was completed and presented to SWG this year. In second phase, stage-storage-discharge (SSD) relationships will be developed for bioretention with small orifice in WWHM and used to assess long term runoff volume reduction and to estimate pollutant loading reductions. The report is expected in December 2022.

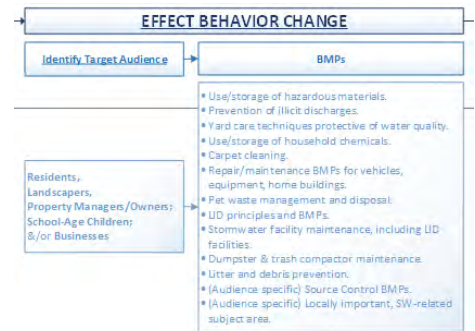
Effectiveness Studies (cont'd)

- ◆ **Watershed scale retrofit and restoration:** The City of Redmond paired watershed study is in year 6 of 10. Annual status reports are completed for this BMP effectiveness study.
- ◆ **Mulch choices for bioretention:** WSC is wrapping up the study on 3 types of mulch (2 kinds of bark and wood chips) to provide better water retention, contaminant capture, and weed prevention in bioretention facilities. The final report is anticipated mid-2021.



- ◆ **Guidance for evaluating the effectiveness of public education and outreach programs:**

WSU will determine what types of stormwater problems are amenable to, and best addressed by, behavior change efforts. A decision support tool, and guidance to evaluate effectiveness will be developed.



- ◆ **Ditch Maintenance for Water Quality Study:** WSU will conduct a study in roadside ditches on the effectiveness of different reshaping techniques and planting plans to reduce long-term costs associated with maintenance, water quality, and storm flow conveyance.

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. The following studies were active in 2020. Completed studies are shown in the blue boxes.



- ◆ **Mobile Business:** King County will lead a two year effort to identify mobile businesses and methods to conduct inspections and outreach for the purposes of stormwater source control and pollution prevention. New tools and best practices guidance will be developed informed by a pilot source control effort and coordinating source control among jurisdictions.
- ◆ **Business Source Control:** Washington Stormwater Center (WSC) is leading this two year effort to expand the business inspection reference guide, as well as prepare an online manual for permittees to use for stormwater program development. Business inspection trainings are planned for late Fall 2022.

2020 Spill hotline Feasibility

SAM Fact Sheet #22, March 2021

King County partnered with Herrera and Hardwick Research to assess the feasibility of a regional or statewide “hotline” (reporting system) for citizens and municipal staff in Washington state to report spills and environmental incidents. While they determined that implementing a regional spill reporting system is feasible with key benefits that are not addressed by the current system of disparate local hotlines, they found overall low support from jurisdictions to implement a new regional system. Despite this, recommendations can apply at smaller scales for individual jurisdictions or several jurisdictions working together

Administration (cont'd)

SAM Budget - Mid-permit cycle

The NAVY joined SAM in 2021. The EPA-issued MS4 permits for Naval Base Kitsap (WAS026646), Naval Station Everett (WAS026620), and Naval Air Station Whidbey Island (WAS026611) provides the Navy with the option to participate in the SAM network to satisfy requirements for monitoring. Their first year, 2021, was prorated for \$8,936 into SAM's Effectiveness Studies and Status and Trends accounts. Each year thereafter will be \$15,318 for the remainder of their permit cycle.

SAM revenue gathered in 2022 and 2023 will be enough for 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.

Ecology continues to manage permittees' annual funding receipts in PARIS: <https://apps.ecology.wa.gov/paris>.

SAM Staff Capacity

Staff turnover in SAM projects as well as at Ecology continued to occur, and SAM Coordinator and Scientist continue to spend time covering more duties, therefore administration charges to the SAM accounts were much lower in 2021 and some duties such as quarterly reports are running later than normal. In 2022 we anticipate the SAM Scientists will be very involved with the USGS, LCUS, and PS Mussels leads to provide training and curate the spatial design data analysis and statistical work.

STAY INVOLVED AND UP TO DATE!

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 our work.

Brandi Lubliner
SAM Coordinator
brandi.lubliner@ecy.wa.gov

Keunyea Song
SAM Scientist
keunyea.song@ecy.wa.gov

Karen Dinicola
SWG Project Manager
karen.dinicola@ecy.wa.gov

Emma Trehwitt
SWG Coordinator, 2021

Special accommodations

To request materials in a format for the visually impaired, visit <https://ecology.wa.gov/accessibility>, or call Ecology at (360) 407-6600, Relay Service 711, or TTY (877) 833-6341.

SAM is annually funded by Cities, Counties, Ports, and US Navy; has received in-kind funds from cities, business and agencies:

Cities: Aberdeen, Algona, Anacortes, Arlington, Auburn, Bainbridge Island, Battle Ground, Bellevue, Bellingham, Black Diamond, Bonney Lake, Bothell, Bremerton, Brier, Buckley, Burién, 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. **State:** Washington Department of Transportation, Washington Department of Ecology, Washington Department of Agriculture, Washington Department of Fish and Wildlife. **Federal:** United States Geological Survey **Business:** Penn Cove Shellfish, Cedar Grove. United States Navy.



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: Reporting Cause or Contribution to WQ Standards Violation

Version: 1

Due Date:

Comments: A blockage in the City's municipal sanitary sewer system caused a backup and overflow of raw municipal wastewater that overflowed into the City's municipal separate storm sewer system (MS4). The effluent entered they MS4 via a grated Type 1 stormwater catch basin and was conveyed directly to a stormwater outfall to Tumwater Creek. The blockage was reported to the City by a resident on Nov. 1st, 2022 and was remediated by the City's Wastewater Operations Department within 3 hours of notification. The resident reported that the overflow had been occurring for approximately 2 days. On Dec. 1st, the City completed their investigation into the event and, based on a conservative, academic WAC 173-201A sampling protocol, determined that a water quality violation, or contribution thereof, likely occurred.

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

12/27/2022 2:23:13 PM

Signature

Date



December 6, 2022

Angela Vincent
Municipal Stormwater Permit Planner
SWRO WQ Watershed Resource Unit
WA State Dept. of Ecology
PO Box 47775
Olympia, WA 98504-7775

RE: Phase II Stormwater Permit (WAR045028) | S4.F.1 Notification – Nov. 1st SSO into MS4.

Dear Angela Vincent,

On November 1st, 2022, the City was notified of an active sanitary sewer overflow (SSO) from a sanitary manhole on W. 13th Street between South “B” and “C” Streets. Operations Staff responded to the call and discovered a blockage in an 8-inch sewer main that was causing domestic wastewater to overflow into a nearby stormwater inlet. Following standard protocol, City Staff quickly mobilized equipment, eliminated the blockage, cleaned up impacted areas and infrastructure, and made appropriate notifications. Once the blockage was successfully removed, the sanitary conveyance system returned to normal operating conditions and discharge into the stormwater system was eliminated. On November 3rd, 2022, the City submitted a 5-day spill report to Ecology regarding this event and in compliance with NPDES Permit #WA0023973.

Regarding the stormwater system, the sanitary overflow was conveyed down the 13th Street gutter-line and into a stormwater inlet at the intersection of W. 13th and “B” Streets. From there it was quickly conveyed to a municipal stormwater outfall that discharges into Tumwater Creek near W. 11th Street and State Route 117. Engineering staff were informed and responded to evaluate the downstream impact. Details of the event were collected and compared against the Washington State Surface Water Quality Standards (WAC 173-201A). Samples from the outfall were not collected during or after the event, therefore, a hypothetical sampling protocol was necessary to assess the bacterial impact likely experienced at the outfall to the creek. This protocol was developed directly from the WAC to conservatively evaluate the likelihood of potential bacteria criteria exceedances. Application of the sampling protocol revealed that the Primary Contact Recreation Bacterial Criteria in Fresh Water (WAC 173-201A-200, Table 200) was likely exceeded. Because the bypass condition was reported to have been occurring for approximately 2-days in total, it was determined that likely more than 10 percent of the samples obtained within the averaging period would have exceeded the threshold of 320 MPN/100 mL. Therefore, this event would qualify as a discharge prohibited by S4.A and S4.B of Ecology’s Western Washington Phase II Municipal Stormwater Permit (Permit). No other probable exceedances of water quality standards applicable to Tumwater Creek were detected, observed, or calculated during this assessment. This determination was made on December 1, 2022.

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

This letter is intended to satisfy the required response to a prohibited discharge as described in S4.F.1 of the Permit and thereby allowing the City to fully maintain Permit compliance. The City has no information to suggest that this event at this location was anything more than an isolated occurrence and did not detect any physical deficiency or structural failure in the sanitary system during the investigation, response, clean-up, and monitoring that would indicate an elevated threat of reoccurrence exists. Additionally, as described herein and in the 5-day report, the City's prompt response and remediation of the issue highlights the City's commitment to and compliance with S4.C and S4.D of the Permit.

Any questions or concerns relating to this matter can be directed to the City's Stormwater Engineer, Vince McIntyre, at Vm McIntyr@cityofpa.us or at (360) 417-4701.

Sincerely,



[mike healy \(Dec 6, 2022 07:07 PST\)](#)

Mike Healy
Interim Director of Public Works and Utilities
City of Port Angeles

"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
Bill Bloor, City Attorney
Jonathan Boehme, City Engineer
Vince McIntyre, Stormwater Engineer

Enclosures: 5-day Report, Nov. 3rd, 2022 w/ attachments
Sampling protocol to asses probable bacterial impact, 12/1/2022



November 3rd, 2022

Washington State Dept. of Ecology
 Attn: Dainis Kleinbergs, Permit Manager
 Southwest Regional Office, PO Box 47775
 Olympia, WA 98504-7775

RE: City of Port Angeles submittal for permit condition S3. F.2 c, Five-day written report for NPDES permit #WA0023973 - ERTS # 22-4343

This letter serves as the City's Wastewater Division five-day written report regarding the sanitary sewer overflow caused by a main blockage. ERTS # 22-4343.

The following represents the approximate timeline for events:

TIME	DESCRIPTION
	1 November, 2022
1515	Homeowner of 912 W. 13th Street notified City staff that he observed a small trickle coming out of a manhole running down the curb line. He reports that the trickle has been running down the curb line since 10/30/22
1530	Operations staff responded to call, confirmed overflow to be sanitary sewer
1615	Operations staff onsite with vac truck to unplug sewer
1651	Sewer unplugged and overflow ceased
1655	Operations staff begin cleanup (cleaned debris/washed gutter line and cleaned stormwater catch basin)
1743	Operations staff complete cleanup efforts
1849	Rick Hartley began notification of SSO to the governing agencies

- Estimate of overflow was 3 GPM, homeowner stated it had been running for roughly 2 days for an estimated SSO of 8640 gallons discharging into a storm catch basin at the south west corner of West 13th Street/B Street

If you have any questions, please feel free to give me a call at (360) 417-4855.

Sincerely,

Jeff Groves
 Water/Wastewater Field Superintendent,

Phone: 360-417-4800 / **Fax:** 360-417-4542

Website: www.cityofpa.us / **Email:** publicworks@cityofpa.us

321 East Fifth Street / Port Angeles, WA 98362-3206

CITY OF



PORT ANGELES

WASHINGTON, U. S. A.

Public Works & Utilities Department

CC: Mark Toy, DOH Shellfish
Jennifer Garcelon, Clallam County Environmental Health
Heather Watts, Clallam County Environmental Health
Mike Healy, COPA Interim Director of Public Works
Jonathan Boehme, COPA City Engineer
Eric Wheatley, COPA Deputy Director of Public Works
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 98362-3206



WASTEWATER POLLUTION INVESTIGATION CHECKLIST

Use this checklist to document reportable incidents at the POTW, as defined by Section S.3.F & S.3.G of NPDES Permit #WA0023973. Additional information should be placed in chronological order under Item 13. Instructions & extra room for comments on reverse.

This checklist will be used to prepare the written 5-day report and shall be forwarded to the Wastewater Superintendent by the end of shift on the day of the incident.

1	Date and time notification received, or spill discovered:	3:38 pm 11-1-22		
2	Name of City staff that discovered/reported the spill:	Jeff Brownes 912 W 13 th		
3	If spill reported by public, City staff who received report:	Jeff Brownes		
	By:	912 W 13 th		
	(Reporting Citizen's Name-OPTIONAL)	(Address)		(Phone)
4	PW&U Mgmt. Notification (who & when?):	Jeff Brownes		

5	Location / Address of spill:	W 13 th 200 feet west of B st		
6	Type of pollutant:	Raw Sewage IF WWTP BYPASS SEE BELOW!		
	Effluent sampler turned on? Yes / No	Grab samples taken for:	Fecal Coliform? Result:	pH? Result: Chlorine? Result: Analysis scheduled with Lab Specialist?
7	Spill/Bypass origin	City Sewer Manhole		
	a) Amount of pollutant discharged:	8360 gals		
	b) Date & time of arrival at location:	4:28 pm 11/1/22		
	c) Weather conditions:	dry		
	d) Cause of pollution:	sewer main blockage		
	e) Initial efforts to control pollution	Jetted sewer main and removed blockage		
8	Ultimate discharge	TUM water creek		
	a) Location (receiving water body):	Port Harbor Jo		
	b) Visible effects of pollution:	Some debris in gutter		
	c) Final control measures used:	Vactor storm water man hole wash gutter		
	d) Date/Time discharge started:	10/30/22	e) Date/Time discharge ended:	11/1/22 4:51 pm
	f) Date/Time cleanup started:	11/1/22 4:55 pm	g) Date/Time cleanup ended:	11/1/22 5:43 pm
	h) Cleanup measures used:			

9 IMMEDIATE* NOTIFICATION OF AUTHORITIES				
*Required for: failures of the disinfection system; collection system overflows; unapproved plant bypasses discharging to marine surface waters; or any other failures of the sewage system (pipe breaks, etc.).				
	Phone No.	Name	Date	Time
WA Ecology SW Regional Office (24 Hrs.)	360-407-6300	Dean	11/1/22	6:49 pm
WA Ecology SW Reg.- Dainis Kleinbergs	360-407-7050			
ERTS (Environmental Reporting Tracking System) Number		# 22-4543		
WA DOH Shellfish Protection	360-236-3330			
- (If no answer @ D.O.H.)	360-789-8962	Scott	11/1/22	7:00 am
Clallam County Environmental Health	360-417-2347	Jennifer Mas	11/1/22	7:03 pm
10 Feiro Marine Life Center (after hours call 909-973-9566)	360-417-6254			

Remarks (more room on back):

Signature: _____ Title: _____

Engineer's Estimate | E Coli. Concentration in Discharge to Tumwater Creek

Event: ERTS #718661 - Blockage in sanitary system resulted in overflow to MS4 and subsequent outfall to Tumwater Creek. Condition was reported by the public and corrected by COPA Operations on Nov. 1st, 2022.

NOTE: No water samples were actually taken from the outfall before, during, or after the overflow event. Clallam County's water quality lab is closed Fri-Sun. This is an exercise to determine if the event "likely" or "likely did not" exceed a water quality standard in the receiving waterbody, per the City's Phase II SW Permit with Ecology.

Assumptions: Background E.Coli concentration in stormwater component during the event is negligible.

			Date Source
Typical, raw sanitary, [E.cocci]=	$10^5 - 10^7$	MPN/100mL	Metcalf & Eddy, Wastewater Engineering, 5th Edition
Dilution factor in SS during rain event =	NA	-	-

$$Q_1 C_1 + Q_2 C_2 = Q_F C_F$$

$$C_F = \frac{Q_1 C_1}{Q_F} = \frac{(1 \text{ unit})(100,000 \frac{MPN}{100mL})}{NA \text{ units}} = NA \frac{MPN}{100mL}$$

WAC 173-201A-200(2)(b) Hypothetical Sampling protocol over 30-day averaging period

Assumptions: Under normal operating conditions, concentration of E Coli at the outfall is negligible. 2 MPN/100mL was used as the lowest detection limit (LDL).

	Low-end		High-end	
	Day	Daily Average	Day	Daily Average
	First Observance	100,000	First Observance	10,000,000
	Reported/Corrected	100,000	Reported/Corrected	10,000,000
	3	2	3	2
	4	2	4	2
Local Lab	5	-	5	-
Closed Fri-	6	-	6	-
Sun.	7	-	7	-
	8	2	8	2
	9	2	9	2
	10	2	10	2
	11	2	11	2
Local Lab	12	-	12	-
Closed Fri-	13	-	13	-
Sun.	14	-	14	-
	15	2	15	2
	16	2	16	2
	17	2	17	2
	18	2	18	2
Local Lab	19	-	19	-
Closed Fri-	20	-	20	-
Sun.	21	-	21	-
	22	2	22	2
	23	2	23	2
	24	2	24	2
	25	2	25	2
Local Lab	26	-	26	-
Closed Fri-	27	-	27	-
Sun.	28	-	28	-
	29	2	29	2
	30	2	30	2
	Samples taken (n) =	18	Samples taken (n) =	18
	Geometric Mean =	6.65	Geometric Mean =	11.10
	Geo. Mean < 100?	Yes	Geo. Mean < 100?	Yes
	% exceeded 320	11%	% exceeded 320	11%
	Less than 10%?	No	Less than 10%?	No
	Status:	Probable Threshold Exceedance	Status:	Probable Threshold Exceedance




FINAL_S4.F.1 Notification_Nov. 1 2022 SSO into MS4

Final Audit Report

2022-12-06

Created:	2022-12-06
By:	Vince McIntyre (Vmcintyr@cityofpa.us)
Status:	Signed
Transaction ID:	CBJCHBCAABAAyGTIT1jNrZ6--HGCTxL_CpLU2z1q-amX

"FINAL_S4.F.1 Notification_Nov. 1 2022 SSO into MS4" History

-  Document created by Vince McIntyre (Vmcintyr@cityofpa.us)
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-  Document emailed to mhealy@cityofpa.us for signature
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-  Signer mhealy@cityofpa.us entered name at signing as mike healy
2022-12-06 - 3:07:26 PM GMT- IP address: 76.191.127.50
-  Document e-signed by mike healy (mhealy@cityofpa.us)
Signature Date: 2022-12-06 - 3:07:28 PM GMT - Time Source: server- IP address: 76.191.127.50
-  Agreement completed.
2022-12-06 - 3:07:28 PM GMT

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 and Tumwater 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 2022 and will continue to be utilized through 2023.

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 $\geq 0.15"$ 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 $\geq 1"$ 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	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)
Peabody 0.0 (when possible)	C Peabody 2.9 (Coyote Run Lane off Scrivner Rd)
Peabody 0.2 (just u/s of final culvert; include stage reading)	Tumwater 0.1 (d/s of storm pipe)
Peabody 0.2 rep	W Tumwater 0.1b (LB storm drain input @ 3rd St.)
Peabody 0.2a (pipe d/s of trailer park office)	Tumwater 0.1a (@ 3rd St. u/s of LB storm drain input)
Peabody 0.2b (u/s of pipe)	Tumwater 1.5a (u/s of Hwy 101, u/s of storm input from west)
Peabody 0.4b (u/s of trailers, d/s of plunge pool below culvert)	Tumwater 1.5b (u/s of Hwy 101, storm channel from west)
Peabody 0.4 (u/s of Peabody St.)	Tumwater 4.4 (3142 Black Diamond Rd)
W Peabody 0.4a (storm input under Peabody St.)	Valley 0.0 (when possible)
Peabody 0.9 (beneath water pipe, d/s of kids' play area)	Valley 0.4 (u/s of final culvert @ 6th St)
Peabody 1.2 (beneath Lauridsen, u/s of stormwater flume)	Valley 0.4 rep
Peabody 1.2c (beneath Lauridsen, stormwater flume)	Valley 0.7 (@ 12th St., near end of Valley Street)
C Peabody 1.4 (National Park loop trail, u/s of u/s crossing)	Valley 1.0 (u/s of "flatbed" bridge @ 14th St)
Tumwater 0.0 (across from Westport side door)	Valley 1.2 (d/s of Hwy 101)
Tumwater 0.0 rep	Valley 1.4 (Vern Samuelson Trail ~0.1 mile u/s of Hwy 101)
Tumwater 0.8 (d/s of storm input below Tumwater Truck Rt)	Semi- Annual Marine Samples--fecal + entero (big 500 mL bottles)
Tumwater 0.8d (storm pipe below Tumwater Truck Route)	PA Harbor @Hollywood west
Tumwater 0.8e (u/s of storm input below Tumwater Truck Rt)	PA Harbor @Hollywood central
Tumwater 1.5 (u/s of Hwy 101, d/s of storm input from west)	PA Harbor @Hollywood east
	PA Harbor @Peabody mouth
	PA Harbor @Peabody mouth rep

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

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APPENDIX 2. Total Maximum Daily Load Requirements

APPENDIX 3. Annual Report Questions for Cities, Towns and Counties

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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 Planning³ (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 applications¹⁸ submitted:

- i. On or after July 1, 2022.
 - ii. Prior to January 1, 2017, that have not started construction¹⁹ 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 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 – *Stormwater 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.