



**King County**

**Solid Waste Division**

Department of Natural Resources and Parks

King Street Center

201 South Jackson Street, Suite 701

Seattle, WA 98104-3855

**206-477-4466**

711 TTY Relay

[www.kingcounty.gov/solidwaste](http://www.kingcounty.gov/solidwaste)

Tim O'Connor, Hydrogeologist III  
Solid Waste Management Program  
Washington State Department of Ecology  
Northwest Regional Office  
3190 – 160<sup>th</sup> Avenue SE  
Bellevue, WA 98008-5452

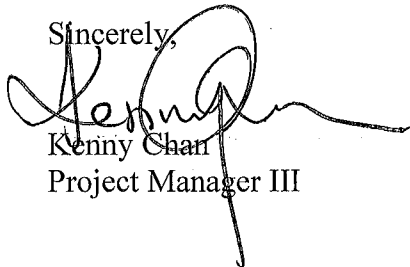
RE: D310.3.2 King County Vashon Island Closed Landfill Remedial Investigation Report  
Agency Draft

Dear Mr. O'Connor,

The purpose of this letter is to provide you with King County Solid Waste Division's initial set of responses to the Washington State Department of Ecology's comments from December 6, 2018 on the D310.3.2 Vashon Island Closed Landfill Remedial Investigation Report Agency Draft.

We appreciate your assistance with this project. Please let Dan Swope (206-477-4623) or me (206-477-7580), if we can provide additional information about our responses.

Sincerely,



Kenny Chan  
Project Manager III

Enclosures – CountyResponsesAttachementsA&B.pdf

cc: Alan Noell, PhD., PE., Washington State Department of Ecology  
Yolanda Pon, Environmental Health Services Supervisor, Public Health – Seattle & King  
County (PHSKC)  
Darshan Dhillon, Health and Environmental Investigator III, PHSKC  
Glynda Steiner, P.E., Deputy Division Director, Solid Waste Division (SWD),  
Department of Natural Resources & Parks (DNRP)



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cc (*continued*):

Neil Fujii, P.E., Managing Engineer, SWD, DNRP

Anne Holmes P.E., Supervising Engineer, SWD, DNRP

Jennifer Keune, Environmental Compliance Coordinator, SWD, DNRP

Dan Swope, Engineer III, SWD, DNRP

Marisa Baptiste, Engineer II, SWD, DNRP

**Attachment A**

**Deliverable Review Form**

Project Name: Vashon Island Closed Landfill Remedial Investigation- MTCA Independent Action Review Date: 10/9/2018  
 Contract #: \_\_\_\_\_ Response Date: 12/6/2018

Reviewer: Tim O'Connor/Ecology & Madeline Wall/Ecology Aspect Response Date: 12/31/2018  
 Deliverable Name: Agency Draft Vashon Island Closed Landfill Remedial Investigation Report, Volumes 1 and 2

Deliverable Review					Response			
Comment No.	Reviewer Name	Page, Figure, Specification or Sheet No.	Section / Paragraph	Reviewer's Comment	Responder Name	County Response	Aspect Response	Resolved?
1	Wall	Pages ES-1 and 1	2nd paragraph on both pages	Please include the Remedial Investigation was conducted due to the exceedance of a groundwater protection standard in the explanation as referenced in Ecology's correspondence letters dated August 27th and 30th, 2010.	DC	Agreed	Agreed. Reference to this rationale for the RI will be added as requested.	Y
2	T O'Connor/ECY	ES-2	Extent of Impact	Include COC's for surface water in second bullet.	DC	Agreed	Agreed. COC will be added, following reanalysis based on Comment 5 below.	Y
3	T O'Connor/ECY	ES-3	Extent of Impact	Last sentence, make clear you're discussing surface water; perhaps discuss that the Cc2 aquifer ends to west in the ravine.	DC	Agreed	Agreed. Clarification will be added that discussion is regarding surface water.	Y
4	T O'Connor/ECY	ES-3	Exposure Pathways	Also state that further evaluation of current Class A/B drinking water connections to residences south of the VLF property will be conducted. Also note the MCL for VC is 2 ug/L but PCUL is .02 ug/L.	KSL	Agreed	Agreed. A statement will be added regarding the domestic well survey to be conducted to the south of VLF. Further discussion with Ecology may be warranted in regards to scope of this survey.	Y
11	Wall	Pg. 26	4.4.1.2, first paragraph	Include explanation of VTP-1D installation when 1S was decommissioned.	DC	Agreed	Agreed. After VTP-1S was installed in a tight portion of the glacial till unit, no methane was observed. VTP-1S filled with water during the first wet season without subsequently draining, thus causing water blockage of the screen section that prevents gas measurements from being collected. VTP-1D was installed to a greater depth in the underlying advance outwash unit to assess the extent of methane at that location.	Y
12	Wall	Pg. 32	5.1 7th Bullet	Why call out just the LFG requirements of Subtitle D? Why include subtitle D at all as WA is delegated to implement Subtitle D through our 351 regulation.	DC	Agreed	Agreed. Modify bullet: "Resource Conservation and Recovery Act (RCRA) and Subtitle C regulations, to the extent that hazardous wastes are discovered during the remedial action."	Y

**Attachment A**

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13	Wall	Pg. 32	5.1 last bullet	Should include PSCAA regulations.	DC	Agreed	Agreed. Modify bullet: "Federal, State, and Local air quality laws and regulations (Clean Air Act 42 USC 7401 et seq.; 40 CFR 50; 70.94 RCW; WAC 173-400; WAC 173-460; Regulations I and III of the Puget Sound Clean Air Agency) to the extent that air emissions are generated during interim measures and long-term remedies (i.e., LFG flares, soil vapor extraction, and vapor mitigation)."	Y
16	Wall	Pg. 38	6.1.1 second to last paragraph	Please add the date of the one time nitrate exceeded the PCUL.	DC	Agreed	Agreed. The one nitrate exceedance was at MW-27 at 10.3 mg/L in March 2015.	Y
18	Wall	Pg. 43	6.1.2.3 last paragraph	The TCP detection in MW-12: when did that occur?	DC	Agreed	Based on comment reference, we assume the commenter was referring to the TCE detection at MW-12. The date of the detection, May 2004, will be added to the text.	Y
20	T O'Connor/ECY	Pg. 45	6.2.1	Please rescreen and update PCULs in Table 6.4 and update Figure 8.1 with the COC's, their levels, and the extent of contamination based on Attachment B.	DC	Agreed	Agreed. Tables and figures will be updated, as appropriate, based on the agreed upon adjustments presented in Ecology's Attachment B.	Y
22	T O'Connor/ECY	50	7.1.1	There is not a well that supports the statement in the third paragraph "Unit Cc2 was not observed in borings southeast...of VLF." Cc2 exists in MW-20 and MW-2 and may have a southwesterly gradient. Please rescreen data for all aquifers against Ecology's proposed PCULs to evaluate if groundwater with COCs is limited to Cc2.	DC	Agreed	Agreed. Text will be clarified to state that Unit Cc2 is thinned (MW-20) to not present (MW-7) in the southeast portion of the VLF. This unit and the amount of saturation thins considerable to the southeast. This is a very low yielding unit.  See Comment 20 - Note that all groundwater data in the draft RI Report were screened against PCULs listed in Table 5.1. Data screening was not limited based on the location of the well or hydrogeologic interpretation.	Y
24	T O'Connor/ECY	Vol 2 Table C-1		Put geologic information from Kurt Monier, Dave Nestor, and 112441 wells in cross-sections.	DC	Agreed	Agreed. These wells will be added to D-D'.	Y
25	T O'Connor/ECY	Vol 2 Table C-1		Well 112441 is on the map but not on the table.	DC	Agreed	Agreed. It will be added to the table.	Y

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26	T O'Connor/ECY	63	8.1.1	Mention domestic water samples from DW-PA and DW-85 are still routinely collected and no evidence of contamination originating from the VLF has been found.	DC	Agreed	Agreed. This will be added to the text.	Y
27	T O'Connor/ECY	63	8.1.1	The site is not fully delineated as stated in this Section. The 3rd Quarter 2019 LFG Evaluations and Recommendations Report and other additions to the RI discussed in the November 7, 2018 meeting, in this response table, or in Ecology's attached Opinion letter will need to be incorporated into this RI. Ecology will determine the completeness of the RI once these steps are completed. This review of groundwater, surface water, soil, sediment, and LFG analytical data results will determine if further delineation will be necessary.	KSL	Agreed	Agreed. The final RI has a revised anticipated schedule of Q1 2020 to accommodate additional groundwater, surface water, soil, and LFG analytical data evaluation. The FS schedule will likewise be adjusted to accommodate the additional data evaluation.	Y
30	Ecology	General		At the November 7, 2018 meeting additional results were reported which indicate that groundwater, surface water, and LFG concentrations are improving at the landfill (the RI only includes data through the end of 2017 and Interim Action are currently taking place). Once the Interim Actions are reported in teh 3rd Quarter 2019 LFG Evaluation and Recommendations are Report, the Class A/B water system service is evaluated for residences south of the lanfill, and the RI resubmitted, Ecology will evaluate if the VLF RI is complete enough to proceed to the Feasibility Study (FS).		Agreed		

**Attachment B**

**Deliverable Review Form**

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Comment No.	Chemical	KCSWD Proposed (ug/L)	Ecology Proposed (ug/L)	Basis for Value	Responder Name	County Responses	Aspect Response	Resolved?
1	Antimony	6	5.6	Surface water (NRWQC-human health)	DC	Agreed	Agreed. PCUL changed to Ecology Proposed value.	Y
2	Arsenic	5	8	Natural background	DC	Agreed	Agreed. PCUL will be changed to Ecology Proposed value if Ecology can provide the source for the background concentration so the proper citation can be added to the tables. It is our understanding that 5 ug/L is background for arsenic in groundwater in Washington state.	Y
3	Barium	2,000	1,000	Surface water (NRWQC-human health)	DC	Agreed	Agreed. PCUL changed to Ecology Proposed value.	Y
4	Cadmium	1.32	0.72	Surface water (NRWQC-aquatic life)	DC	Agreed	Agreed. PCUL changed to Ecology Proposed value.	Y

**Attachment B**

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Deliverable Review					Response			
Comment No.	Chemical	KCSWD Proposed (ug/L)	Ecology Proposed (ug/L)	Basis for Value	Responder Name	County Responses	Aspect Response	Resolved?
5	Chromium	100	74	Surface water (NRWQC-aquatic life)	DC	Agreed	Agreed. PCUL changed to Ecology Proposed value.	Y
7	Lead	5.98	2.5	Surface water (NRWQC-aquatic life)	DC	Agreed	Agreed. PCUL changed to Ecology Proposed value.	Y
10	Nickel	80	52	Surface water (NRWQC-aquatic life)	DC	Agreed	Agreed. PCUL changed to Ecology Proposed value.	Y
11	Silver	12.88	3.2	Surface water (NRWQC-aquatic life)	DC	Agreed	Agreed. PCUL changed to Ecology Proposed value.	Y
12	Zinc	207	120	Surface water (NRWQC-aquatic life)	DC	Agreed	Agreed. PCUL changed to Ecology Proposed value.	Y
14	cis-1,2-DCE	70	16	Drinking water (MCL adjusted to HQ=1)	DC	Agreed	Agreed. PCUL changed to Ecology Proposed value.	Y