



MEMORANDUM

Project No.: 060255-001-14

November 14, 2017

To: Chuck Gruenenfelder, Washington State Department of Ecology

cc: Landfill Group members:

John Ashworth, Kell, Alterman & Runstein, L.L.P.
Jeff Keane, T. Jeffrey Keane PLLC
Leslie Nellermoe, Nossaman LLP
Elizabeth Temkin, Davis Graham & Stubbs LLP

Mike Riley, IWAG Project Coordinator

Sean Gormley, BCS Project Coordinator

A handwritten signature in black ink, appearing to read "Peter S. Bannister, PE".

From: **Peter S. Bannister, PE**
Associate Engineer

Re: **Comparison of the Revised Draft Focused Feasibility Study Reports Specific to Municipal Solid Waste Disposal Areas at the Pasco Landfill NPL Site**

This memorandum addresses the public review process for the revised draft Focused Feasibility Study (FFS) Report delivered to Washington State Department of Ecology (Ecology) on August 31, 2017, by Aspect Consulting, LLC (Aspect) on behalf of the Landfill Group members. This Revised Draft FFS Report discussed the Municipal Solid Waste (MSW) Disposal Areas at the Pasco Landfill NPL Site (NPL Site), and is hereafter referred to as the "MSW FFS Report." During a meeting on September 19, 2017, Ecology posed questions about the differences between the MSW FFS Report and the separate FFS Report (Anchor QEA et al., 2017) prepared by consultants for the Industrial Waste Area Generators, hereafter referred to as the "IWAG FFS Report."

The public review process is an integral part of any environmental cleanup action under the Model Toxics Cleanup Act (MTCA) administered by Ecology. We recognize the challenges posed to Ecology, and to the public review process, by the simultaneous submittal of two separate FFS reports. We also understand that Ecology has questions about how to present the two documents to the public. In fact, the differences between these two documents largely relate to historical conditions and details that do not drive remedy selection. In turn, these two FFS Reports are not competing documents when it comes to the remedial options and remedy selection for the MSW Disposal Areas. Our purpose here is to assist your efforts to compare the two documents, and present those differences to the public, so as not to confuse or delay the remedy selection process.



MEMORANDUM

November 14, 2017

Project No.: 060255-001-14

Background

Clarity and Concision

The MSW FFS Report was written to provide straight-forward evaluation of cleanup alternatives for the MSW Disposal Areas based on concise background information that clearly explains historical conditions. The 144-page FFS Report provides updated information confirming the conceptual model for the MSW Disposal Areas, and makes reliable projections about future conditions to support efficient final remedy selection for the MSW Disposal Areas at the NPL Site.

By comparison, the 435-page IWAG FFS Report (in addition to 1,372 pages of appendices) presents a complicated array of remediation alternatives for Industrial Waste Areas, especially Zone A, overwhelming the straight-forward cleanup alternatives for the MSW Disposal Areas.

Subsurface Fire

A conceptual model of risk for subsurface fire in the Balefill Area is clearly presented in the MSW FFS Report, and is consistent with Ecology's conceptual model, based on Ecology's comments on the Zone A Combustion Investigation Report. In the absence of aggressive soil vapor extraction at Zone A, the risk of subsurface fire in adjacent MSW Disposal Areas is negligible.

The IWAG presents barometric pressure changes as the cause of subsurface fire in the Balefill Area observed in 2013, and biological processes as the source of the elevated temperatures and carbon monoxide in Zone A observed since 2012. These theories are not supported by the evidence or the balance of industry literature, yet are critical to the selection of the preferred Zone A remedial alternative. The IWAG's conceptual model for the risk of subsurface fire also does not appear to be consistent with Ecology's understanding, based on Ecology's comments on the Zone A Combustion Investigation Report.

Exposure Assessment

Groundwater Conditions

There is no current or anticipated groundwater exposure pathway from the MSW Disposal Areas. The groundwater conditions measured by monitoring wells downgradient of the MSW Landfill are clearly presented in the MSW FFS Report. Tetrachloroethene (PCE) and trichloroethene (TCE) have been identified as the contaminants of concern in groundwater for the MSW Landfill. Based on draft cleanup levels, there have been no PCE impacts to groundwater since at least 2014, and no TCE impacts to groundwater since at least 2004. Figure 2.5.1-5 in the MSW FFS Report accurately presents time-series PCE concentrations for MSW Landfill wells.

There are inaccuracies in the presentation of historical groundwater conditions in the IWAG FFS Report, for example Figure 2.5.7-3 that shows groundwater plumes from the NPL Site at various times, based on detections rather than concentrations. The plume depictions simultaneously downplay the groundwater impacts sourced by Zone A, and fabricate impacts from the MSW Landfill.

Treatment Systems Performance Analysis

There is no current or anticipated air exposure pathway for the flare system treating landfill gas from the MSW Landfill. The MSW FFS Report accurately describes the excellent performance of the flare system at treating landfill gas from the MSW Landfill, as well as historical treatment of

MEMORANDUM

November 14, 2017

Project No.: 060255-001-14

VOCs in soil vapor collected from Zone A. The MSW FFS Report clearly describes the protection of air quality for the MSW Disposal Areas, and addresses future landfill gas treatment needs, plans for flare replacement, and the transition from active to passive landfill gas collection from the MSW Landfill.

By comparison, the IWAG FFS Report includes the following misleading statement: “the flare does not have an EPA-compliant Approval Order issued by Ecology’s Air Quality Program (AQP).” This is because the existing flare has been operated with approval from Ecology Toxics Cleanup Program. In addition, current and anticipated future flare emissions are so low that it does not need to register as a source with Ecology’s AQP.

Fugitive Emissions Sources

The potential for fugitive emissions from the MSW Landfill and other MSW Disposal Areas are clearly addressed in the MSW FFS Report. In addition to providing information showing the low and decreasing landfill gas generation and collection rates, the prevention of fugitive emissions from the MSW Landfill have been and will be demonstrated by monitoring perimeter landfill gas probes and the MSW Landfill surface for methane.

The IWAG FFS Report inaccurately groups the MSW Landfill and Zone A together relative to the risks of fugitive emissions during shutdown events. There is no justification for including the MSW Landfill as a fugitive emission source in this discussion. Uncertainty about Zone A fugitive emissions are related to differential settlement and potential leaks in the cover system, the rate of volatilization of leaking waste from buried drums in Zone A, and treatment system performance issues.

MSW Landfill Alternatives

One important difference between the two FFS Reports is the presentation of MSW Landfill alternatives. In the MSW FFS Report, all MSW Landfill alternatives are presented as noncontingent, as requested by Ecology. Since the 2014 draft FFS was prepared, the Interim Actions at the MSW Landfill have been demonstrated to be effective at meeting all Remedial Action Objectives. The environmental monitoring data clearly show that the existing landfill gas extraction well network does not need to be expanded as presented in alternative MSW-2, and that a groundwater remediation system is not needed as presented in alternative MSW-3.

The IWAG FFS Report does not reflect the updated status of Alternative MSW-2 and MSW-3 as noncontingent alternatives.

MEMORANDUM

Project No.: 060255-001-14

November 14, 2017

Limitations

Work for this project was performed for the Pasco Landfill Group Members, and this memorandum was prepared in accordance with generally accepted professional practices for the nature and conditions of work completed in the same or similar localities, at the time the work was performed. This report does not represent a legal opinion. No other warranty, expressed or implied, is made.

All reports prepared by Aspect Consulting for the Pasco Landfill Group apply only to the services described in the Agreement(s) with the Pasco Landfill Group. Any use or reuse by any party other than the Pasco Landfill Group is at the sole risk of that party, and without liability to Aspect Consulting. Aspect Consulting shall not be liable for deliverables used by any party other than the Pasco Landfill Group. Aspect Consulting's original files/reports shall govern in the event of any dispute regarding the content of electronic documents furnished to others.

V:\060255 Pasco Landfill Group\Deliverables\FFS Reports Differences Memo\Memo_DifferencesBetweenFFSreports_20171114.docx