



Water Quality Program

Permit Submittal Electronic Certification

Permittee: TUKWILA CITY OF

Permit Number: WAR045544

Site Address: 6200 SOUTHCENTER BLVD
Tukwila, WA 98188-2544

Submittal Name: MS4 Annual Report Phase II Western

Version: 1

Due Date: 3/31/2019

Questionnaire

Number	Permit Section	Question	Answer
1	S5.A.2	Attach updated annual Stormwater Management Program Plan (SWMP Plan). (S5.A.2)	2019 SWMP Final Wdrive_1_03202019012 333
2	S9.D.5	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.5.	Not Applicable
3	S5.A.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
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.a.i and ii	Attach description of public education and outreach efforts conducted per S5.C.1.a.i and ii.	2018 Education and Outreach Ef_5_03042019082505
6	S5.C.1.b	Created stewardship opportunities (or partnered with others) to encourage resident participation in activities such as those described in S5.C.1.b.	Yes
8	S5.C.2.a	Describe the opportunities created for the public to participate in the decision making processes involving the development, implementation and updates of the Permittee's SWMP. (S5.C.2.a)	Opportunities are provided at Transportation and Infrastructure Committee meetings, Committee of the Whole, Council Regular meetings and open house workshops. Opportunities are also encouraged through the year on the City's NPDES website: www.tukwila.gov/pubwks/npdes.html . Notices are also posted in the City Tukwila Reporter and on notice boards at key locations within the City.

9	S5.C.2.b	Posted the updated SWMP Plan and latest annual report on your website no later than May 31. (S5.C.2.b)	Yes
9b	S5.C.2.b	List the website address.	http://www.tukwilawa.gov/departments/public-works/npdes
10	S5.C.3.a.i - vi	Maintained a map of the MS4 including the requirements listed in S5.C.3.a.i.-vi.	Yes
11	S5.C.3.b.v	Implemented a compliance strategy, including informal compliance actions as well as enforcement provisions of the regulatory mechanism described in S5.C.3.b. (S5.C.3.b.v)	Yes
12	S5.C.3.b.vi	Updated, if necessary, the regulatory mechanism to effectively prohibit illicit discharges into the MS4 per S5.C.3.b.vi. (Required no later than February 2, 2018)	Yes
12b		Cite the Prohibited Discharges code reference	Tukwila Municipal Code 14.31
13	S5.C.3.c.i	Implemented procedures for conducting illicit discharge investigations in accordance with S5.C.3.c.i.	Yes
13b	S5.C.3.c.i	Cite methodology	The City uses its GIS Surface Water mapping, enforces its IDDE ordinance, conducts annual stream monitoring, uses local laboratory services, has an active education and outreach program. Fire Department response to hazardous waste spills and illicit discharges. O&M available for IDDE, ongoing storm pipe video detection, maintains neighboring jurisdiction contact list and provide annual hazardous waste collection site.
14	S5.C.3.c.i	Percentage of MS4 coverage area screened in reporting year per S5.C.3.c.i. (Required to screen 40% of MS4 no later than December 31, 2017 (except no later than June 30, 2018 for the City of Aberdeen) and 12% on average each year thereafter. (S5.C.3)	28
15	S5.C.3.c.ii	List the hotline telephone number for public reporting of spills and other illicit discharges. (S5.C.3.c.ii)	206-431-1860
15b	S5.C.3.c.ii	Number of hotline calls received.	1
16	S5.C.3.c.iii	Implemented an ongoing illicit discharge training program for all municipal field staff per S5.C.3.c.iii.	Yes
17	S5.C.3.c.iv	Informed public employees, businesses, and the general public of hazards associated with illicit discharges and improper disposal of waste. (S5.C.3.c.iv)	Yes

17b	S5.C.3.c.iv	Describe the information sharing actions. (S5.C.3.c.iv)	The City meets weekly with staff where appropriate Phase II permit information is shared. Information sharing is also conducted during commercial and residential inspections (during/post construction. Tukwila partners with ECOSS which also supports the City's IDDE education and outreach program. Stormwater information is mailed to 5,300 City addresses. Staff also educates the general public while investigating illicit discharges and spills.
18	S5.C.3.d	Implemented an ongoing program to characterize, trace, and eliminate illicit discharges into the MS4 per S5.C.3.d.	Yes
19	S5.C.3.d.iv	Number of illicit discharges, including illicit connections, eliminated during the reporting year. (S5.C.3.d.iv)	25
20	S5.C.3.d.iv	Attach a summary of actions taken to characterize, trace and eliminate each illicit discharge found by or reported to the permittee. For each illicit discharge, include a description of actions according to required timeline per S5.C.3.d.iv	2018 IDDE Tracking Summary 1-4_20_02282019074109
21	S5.C.3.e	Municipal illicit discharge detection staff are trained to conduct illicit discharge detection and elimination activities as described in S5.C.3.e.	Yes
22	S5.C.4.a	Implemented an ordinance or other enforceable mechanism to address runoff from new development, redevelopment and construction sites per the requirements of S5.C.4.a.	Yes
24	S5.C.4.a.i	Number of exceptions granted to the minimum requirements in Appendix 1. (S5.C.4.a.i., and Section 6 of Appendix 1)	0
25	S5.C.4.a.i	Number of variances granted to the minimum requirements in Appendix 1. (S5.C.4.a.i., and Section 6 of Appendix 1)	0
26	S5.C.4.b.i	Reviewed Stormwater Site Plans for all proposed development activities that meet the thresholds adopted pursuant to S5.C.4.a.i. (S5.C.4.b.i)	Yes
26b	S5.C.4.b.i	Number of site plans reviewed during the reporting period.	122

27	S5.C.4.b.ii	Inspected, prior to clearing and construction, 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, or alternatively, inspected all construction sites meeting the minimum thresholds adopted pursuant to S5.C.4.a.i. (S5.C.4.b.ii)	Yes
27b	S5.C.4.b.ii	Number of construction sites inspected per S5.C.4.b.ii.	37
28	S5.C.4.b.iii	Inspected permitted development sites during construction to verify proper installation and maintenance of required erosion and sediment controls. (S5.C.4.b.iii)	Yes
28b	S5.C.4.b.iii	Number of construction sites inspected per S5.C.4.b.iii.	79
29	S5.C.4.b.ii, iii and v	Number of enforcement actions taken during the reporting period (based on construction phase inspections at new development and redevelopment projects). (S5.C.4.b.ii, iii and v)	3
30	S5.C.4.b.iv	Inspected all permitted development sites that meet the thresholds in S5.C.4.a.i upon completion of construction and prior to final approval or occupancy to ensure proper installation of permanent stormwater facilities. (S5.C.4.b.iv)	Yes
31	S5.C.4.b.ii-iv	Achieved at least 80% of scheduled construction-related inspections. (S5.C.4.b.ii-iv)	Yes
32	S5.C.4.b.iv	Verified a maintenance plan is completed and responsibility for maintenance is assigned for projects. (S5.C.4.b.iv)	Yes
33	S5.C.4.c	Implemented provisions to verify adequate long-term operation and maintenance (O&M) of stormwater treatment and flow control BMPs/facilities that are permitted and constructed pursuant to S5.C.4. a and b. (S5.C.4.c)	Yes
35	S5.C.4.c.iii	Annually inspected stormwater treatment and flow control BMPs/facilities per S5.C.4.c.iii.	Yes
35b	S5.C.4.c.iii	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.4.c.iii	Not Applicable
36	S5.C.4.c.iv	Inspected new residential stormwater treatment and flow control BMPs/facilities and catch basins every 6 months per S5.C.4.c.iv to identify maintenance needs and enforce compliance with maintenance standards.	Yes
37	S5.C.4.c.v	Achieved at least 80% of scheduled inspections to verify adequate long-term O&M. (S5.C.4.c.v)	Yes
38	S4.C.4.c.vi	Verified that maintenance was performed per the schedule in S5.C.4.c.vi when an inspection identified an exceedance of the maintenance standard.	Yes
38b	S5.C.4.c.vi	Attach documentation of any maintenance delays. (S5.C.4.c.vi)	Not Applicable

39	S5.C.4.d	Provided copies of the Notice of Intent for Construction Activity and Notice of Intent for Industrial Activity to representatives of proposed new development and redevelopment. (S5.C.4.d)	Yes
40	S5.C.4.e	All staff responsible for 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.4.e)	Yes
42	S5.C.4.g	Participated and cooperated with the watershed-scale stormwater planning process led by a Phase I county. (S5.C.4.g)	Not Applicable
43	S5.C.5.a	Updated and implemented maintenance standards as protective, or more protective, of facility function as those specified in Chapter 4 of Volume V of the Stormwater Management Manual for Western Washington (as amended 2014). (Required no later than December 31, 2016, except no later than June 30, 2017 for Permittees in Lewis and Cowlitz counties, and no later than June 30, 2018 for the City of Aberdeen, S5.C.5.a).	Yes
44	S5.C.5.a	Applied a maintenance standard that is not specified in the Stormwater Management Manual for Western Washington.	No
45	S5.C.5.a.ii	Performed timely maintenance per S5.C.5.a.ii.	Yes
46	S5.C.5.b	Annually inspected all municipally owned or operated permanent stormwater treatment and flow control BMPs/facilities. (S5.C.5.b)	Yes
46b	S5.C.5.b	Number of known municipally owned or operated stormwater treatment and flow control BMPs/facilities. (S5.C.5.b)	75
46c	S5.C.5.b	Number of facilities inspected during the reporting period. (S5.C.5.b)	75
46d	S5.C.5.b	Number of facilities for which maintenance was performed during the reporting period. (S5.C.5.b)	4
47	S5.C.5.b	If using reduced inspection frequency for the first time during this permit cycle, attach documentation per S5.C.5.b.	Not Applicable
48	S5.C.5.c	Conducted spot checks and inspections (if necessary) of potentially damaged stormwater facilities after major storms as per S5.C.5.c.	Yes
49	S5.C.5.d	Inspected all municipally owned or operated catch basins and inlets as per S5.C.5.d, or used an alternative approach. (Required once no later than August 1, 2017 and every two years thereafter, except once no later than June 30, 2018 and every two years thereafter for the City of Aberdeen)	Yes
49b	S5.C.5.d	Number of known catch basins.	5625
49c	S5.C.5.d	Number of catch basins inspected during the reporting period.	1608
49d	S5.C.5.d	Number of catch basins cleaned during the reporting period.	563

50	S5.C.5.d.i-ii	Attach documentation of alternative catch basin cleaning approach, if used. (S5.C.5.d.i or ii)	Not Applicable
51	S5.C.5.f	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.5.f)	Yes
52	S5.C.5.g	Implemented an ongoing training program for Permittee employees whose primary construction, operations or maintenance job functions may impact stormwater quality. (S5.C.5.g.)	Yes
53	S5.C.5.h	Implemented a Stormwater Pollution Prevention Plan 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.5.h)	Yes
54	S7.A	Complied with the Total Maximum Daily Load (TMDL)-specific requirements identified in Appendix 2. (S7.A)	Not Applicable
55	S7.A	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
56	S8.A	Attach a description of any stormwater monitoring or stormwater-related studies as described in S8.A.	2018 Q1 Boeing Z Line Sampling_56_03042019 101234
57	S8.B.1	Participated in cost-sharing for the regional stormwater monitoring program (RSMP) for status and trends monitoring. (S8.B.1)	Yes
58	S8.C.1	Participated in cost-sharing for the regional stormwater monitoring program (RSMP) for effectiveness studies. (S8.C.1) (Required to begin no later than August 15, 2014)	Yes
59	S8.D.1	Contributed to the RSMP for source identification and diagnostic monitoring information repository in accordance with S8.D.1. (Required to begin no later than August 15, 2014)	Yes
60	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
61	G3	Number of G3 notifications provided to Ecology.	25
62	G3.A	Took appropriate action to correct or minimize the threat to human health, welfare, and/or the environment per G3.A.	Yes
63	S4.F.1	Notified Ecology within 30 days of becoming aware that a discharge from the Permittee's MS4 caused or contributed to a known or likely violation of water quality standards in the receiving water. (S4.F.1)	Not Applicable

64	S4.F.3.a	If requested, submitted an Adaptive Management Response report in accordance with S4.F.3.a.	Not Applicable
65	S4.F.3.d	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)	Not Applicable
66	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
67	G20	Number of non-compliance notifications (G20) provided in reporting year.	0
67b	G20	List the permit conditions described in non-compliance notification(s).	Not Applicable

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.

David Cline

3/20/2019 2:54:34 PM

Signature

Date



2018 Education and Outreach Efforts

The City of Tukwila has an active public educational and outreach program, regarding general impacts of stormwater on surface waters, using the following approaches and target audiences:

- Twice a year stormwater information is mailed to approximately 5,300 addresses. For 2018, the public was reminded of the new Low Impact Development regulatory stormwater changes that went effect.
- The City used the findings of the 2017 Stormwater Survey and Assessment to target City residents and businesses by informing them of a priority 1 & 2 issues regarding impervious pavement, sediment, pesticides, fertilizers, weed control chemicals, car wash soapy water runoff and infiltration trenches.
- Posted on the City's web page the LID course training catalog, 2016 King County Surface Water Design Manual and 2016 King County Stormwater Pollution Prevention Manual. Also posted an Illicit Discharge Detection & Elimination video that is available in English and Spanish and a Lost and (Puget) Sound stormwater video directed at school aged children.
- Provided an NPDES Inspection Van that included interactive stormwater testing at a City sponsored Touch a Truck event that is held annually. Interactive water sample testing was conducted with the public to promote water quality in Gilliam Creek, Riverton Creek, Southgate Creek, Johnson Creek, cottage Creek and the Green/Duwamish River. [Bilingual IDDE posters were installed to reach non-English-speaking citizens.](#)
- Provided a SWMP booth at the annual Backyard Wildlife Festival. Staff promoted low impact development by demonstrating how pervious concrete works and conducted a children's hands-on water sampling demonstration using a turbidity meter and pH test kits. Also, staff engaged with the children using a Child Passport Questionnaire regarding stormwater quality. [Bilingual IDDE posters were installed to reach non-English-speaking citizens.](#)

- A variety of brochures are made available, and are handed out during residential and business storm drainage inspections, i.e. Low Impact Development, Protecting Washington's Waters from Stormwater Pollution, Local Recycling Center for Used Oil, Spills-Who do you call? Natural Lawn Care, Small Business Hazardous Waste Disposal and Good Business Practices for Carpet Cleaning & Wastewater Disposal.
- Continue with residential and commercial inspections where one on one discussions of pollution and its impact to our creeks and rivers is conveyed.
- Continue to educate Illicit discharge violators.
- The City's Habitat Program supports NPDES goals by promoting better volunteer carwash practices, increasing public awareness about what healthy streams and rivers look like, increase use of low impact development and porous concrete.

2018 ILLICIT DISCHARGE, DETECTION & ELIMINATION

DATE RECEIVED	DATE RESPONDED	LOCATION NAME	RFA ERTS	ILLICIT DISCHARGE	ACTION TAKEN	FINAL
1/30/2018	1/30/2018	I-405 South Bound between West Valley Hwy. & I-5	678873	Due to an auto accident, 5-10 gallon release of diesel and DEF, mostly diesel going to storm drain.	1/30 Tukwila Fire Dept. responds to stop release. Everything has been mitigated except what is in the tube. No water currently running. 1/30 Greg V/Tukwila notifies ECY/ERTS that spill was in WSDOT jurisdiction. NFA/Tukwila	1/30/2018
2/9/2018	2/9/2018	1020 Andover Park West Nordstrom Warehouse	679204	Private watermain break, sediment to APW to Minkler to P-17 ditch.	2/9 Tukwila Fire Dept & Water Dept responded and used street sweeper to cleanup mud. Archer Const. onsite to respond for owner. 2/12 Archer completed isolation of sed. and cleaned up all discharges. BMPs in place. Unable to determine amount of volume. Approx. 2 yards of soils remove from cleanup. NFA	2/12/2018
2/14/2018	2/14/2018	14225 42nd Ave S Normandy Court Apartments	679271			
2/20/2018	2/20/2018	10230 E Marg Wy S Proloagics	679362	Storm drainage & grading work without permit. Half of work is in Seattle impacting Tukwila storm drain.		
2/28/2018	2/28/2018	3301 South Norfolk St	679507	One-gallon discharge of multiple auto petrol products from towing operation See ERTS		
3/8/2018	3/8/2018	12400 51st PI S	679711	Hostler truck malfunction released hydraulic fluid onto concrete and in cb	Cleanup crew enroute NFA	3/8/2018
	3/19/2018	15310 Macadam Rd S Condominium	679959	Release of sewage from failed private force main/lift station draining into nearby cb. Flow Hawk on site for repair and clean up.	Flow Hawk in process of keeping lift station from overflowing. NFA	5/19/2018

2018 ILLICIT DISCHARGE, DETECTION & ELIMINATION

DATE RECEIVED	DATE RESPONDED	LOCATION NAME	RFA ERTS	ILLICIT DISCHARGE	ACTION TAKEN	FINAL
3/22/2018	3/22/2018	6810 S 180th St Home Depot	680066	Reported as 1/2 gallon spill mechanical disinfectant into sewer drain. Follow up call indicating misunderstanding that none of facility reached outside and there was no drain impacts.	NFA	3/22/2018
7/24/2018	7/24/2018	415 Baker Blvd	682801	Reported as pavement being cut and dust waste going into storm drain in liquid and mud form.	7/24 City Inspector/Scott M. requested eductor truck clean impacted cb. Request completed. NFA	7/24/2018
7/28/2018	7/30/2018	17275 Southcenter Parkway Kasala Furniture	None	Floor grinding, wet sanding wastes to storm drain.	7/30 Call received from anonymous reporter, visited site and requested TI Superintendent to vactor wastes from storm system before next rainfall, to develop new waste management for the life of project. Darren complied. NFA	7/30/2018
8/3/2018	8/3/2018	17900 West Valley Hwy NC Machinery	683064	Reported as caustic materials dumped into the sewer system and overflowed to a wetland area.	8/3 Russell B./NPDES Inspector emailed JeremyBNSF to confirm there was no discharge of caustic soda to storm-water. NFA	8/3/2018
9/25/2018	9/25/2018	NB I-5 MP157 WSDOT	684225	5-10 gallons of diesel spilled to roadway with 5 gal going to sd on NB I-5.	WSDOT Jurisdiction. Spill contained. WSDOT on scene to clean up. NFA	9/25/2018
9/28/2018	9/28/2018	14550 Interurban Ave S	684296	Garbage being dumped along bank of Green River	9/28 Greg V. visited site. Garbage is old construction debris left over from recent original build of bldg. Issue referred to City Code Enforcement. Non NPDES issue. NFA	9/28/2018
10/5/2018	10/5/2018	12525 E Marg Wy S	684456	Soil & fill material dumping next to creek.	10/5 Russell B./NPDES Inspector visited site, researched site history. Fill material not new consequently found no illicit discharge to stream. Not an NPDES concern at this time. Will continue to monitor. NFA	10/9/2018
10/8/2018	10/8/2018	48th Ave Macadam Rd S	684487	Approx. 2 gallons of transmission fluid was released from Pierce Transit bus onto street with possible impact to SD.	PierceCounty requested assistancefrom Tukwila O&M. Tuk unable to respond at that time. P.C. responds to clean up. Coordinated cleanup w/Bill Serenbetz Pierce County NFA	10/8/2018

2018 ILLICIT DISCHARGE, DETECTION & ELIMINATION

DATE RECEIVED	DATE RESPONDED	LOCATION NAME	RFA ERTS	ILLICIT DISCHARGE	ACTION TAKEN	FINAL
10/18/2018	10/11/2018	15200 I.U.to SB I-405 onramp	684729	Tractor trailer spilled oil 75x4 feet.	Tukwila PW Maintenance & FD responds. PW lays absorbent down and DOT lays sand down and swept area. NFA	10/18/2018
10/13/2018	10/13/2018	351 Baker Blvd.	684643	Reported as unknown oil (likely gas) on ground flowing into SD and contacted Fire Dept. who indicated seen pressure washing job where water was flowing through parking lot and picking up oil that leaked from cars creating rainbow sheen that is unrecoverable.	NPDES Inspector tracked pressure washing to 350 Baker Blvd and gave instruction on pressure washing BMPS. NFA	10/13/2018
10/21/2018	10/21/2018	Strander Blvd & Green River	684774	Due to City watermain break water flowing into Green River and immediately effected the behavior of Salmon. Strong chemical odor associated with the water origin unknown.	City crew responded, isolated watermain break. Begin install of BMPS and watermain repair. Potable water that flowed to multiple catch basins and consequently to the Green River moved rapidly and considered as transient and unrecoverable. Impacted cb's have been cleaned. NFA	10/22/2018
10/30/2018	10/30/2018	Duwamish River & S. 112th	684980	Lots of debris and mattresses in the Duwamish River.	Material reported is within the Duwamish River. Area is inaccessible consequently unable to retrieve. NFA	10/30/2018
11/20/2018	11/20/2018	11911 E Marg Wy S	685422	400 gallons of anti-icing brine solution spilled to gravel and storm drains. A tank of fluid was being off loaded and tank cracked.	Vactor truck has cleaned the drains and vacuumed up puddles from gravel. NFA	11/20/2018
12/4/2018	12/4/2018	120 Andover Park East	685738	1-2 gallons of mineral oil spilled to asphalt, and 5-10 gallons spilled to transformer vault when mounted transformer was struck by vehicle.	Clean up is in route. City crew follows up with additional cleanup due to additional unknown liquid by transformer. Since no rain in recent days, assumed it was mineral oil. NFA	12/4/2018



February 1, 2018

Attn: Ryan Larson
City of Tukwila Public Works
6200 Southcenter Blvd
Tukwila, Washington

Re: 2018 First Quarter – Boeing Z – Line Stormwater Sampling, Tukwila, Washington
PBS Project Number 40407.026, City Project No: 91041204
Date Sampled: January 11, 2018

Dear Mr. Larson,

Attached please find a summary table of analytical test results, the sample collection field form, and a copy of the laboratory data report for samples collected on January 11, 2018 from the City Stormwater Outfall to Boeing Line "Z" located at the intersection of East Marginal Way South and South 81st Place in Tukwila (manhole 36-165) in Seattle, Washington. The sampling was conducted in accord with the *Stormwater Sampling and Analysis Plan, City Outfall to Boeing Z Line*, PBS-March 16, 2016.

Identification and visual observations of the stormwater sample point are presented below. A summary of the laboratory analysis results at the sample location is presented as Table 1 (attached). Rainfall amount on this day (24-hour period) totaled 0.88 inches (Source: Weather Underground – Seattle, Seattle Boeing Field (KBFI weather station)).

Manhole 36-165: The sample point is a manhole that conveys runoff from East Marginal Way and is located just upstream of the former Boeing plant Z-line storm sewer (see Figure 1). PBS collected the sample from the channel at the bottom of Manhole 36-165 on January 11, 2018.

There was some floating solids observed during the sample collection but no visible sheen. The analyzed sample indicated that levels of total suspended solids (26 milligrams per liter (mg/L)), copper (11.7 micrograms per liter ($\mu\text{g/L}$)), zinc (60.8 $\mu\text{g/L}$), pH (6.9), lead (5.39 $\mu\text{g/L}$) and polychlorinated biphenyls (PCBs) (<0.001 $\mu\text{g/L}$) were within the adopted benchmark stormwater guidance levels (Washington State Department of Ecology *Stormwater Sampling Manual A Guidance for the Industrial Stormwater General Permit* dated December 2015). Turbidity (50 nephelometric turbidity units (NTU)) was the only exceedance of the benchmark values. The benchmark levels are used as guidance levels, since this sample location is not regulated under a specified stormwater discharge permit.

PBS will coordinate the 2nd Quarter-2018 sampling from the manhole location during a measurable precipitation runoff event. If you have any questions regarding the enclosed material, please call me at 206.233.9639.

Sincerely,

Megan Nogeire, Project Scientist
PBS Engineering and Environmental Inc.

Review: Tom Mergy

Enclosed: Table 1: Stormwater Sampling Data Summary
Figure 1: Manhole Location Map
Field Inspection Form
Precipitation Data
Laboratory Analysis Report

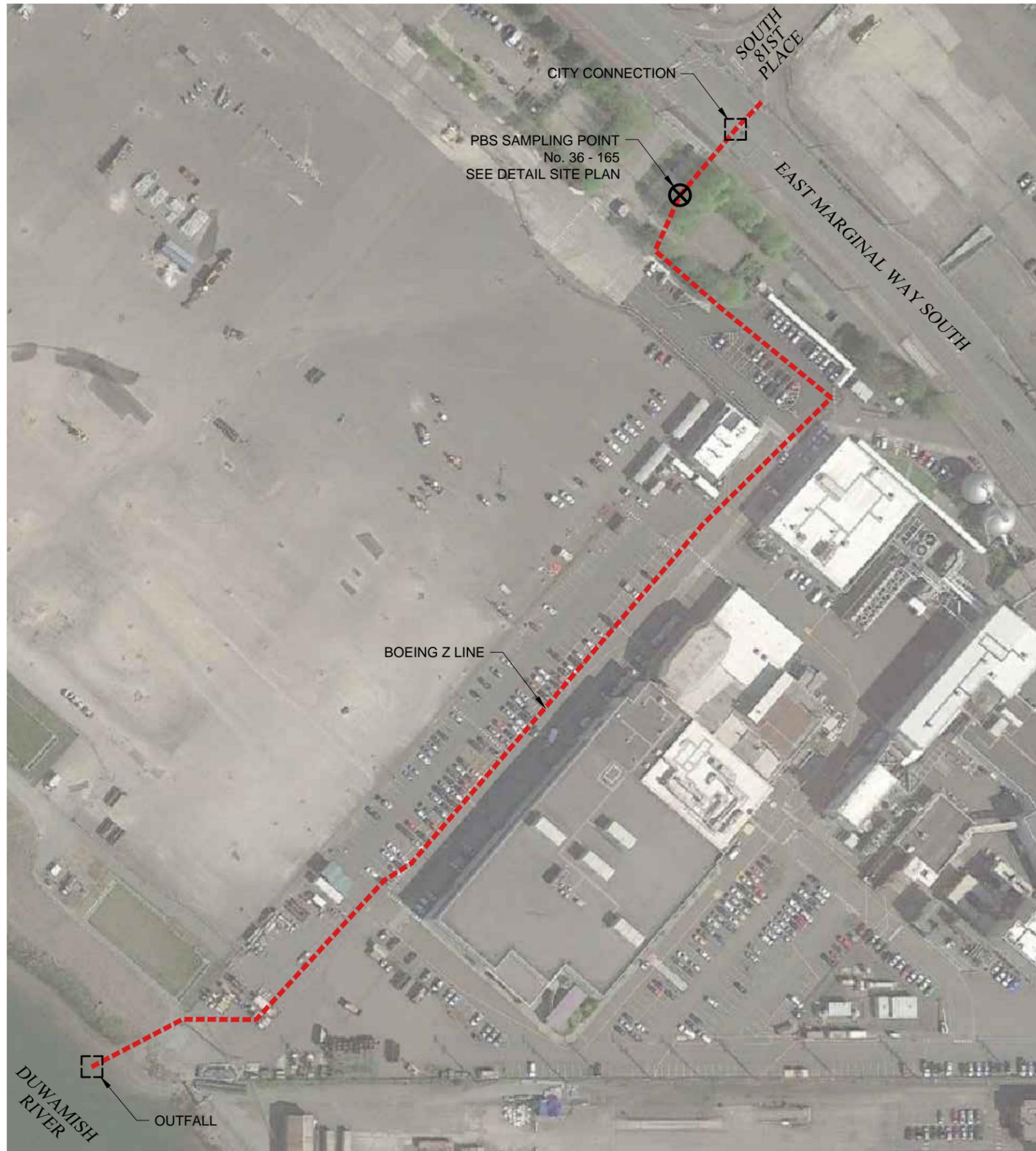
Table 1: Stormwater Sample Data Summary
Beeing Z-Line Stormwater Sampling - Tukwila, Washington

PBS Project No. 40407.026

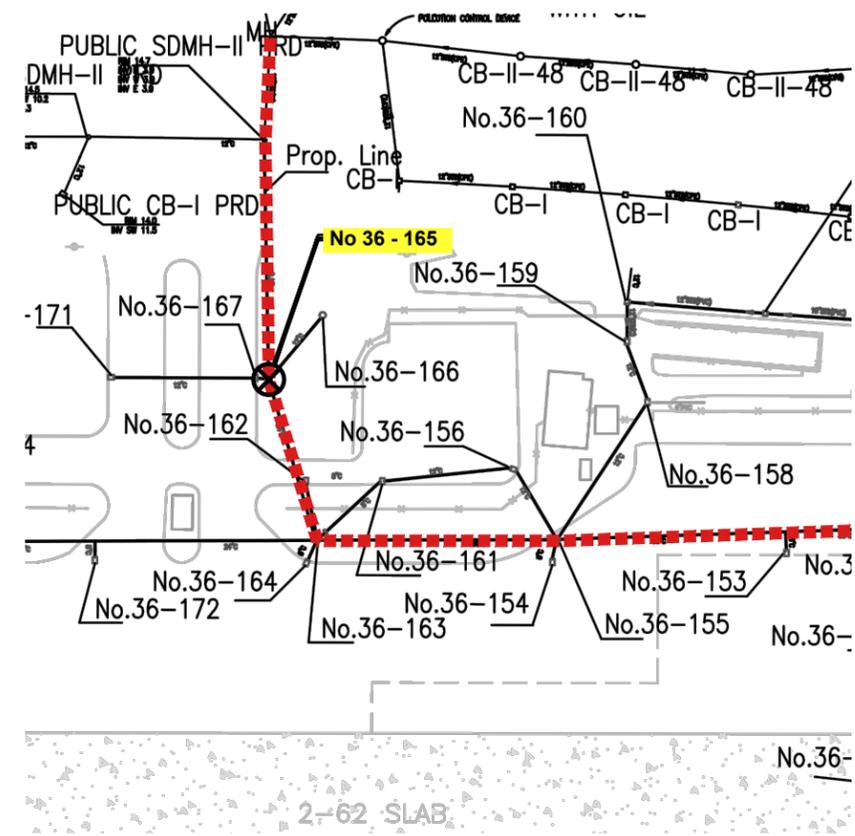
Sample Location	Year	Quarter	Date Sampled	pH	Metals			TSS	Oil Sheen (Yes/No)	Turbidity	PCBs
					Copper	Lead	Zinc				
MH - 36-165	2016	2	NDQ	NDQ							
		3	9/2/2016	7.6	31.7	9.43	120	55	No	81	<0.0041*
		4	10/13/2016	7.4	16.7	4.79	59.5	16	No	50	<0.00526*
	2017	1	2/9/2017	7.0	15.5	6.30	58.8	23	No	46	<0.002
		2	5/16/2017	6.5	13.5	4.98	72.4	38	No	59	<0.002
		3	NDQ	NDQ							
	2018	4	10/18/2017	6.9	28.8	10.8	131	93	No	105	<0.001
		1	1/11/2018	6.9	11.7	5.39	60.8	26	No	50	<0.001
	Benchmark Criteria				5.0-9.0	14 ug/L	82 ug/L	117 ug/L	30 mg/L	No Visible Sheen	25 NTU

Notes: NDQ = No Discharge During Quarter
 < = Not Detected at the Reporting Limit
 * = PCBs were not detected above the method detection limit (MRL)

L:\Projects\40000\40407 Tukwila Public Works\40407.026 2015 Z Line Stormwater Compliance\CAD\40407.026_FIG_1-3.dwg Dec 23, 2015 11:35am justind



SITE PLAN
SCALE: 1" = 150'



DETAIL SITE PLAN
SCALE: 1" = 150'

LEGEND

- - - - - BOEING Z LINE
- ⊗ STORMWATER MANHOLE NO. 36 - 165

PBS
Engineering +
Environmental
2517 Eastlake Ave East
Suite 100
Seattle, WA 98102
206.233.9639
www.pbsenv.com

SITE PLAN
BOEING FIELD
SEATTLE, WASHINGTON

SITE PLAN
PROJECT: 40407.028
DATE: DECEMBER 2015
FIGURE: 2

**Stormwater Monitoring – City of Tukwila
East Marginal Way and S. 81st Place, Tukwila, Washington
Stormwater Sample Collection Field Form**

Quarter: 1 Year: 2018

Date: 1/11/18 Time: 1052

Sample Location: MH - 36-165 Sampler: MN, KN

Weather Conditions: _____

Sample collected within first 12 hours of discharge event? Yes No Unknown

If no or unknown, explain: _____

Stormwater Flow at Outfall (yes/no): <u>yes</u>			
Temperature:	<u>6.3</u> °C		<u>yes</u> °F
pH:	<u>6.9</u> S.U.	Time of pH Analysis:	<u>1057</u>
Turbidity:	<u>50</u> NTU	Time of Turbidity Analysis:	<u>1057</u>
<u>Visual Assessment of Sample:</u>			
a. Color:	<u>clear w/ some particulates</u>		
b. Floating Solids (associated with industrial activity):	<input checked="" type="checkbox"/>	YES	<input type="checkbox"/> NO
c. Visible Oil Sheen:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	Comment:
d. Odor:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	Comment:
Sample ID:	<u>MH - 36 - 165</u>		
Method of Sampling (Circle one):	<u>Single Grab</u>	Time-Proportional	Flow-Proportional
Placed in Cooler with ice:	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Chain-of-Custody <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

Analytical Requirements: Total Zinc (EPA 200.8),
Total Copper (EPA 200.8)
Total Lead (EPA 200.8)
Polychlorinated Biphenyls (EPA 8082A)
Total Suspended Solids (SM 2540-D)

Weather History for KBFI - January, 2018

January

11

2018

View

Thursday, January 11, 2018

Daily	Weekly	Monthly	Custom
--------------	--------	---------	--------

	Actual	Average	Record
Temperature			
Mean Temperature	46 °F	-	
Max Temperature	51 °F	44 °F	59 °F (1987)
Min Temperature	42 °F	35 °F	12 °F (1963)
Degree Days			
Heating Degree Days	18		
Moisture			
Dew Point	45 °F		
Average Humidity	96		
Maximum Humidity	100		
Minimum Humidity	89		
Precipitation			
Precipitation	0.88 in	-	- ()
Sea Level Pressure			
Sea Level Pressure	29.87 in		
Wind			
Wind Speed	6 mph (SSE)		

Actual

Average

Record

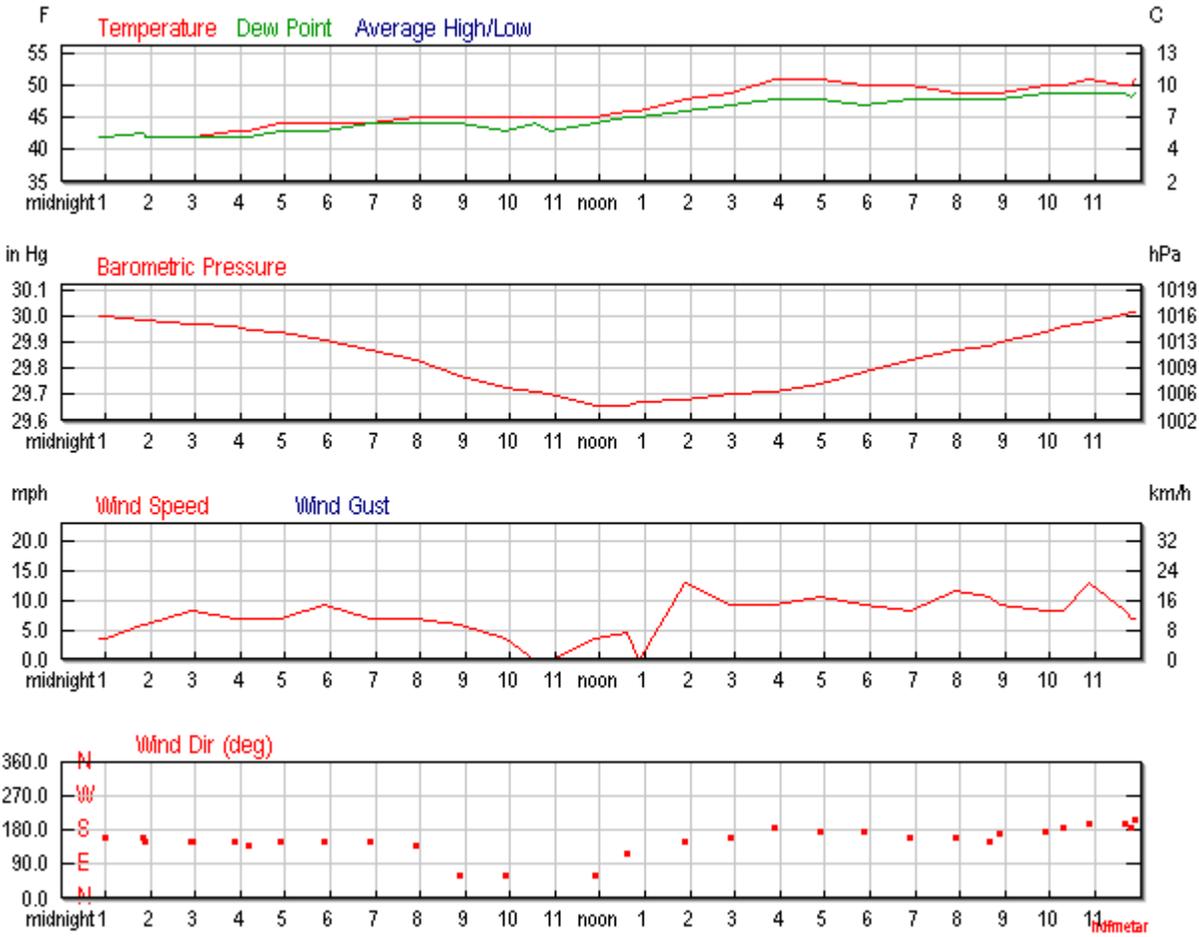
Max Wind Speed	13 mph
Max Gust Speed	-
Visibility	6 miles
Events	Rain

Averages and records for this station are not official NWS values.

T = Trace of Precipitation, MM = Missing Value

Source: NWS Daily Summary

Daily Weather History Graph



Search for Another Location

Airport or City:

Submit

Trip Planner

Search our weather history database for the weather conditions in past years. The results will help you decide how hot, cold, wet, or windy it might be!

Date:

January

11

Submit

Astronomy

Jan. 11, 2018	Rise	Set
Actual Time	7:54 AM PST	4:40 PM PST
<u>Civil Twilight</u>	7:19 AM PST	5:15 PM PST
<u>Nautical Twilight</u>	6:41 AM PST	5:53 PM PST
<u>Astronomical Twilight</u>	6:04 AM PST	6:30 PM PST
Moon	2:58 AM PST (1/11)	1:16 PM PST (1/11)
<u>Length of Visible Light</u>	9h 55m	
<u>Length of Day</u>	8h 45m	

Waning Crescent, 23% of the Moon is Illuminated

Jan 11	Jan 16	Jan 24	Jan 31	Feb 7
Waning Crescent	New	First Quarter	Full	Last Quarter

Hourly Weather History & Observations

Time (PST)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Co
12:53 AM	42.1 °F	40.2 °F	42.1 °F	100%	30.00 in	4.0 mi	SSE	3.5 mph	-	0.01 in		Ov
1:01 AM	42.1 °F	40.2 °F	42.1 °F	100%	30.00 in	4.0 mi	SSE	3.5 mph	-	N/A		Ov
1:50 AM	42.8 °F	39.3 °F	42.8 °F	100%	29.99 in	2.5 mi	SSE	5.8 mph	-	0.00 in	Rain	Lig
1:53 AM	42.1 °F	38.4 °F	42.1 °F	100%	29.99 in	2.5 mi	SSE	5.8 mph	-	0.00 in	Rain	Lig
2:53 AM	42.1 °F	37.1 °F	42.1 °F	100%	29.97 in	2.5 mi	SSE	8.1 mph	-	0.02 in	Rain	Lig
2:55 AM	42.1 °F	37.1 °F	42.1 °F	100%	29.97 in	3.0 mi	SSE	8.1 mph	-	0.00 in	Rain	Lig

Time (PST)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Co
2:58 AM	42.1 °F	37.1 °F	42.1 °F	100%	29.97 in	2.5 mi	SSE	8.1 mph	-	0.00 in	Rain	Lig
3:53 AM	43.0 °F	38.8 °F	42.1 °F	97%	29.96 in	8.0 mi	SSE	6.9 mph	-	0.00 in		Ov
4:12 AM	43.0 °F	38.8 °F	42.1 °F	97%	29.95 in	9.0 mi	SE	6.9 mph	-	N/A		Ov
4:53 AM	44.1 °F	40.1 °F	43.0 °F	96%	29.94 in	9.0 mi	SSE	6.9 mph	-	0.00 in	Rain	Lig
5:53 AM	44.1 °F	39.0 °F	43.0 °F	96%	29.91 in	7.0 mi	SSE	9.2 mph	-	0.07 in	Rain	Lig
6:53 AM	44.1 °F	40.1 °F	44.1 °F	100%	29.87 in	7.0 mi	SSE	6.9 mph	-	0.03 in	Rain	Lig
7:53 AM	45.0 °F	41.2 °F	44.1 °F	97%	29.83 in	9.0 mi	SE	6.9 mph	-	0.08 in	Rain	Lig
8:53 AM	45.0 °F	41.8 °F	44.1 °F	97%	29.77 in	8.0 mi	ENE	5.8 mph	-	0.12 in	Rain	Lig
9:53 AM	45.0 °F	43.5 °F	43.0 °F	93%	29.73 in	5.0 mi	ENE	3.5 mph	-	0.09 in	Rain	Lig
10:33 AM	45.0 °F	-	44.1 °F	97%	29.71 in	5.0 mi	Calm	Calm	-	0.10 in	Rain	Lig
10:53 AM	45.0 °F	-	43.0 °F	93%	29.70 in	4.0 mi	Calm	Calm	-	0.14 in	Rain	Lig
11:53 AM	45.0 °F	43.5 °F	44.1 °F	97%	29.66 in	5.0 mi	ENE	3.5 mph	-	0.14 in	Rain	Lig
12:37 PM	46.0 °F	43.9 °F	45.0 °F	96%	29.66 in	3.0 mi	ESE	4.6 mph	-	0.09 in	Rain	Lig
12:53 PM	46.0 °F	-	45.0 °F	96%	29.67 in	5.0 mi	Calm	Calm	-	0.10 in	Rain	Lig
1:53 PM	48.0 °F	-	46.0 °F	93%	29.68 in	10.0 mi	SSE	12.7 mph	-	0.01 in		Ov
2:53 PM	48.9 °F	-	46.9 °F	93%	29.70 in	10.0 mi	SSE	9.2 mph	-	N/A		Mc Clc
3:53 PM	51.1 °F	-	48.0 °F	89%	29.71 in	10.0 mi	South	9.2 mph	-	N/A		Mc Clc
4:53 PM	51.1 °F	-	48.0 °F	89%	29.74 in	10.0 mi	South	10.4 mph	-	0.01 in		Mc Clc
5:53 PM	50.0 °F	-	46.9 °F	89%	29.79 in	10.0 mi	South	9.2 mph	-	N/A		Ov
6:53 PM	50.0 °F	-	48.0 °F	93%	29.83 in	9.0 mi	SSE	8.1 mph	-	N/A		Ov
7:53 PM	48.9 °F	-	48.0 °F	97%	29.87 in	6.0 mi	SSE	11.5 mph	-	N/A		Ov

Time (PST)	Temp.	Windchill	Dew Point	Humidity	Pressure	Visibility	Wind Dir	Wind Speed	Gust Speed	Precip	Events	Co
8:39 PM	48.9 °F	-	48.0 °F	97%	29.89 in	2.5 mi	SSE	10.4 mph	-	N/A		Ov
8:53 PM	48.9 °F	-	48.0 °F	97%	29.90 in	3.0 mi	South	9.2 mph	-	0.00 in	Rain	Lig
9:53 PM	50.0 °F	-	48.9 °F	96%	29.94 in	7.0 mi	South	8.1 mph	-	0.03 in		Ov
10:17 PM	50.0 °F	-	48.9 °F	96%	29.96 in	4.0 mi	South	8.1 mph	-	0.01 in	Rain	Lig
10:53 PM	51.1 °F	-	48.9 °F	92%	29.98 in	10.0 mi	SSW	12.7 mph	-	0.01 in		Ov
11:39 PM	50.0 °F	-	48.9 °F	96%	30.01 in	10.0 mi	SSW	8.1 mph	-	0.02 in		Ov
11:48 PM	50.0 °F	-	48.2 °F	94%	30.02 in	10.0 mi	South	6.9 mph	-	0.02 in		Ov
11:53 PM	51.1 °F	-	48.9 °F	92%	30.02 in	10.0 mi	SSW	6.9 mph	-	0.02 in		Ov

|



PBS Engineering & Environmental

Megan Nogeire
2517 Eastlake Ave, E #100
Seattle, WA 98102

RE: City of Tukwila SW
Work Order Number: 1801142

January 25, 2018

Attention Megan Nogeire:

Fremont Analytical, Inc. received 1 sample(s) on 1/11/2018 for the analyses presented in the following report.

Polychlorinated Biphenyls (PCB) by EPA 8082

Total Metals by EPA Method 200.8

Total Suspended Solids (TSS) by SM 2540D

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Chelsea Ward
Project Manager



CLIENT: PBS Engineering & Environmental
Project: City of Tukwila SW
Work Order: 1801142

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1801142-001	MH-36-165	01/11/2018 10:52 AM	01/11/2018 11:30 AM

CLIENT: PBS Engineering & Environmental

Project: City of Tukwila SW

I. SAMPLE RECEIPT:

Samples receipt information is recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Prep Comments for METHOD (PREP-PCB-W-LL), SAMPLE (1801142-001A) required Acid Cleanup Procedure (Using Method No 3665A).

Prep Comments for METHOD (PREP-PCB-W-LL), SAMPLE (1801142-001A) required Florisil Cleanup Procedure (Using Method No 3620C).

Qualifiers:

- * - Flagged value is not within established control limits
- B - Analyte detected in the associated Method Blank
- D - Dilution was required
- E - Value above quantitation range
- H - Holding times for preparation or analysis exceeded
- I - Analyte with an internal standard that does not meet established acceptance criteria
- J - Analyte detected below Reporting Limit
- N - Tentatively Identified Compound (TIC)
- Q - Analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20% Drift or minimum RRF)
- S - Spike recovery outside accepted recovery limits
- ND - Not detected at the Reporting Limit
- R - High relative percent difference observed

Acronyms:

- %Rec - Percent Recovery
- CCB - Continued Calibration Blank
- CCV - Continued Calibration Verification
- DF - Dilution Factor
- HEM - Hexane Extractable Material
- ICV - Initial Calibration Verification
- LCS/LCSD - Laboratory Control Sample / Laboratory Control Sample Duplicate
- MB or MBLANK - Method Blank
- MDL - Method Detection Limit
- MS/MSD - Matrix Spike / Matrix Spike Duplicate
- PDS - Post Digestion Spike
- Ref Val - Reference Value
- RL - Reporting Limit
- RPD - Relative Percent Difference
- SD - Serial Dilution
- SGT - Silica Gel Treatment
- SPK - Spike
- Surr - Surrogate



Client: PBS Engineering & Environmental
Project: City of Tukwila SW
Lab ID: 1801142-001
Client Sample ID: MH-36-165

Collection Date: 1/11/2018 10:52:00 AM
Matrix: Stormwater

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
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Polychlorinated Biphenyls (PCB) by EPA 8082

Batch ID: 19513 Analyst: SB

Aroclor 1016	ND	0.00106	MDL	µg/L	1	1/19/2018 2:56:03 PM
Aroclor 1221	ND	0.00106	MDL	µg/L	1	1/19/2018 2:56:03 PM
Aroclor 1232	ND	0.00106	MDL	µg/L	1	1/19/2018 2:56:03 PM
Aroclor 1242	ND	0.00106	MDL	µg/L	1	1/19/2018 2:56:03 PM
Aroclor 1248	ND	0.00106	MDL	µg/L	1	1/19/2018 2:56:03 PM
Aroclor 1254	ND	0.00106	MDL	µg/L	1	1/19/2018 2:56:03 PM
Aroclor 1260	ND	0.000867	MDL	µg/L	1	1/19/2018 2:56:03 PM
Aroclor 1262	ND	0.000867	MDL	µg/L	1	1/19/2018 2:56:03 PM
Aroclor 1268	ND	0.000867	MDL	µg/L	1	1/19/2018 2:56:03 PM
Total PCBs	ND	0.00106	MDL	µg/L	1	1/19/2018 2:56:03 PM
Surr: Decachlorobiphenyl	103	14.3 - 145		%Rec	1	1/19/2018 2:56:03 PM
Surr: Tetrachloro-m-xylene	89.3	5.8 - 131		%Rec	1	1/19/2018 2:56:03 PM

NOTES:

MDL - Sample reported to Method Detection Limit (MDL)

Total Metals by EPA Method 200.8

Batch ID: 19494 Analyst: WC

Copper	11.7	0.500		µg/L	1	1/15/2018 1:40:25 PM
Lead	5.39	0.500		µg/L	1	1/15/2018 1:40:25 PM
Zinc	60.8	1.50		µg/L	1	1/15/2018 1:40:25 PM

Total Suspended Solids (TSS) by SM 2540D

Batch ID: R41025 Analyst: KT

Total Suspended Solids	26.0	5.00		mg/L	1	1/11/2018 3:00:10 PM
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Work Order: 1801142
CLIENT: PBS Engineering & Environmental
Project: City of Tukwila SW

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID MB-19513	SampType: MBLK	Units: µg/L	Prep Date: 1/16/2018	RunNo: 41291							
Client ID: MBLKW	Batch ID: 19513		Analysis Date: 1/19/2018	SeqNo: 796079							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.00999									
Aroclor 1221	ND	0.00999									
Aroclor 1232	ND	0.00999									
Aroclor 1242	ND	0.00999									
Aroclor 1248	ND	0.00999									
Aroclor 1254	ND	0.00999									
Aroclor 1260	ND	0.00999									
Aroclor 1262	ND	0.00999									
Aroclor 1268	ND	0.00999									
Total PCBs	ND	0.00999									
Surr: Decachlorobiphenyl	189		199.8		94.7	14.3	145				
Surr: Tetrachloro-m-xylene	133		199.8		66.7	5.8	131				

Sample ID LCS1-19513	SampType: LCS	Units: µg/L	Prep Date: 1/16/2018	RunNo: 41291							
Client ID: LCSW	Batch ID: 19513		Analysis Date: 1/19/2018	SeqNo: 796081							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.818	0.00999	0.9991	0	81.8	34.9	134				
Aroclor 1260	1.07	0.00999	0.9991	0	107	33.5	147				
Surr: Decachlorobiphenyl	194		199.8		97.0	14.3	145				
Surr: Tetrachloro-m-xylene	120		199.8		60.2	5.8	131				

Sample ID 1801142-001ADUP	SampType: DUP	Units: µg/L	Prep Date: 1/16/2018	RunNo: 41291							
Client ID: MH-36-165	Batch ID: 19513		Analysis Date: 1/19/2018	SeqNo: 796087							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.00998						0		30	
Aroclor 1221	ND	0.00998						0		30	
Aroclor 1232	ND	0.00998						0		30	
Aroclor 1242	ND	0.00998						0		30	

Work Order: 1801142
CLIENT: PBS Engineering & Environmental
Project: City of Tukwila SW

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID 1801142-001ADUP	SampType: DUP	Units: µg/L				Prep Date: 1/16/2018	RunNo: 41291				
Client ID: MH-36-165	Batch ID: 19513					Analysis Date: 1/19/2018	SeqNo: 796087				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1248	ND	0.00998						0		30	
Aroclor 1254	ND	0.00998						0		30	
Aroclor 1260	ND	0.00998						0		30	
Aroclor 1262	ND	0.00998						0		30	
Aroclor 1268	ND	0.00998						0		30	
Total PCBs	ND	0.00998						0		30	
Surr: Decachlorobiphenyl	213		199.7		107	14.3	145		0		
Surr: Tetrachloro-m-xylene	185		199.7		92.5	5.8	131		0		

Sample ID 1801176-003BMS	SampType: MS	Units: µg/L				Prep Date: 1/16/2018	RunNo: 41291				
Client ID: BATCH	Batch ID: 19513					Analysis Date: 1/19/2018	SeqNo: 796090				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.914	0.00998	0.9984	0	91.5	30.6	133				
Aroclor 1260	1.32	0.00998	0.9984	0	132	32	128				S
Surr: Decachlorobiphenyl	184		199.7		92.1	14.3	145				
Surr: Tetrachloro-m-xylene	161		199.7		80.5	5.8	131				

NOTES:

S - Outlying spike recovery(ies) observed. A duplicate analysis was performed and recovered within range.

Sample ID 1801176-003BMSD	SampType: MSD	Units: µg/L				Prep Date: 1/16/2018	RunNo: 41291				
Client ID: BATCH	Batch ID: 19513					Analysis Date: 1/19/2018	SeqNo: 796092				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.878	0.00998	0.9981	0	87.9	30.6	133	0.9135	4.02	30	
Aroclor 1260	1.25	0.00998	0.9981	0	125	32	128	1.322	5.68	30	
Surr: Decachlorobiphenyl	172		199.6		86.0	14.3	145		0		
Surr: Tetrachloro-m-xylene	152		199.6		76.2	5.8	131		0		

Work Order: 1801142
CLIENT: PBS Engineering & Environmental
Project: City of Tukwila SW

QC SUMMARY REPORT
Polychlorinated Biphenyls (PCB) by EPA 8082

Sample ID LCS2-19513	SampType: LCS	Units: µg/L	Prep Date: 1/16/2018	RunNo: 41291							
Client ID: LCSW	Batch ID: 19513		Analysis Date: 1/24/2018	SeqNo: 796212							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aroclor 1254	1.79	0.00999	0.9988	0	180	34	121				S
Surr: Decachlorobiphenyl	266		199.8		133	14.3	145				
Surr: Tetrachloro-m-xylene	186		199.8		93.2	5.8	131				

NOTES:

S - Outlying spike recovery observed (high bias). Samples are non-detect for this analyte; no further action required.

Work Order: 1801142
CLIENT: PBS Engineering & Environmental
Project: City of Tukwila SW

QC SUMMARY REPORT
Total Metals by EPA Method 200.8

Sample ID MB-19494	SampType: MBLK	Units: µg/L	Prep Date: 1/15/2018	RunNo: 41091							
Client ID: MBLKW	Batch ID: 19494		Analysis Date: 1/15/2018	SeqNo: 791608							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	ND	0.500									
Lead	ND	0.500									
Zinc	ND	1.50									

Sample ID LCS-19494	SampType: LCS	Units: µg/L	Prep Date: 1/15/2018	RunNo: 41091							
Client ID: LCSW	Batch ID: 19494		Analysis Date: 1/15/2018	SeqNo: 791609							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	105	0.500	100.0	0	105	85	115				
Lead	53.6	0.500	50.00	0	107	85	115				
Zinc	105	1.50	100.0	0	105	85	115				

Sample ID 1801156-001DDUP	SampType: DUP	Units: µg/L	Prep Date: 1/15/2018	RunNo: 41091							
Client ID: BATCH	Batch ID: 19494		Analysis Date: 1/15/2018	SeqNo: 791613							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	18.5	0.500						19.94	7.61	30	
Lead	3.23	0.500						3.203	0.917	30	
Zinc	18.3	1.50						10.23	56.5	30	R

NOTES:

R - High RPD observed. The method is in control as indicated by the LCS.

Sample ID 1801156-001DMS	SampType: MS	Units: µg/L	Prep Date: 1/15/2018	RunNo: 41091							
Client ID: BATCH	Batch ID: 19494		Analysis Date: 1/15/2018	SeqNo: 791614							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Copper	521	0.500	500.0	19.94	100	70	130				
Lead	270	0.500	250.0	3.203	107	70	130				
Zinc	503	1.50	500.0	10.23	98.5	70	130				

Work Order: 1801142
CLIENT: PBS Engineering & Environmental
Project: City of Tukwila SW

QC SUMMARY REPORT
Total Metals by EPA Method 200.8

Sample ID	1801156-001DMSD	SampType:	MSD	Units:	µg/L	Prep Date:	1/15/2018	RunNo:	41091		
Client ID:	BATCH	Batch ID:	19494			Analysis Date:	1/15/2018	SeqNo:	791615		
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper	524	0.500	500.0	19.94	101	70	130	521.2	0.449	30	
Lead	268	0.500	250.0	3.203	106	70	130	269.6	0.557	30	
Zinc	501	1.50	500.0	10.23	98.1	70	130	502.9	0.474	30	

Work Order: 1801142
CLIENT: PBS Engineering & Environmental
Project: City of Tukwila SW

QC SUMMARY REPORT
Total Suspended Solids (TSS) by SM 2540D

Sample ID MB-R41025	SampType: MBLK	Units: mg/L			Prep Date: 1/11/2018	RunNo: 41025					
Client ID: MBLKW	Batch ID: R41025				Analysis Date: 1/11/2018	SeqNo: 790458					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	ND	5.00									

Sample ID LCS-R41025	SampType: LCS	Units: mg/L			Prep Date: 1/11/2018	RunNo: 41025					
Client ID: LCSW	Batch ID: R41025				Analysis Date: 1/11/2018	SeqNo: 790459					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	354	10.9	300.0	0	118	65	135				

Sample ID 1801067-001CDUP	SampType: DUP	Units: mg/L			Prep Date: 1/11/2018	RunNo: 41025					
Client ID: BATCH	Batch ID: R41025				Analysis Date: 1/11/2018	SeqNo: 790461					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	124	10.0						132.0	6.25	30	

Sample ID 1801150-002BDUP	SampType: DUP	Units: mg/L			Prep Date: 1/11/2018	RunNo: 41025					
Client ID: BATCH	Batch ID: R41025				Analysis Date: 1/11/2018	SeqNo: 790473					
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Suspended Solids	19.0	5.00						18.00	5.41	30	

Client Name: **PBS**

 Work Order Number: **1801142**

 Logged by: **Brianna Barnes**

 Date Received: **1/11/2018 11:30:00 AM**

Chain of Custody

1. Is Chain of Custody complete? Yes No Not Present
2. How was the sample delivered? Client

Log In

3. Coolers are present? Yes No NA
4. Shipping container/cooler in good condition? Yes No
5. Custody Seals present on shipping container/cooler?
(Refer to comments for Custody Seals not intact) Yes No Not Required
6. Was an attempt made to cool the samples? Yes No NA
7. Were all items received at a temperature of >0°C to 10.0°C* Yes No NA
8. Sample(s) in proper container(s)? Yes No
9. Sufficient sample volume for indicated test(s)? Yes No
10. Are samples properly preserved? Yes No
11. Was preservative added to bottles? Yes No NA
12. Is there headspace in the VOA vials? Yes No NA
13. Did all samples containers arrive in good condition(unbroken)? Yes No
14. Does paperwork match bottle labels? Yes No
15. Are matrices correctly identified on Chain of Custody? Yes No
16. Is it clear what analyses were requested? Yes No
17. Were all holding times able to be met? Yes No

Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes No NA

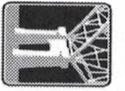
Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

Item Information

Item #	Temp °C
Cooler	3.7
Sample	3.3
Temp Blank	1.4

* Note: DoD/ELAP and TNI require items to be received at 4°C +/- 2°C



Fremont
ANALYTICAL

3600 Fremont Ave N.
Seattle, WA 98103
Tel: 206-352-3790
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Chain of Custody Record & Laboratory Services Agreement

Date: 1/11/18 Page: 1 of 1
Project Name: City of Tukwila SW
Project No: 40109.0216
Collected by: M. Nossire
Location: Tukwila, WA
Report To (PM): M. Nossire
PM Email:

Laboratory Project No (Internal): P01142
Special Remarks:

Sample Disposal: Return to client Disposal by lab (after 30 days)

Matrix: A = Air, AO = Aqueous, B = Bulk, O = Other, P = Product, S = Soil, SD = Sediment, SL = Solid, W = Water, DW = Drinking Water, GW = Ground Water, SW = Storm Water, WW = Waste Water

Metals (Circle): MTCA-5 RCRA-8 Priority Pollutants TAL Individual Ag Al As B Ba Be Ca Cd Co Cr **Cu** Fe Hg K Mg Mn Mo Na Ni **Pb** Sb Se Sr Sn Ti U V **Zn**

Anions (Circle): Nitrate Nitrite Chloride Sulfate Bromide O-Phosphate Fluoride Nitrate-Nitrite

I represent that I am authorized to enter into this Agreement with Fremont Analytical on behalf of the Client named above and that I have verified Client's agreement to each of the terms on the front and backside of this Agreement.

Relinquished Date/Time 1/11/18 1130
Received Date/Time 1/11/2018 1130
Relinquished Date/Time
Received Date/Time

Sample Name	Sample Date	Sample Time	Sample Type (Matrix)*	VOCs (EPA 8260 / 624)	GV/BTEX	BTEX	Gasoline Range Organics (GX)	Hydrocarbon Identification (HClD)	Diesel/Heav Oil Range Organics (DX)	SVOCs (EPA 8270 / 625)	PAHs (EPA 8270 - SIM)	PCBs (EPA 8082 / 608)	Metals** (EPA 6020 / 200.8)	Total (T) / Dissolved (D)	Anions (IC)***	EDB (8011)	TSS	Comments
1	1/11/18	1052	SW										X	X	X			* PCBs down to 0.004
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turn-around Time:
 Standard
 3 Day
 2 Day
 Next Day
Same Day _____ (specify)