



STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

Northwest Regional Office • 3190 160th Avenue SE • Bellevue, Washington 98008-5452 • (425) 649-7000

August 16, 2006

Mr. Carl Bach  
The Boeing Company  
PO Box 3707, M/C 1W-12  
Seattle, WA 98124-2207

**Re: Further Action Determination under WAC 173-340-515(5) for the following  
Hazardous Waste Site:**

- Site Name: Eastgate Landfill
- Site Address: 2805 160<sup>th</sup> Avenue SE, Bellevue, WA 98008
- Facility/Site No.: 2017
- VCP No.: NW0471

Dear: Mr. Bach:

Thank you for submitting your independent remedial action report for the Eastgate Landfill facility (Site) for review by the State of Washington Department of Ecology (Ecology) under the Voluntary Cleanup Program (VCP). Ecology appreciates your initiative in pursuing this administrative option for cleaning up hazardous waste sites under the Model Toxics Control Act (MTCA), Chapter 70.105D RCW.

This letter constitutes an advisory opinion regarding whether further remedial action is necessary at the Site to meet the substantive requirements of MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC. Ecology is providing this advisory opinion under the specific authority of RCW 70.105D.030(1)(i) and WAC 173-340-515(5).

This opinion does not resolve a person's liability to the state under MTCA or protect a person from contribution claims by third parties for matters addressed by the opinion. The state does not have the authority to settle with any person potentially liable under MTCA except in accordance with RCW 70.105D.040(4). The opinion is advisory only and not binding on Ecology.

Ecology's Toxics Cleanup Program has reviewed the following information regarding the Site:

Landfill Gas Extraction and Monitoring

1. July 5, 2006, Historical Monitoring Data (6-22-06) spreadsheet, sent via email from City of Bellevue
2. June 21, 2006, Figure showing new replacement extraction wells and monitoring wells, prepared by SCS Engineers
3. June 15, 2006, Landfill Gas Monitoring Data (2003-2006) spreadsheet, sent via email from City of Bellevue
4. June 5, 2006, Landfill Gas System Modifications Eastgate Landfill, Drawings and Project Manual (Final – Issued for Agency Review), prepared by SCS Engineers
5. May 1, 1987, Boeing -- Eastgate Landfill LFG Migration Control System, as built plans, prepared by CH2M Hill, transmitted to Ecology via email on June 15, 2006
6. GeoEngineers report

Ground Water Monitoring

1. June 28, 2006, modified Figures 6,7, and 8 from Landau report of April 4, 2000, via email
2. June 27, 2006, Annual Ground Water Monitoring Report, Former Eastgate Landfill, Bellevue, Washington, Landau Associates, via email
3. June 1, 2006, Groundwater Monitoring at Former Eastgate Landfill, technical memorandum by Landau Associates
4. August 8, 2005, Annual Groundwater Monitoring Report, Former Eastgate Landfill, Bellevue, Washington, Landau Associates

Legal and Administrative Documents

1. June 22, 2006, PowerPoint summary of the agreements between Boeing, Schnitzer Northwest LLC, and the City of Bellevue regarding responsibilities for managing the Eastgate landfill
2. December 13, 2005, Agreement Regarding Landfill Management Systems, document recorded with King County

3. April 4, 2003, Reciprocal Easement Agreement For Operation of Landfill Management Systems, document recorded with King County
4. January 10, 2003, Interim No Further Action Determination, Former Eastgate Landfill, The Boeing Company, 2805 160<sup>th</sup> Ave. SE, Bellevue, WA, State of Washington, Department of Ecology

Proposed ADVANTA Office Commons @ I-90 and Shared Access Road

1. June 16, 2006, Utility Review, Shared Entrance Road, ADVANTA Office Commons @ I-90, plans prepared by Magnujsson Klemencic Associates
2. May 26, 2006, Permit Review, Building C, ADVANTA Office Commons @ I-90, plans prepared by Magnujsson Klemencic Associates

The documents listed above will be kept in the Central Files of the Northwest Regional Office of Ecology (NWRO) for review by appointment only. Appointments can be made by calling the NWRO resource contact at (425) 649-7190.

The Site is defined by the extent of contamination caused by the following release(s):

- Methane in Soil and Air
- Benzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, and dieldrin in Landfill Refuse
- Arsenic, iron, manganese, benzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene and dieldrin in Soil and Ground Water

The Site is more particularly described in Enclosure A to this letter, which includes a detailed Site diagram. The description of the Site is based solely on the information contained in the documents listed above.

Based on a review of the independent remedial action report and supporting documentation listed above, **Ecology has determined that the independent remedial action(s) performed at the Site are not sufficient to meet the substantive requirements contained in MTCA and its implementing regulations, Chapter 70.105D RCW and Chapter 173-340 WAC, for characterizing and addressing any of the contamination at the Site.** Therefore, pursuant to WAC 173-340-515(5), Ecology is issuing this opinion that **further remedial action is necessary** at the Site under MTCA.

Further action is required at this site as follows:

Landfill Gas:

Methane has been detected in subsurface soils in the southern part of the site outside the boundaries of the refuse at explosive concentrations. Further action is therefore required to:

- Determine the extent of gas migration
- Draw escaped gas back into the refuse and prevent future gas migration

- Improve the gas monitoring and reporting program such that gas migration control can be confirmed in a timely manner.

To meet these requirements the operation of the gas extraction system will need to be improved, and a more systematic monitoring and reporting program developed.

#### Ground Water

The three years of ground water monitoring conducted since the No Further Action determination was issued by Ecology in 2003 has confirmed a discrepancy between expected areas of ground water contamination and actual areas of contamination. Specifically, Well EL-103 has shown the highest levels of contamination even though the monitoring data suggest this well is not hydraulically down gradient of the landfill.

In addition, the proposed development, ADVANTA Office Commons @ I-90, is expected to reduce leachate production in the landfill and to have a slight impact on future ground water flow directions as a result of reduced surface water infiltration over the southern part of the Site.

Further action is therefore required to:

- Refine the current conceptual model of ground water flow directions beneath the landfill
- Define the nature and extent of ground water contamination down gradient of the landfill, as appropriate
- Confirm the improvement in ground water quality as a result of the proposed development
- Identify any significant changes in ground water flow as a result of the proposed development
- Modify the existing ground water monitoring plan to account for new information, as appropriate

To meet these requirements, additional ground water monitoring wells and a modified monitoring program will be necessary.

#### Proposed ADVANTA Office Commons @ I-90 and Shared Access Road

A new office complex comprising three 6- to 7-story office buildings and a 7- to 8- level parking garage is planned for the southern portion of the Site. The four buildings will be surrounded by paved parking and driveway areas, and a new access road will be constructed extending across the northern border of the office complex. This road is termed "shared access" because it will also be used for public access to City of Bellevue park property bordering the road on the north. Other features of the development are described as follows.

Site grades will be modified during construction, largely through placement of fill on the eastern portion of the office complex property. The current cap over landfill refuse will therefore be either maintained at its current thickness or the thickness of cover material will increase.

The surface water drainage system is being modified to capture runoff from paved areas. Elements of the system include new catch basins, conveyance piping, and stormwater treatment and detention vaults. Discharge to existing perimeter ponds will also be modified. The new drainage system will result in decreased storm water infiltration on the southern portion of the Site.

The existing landfill gas extraction and monitoring system in the area of the proposed development will be modified. The modifications include abandoning existing wells, piping, and monitoring probes and replacing them with new wells, piping, and probes at different locations.

Two existing ground water monitoring wells are proposed to be abandoned, with one well re-installed following construction.

As described above, the proposed development will impact existing landfill management systems and will potentially be subject to landfill gas and refuse exposure hazards.

Under MICA, further action is therefore required as follows:

#### **During Construction**

- Signage to warn the public of the gas hazard and exposure to refuse, and special precautions taken to prevent public access to the construction area
- A health and safety plan for site workers and visitors to be prepared per WAC 173-340-810.
- A contingency plan for handling contaminated material and addressing areas with excessive gas concentrations
- Special measures to avoid creating any new exposure pathways or compromising the integrity of the soil cap over the landfill.

#### **Post Construction**

- Vapor control features for buildings and other enclosed spaces to reduce the threat of methane access and accumulation
- Permanent warning signs in areas of potential gas hazard including, but not limited to, subsurface drainage and utility vaults, enclosed subsurface rooms, and surface features of the landfill gas extraction system
- Proposed modifications to the landfill gas extraction and monitoring system designed appropriately for the existing conditions

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**Ecology's Interim NFA of January 10, 2003 issued to this site is hereby rescinded.**

Please note that in order to receive a "no further action" determination from Ecology in the future, the whole MTCA "site," as defined in RCW 70.105D.020 and WAC 173-340-200 must be fully investigated and addressed per MTCA requirements. As stated above, the approximate Site boundaries, as currently known, are depicted in Enclosure A. The Site is therefore not limited to the area where the proposed ADVANTIA development is to be located, but includes the entire landfill as well as anywhere else contamination has come to be located as a result of the landfill.

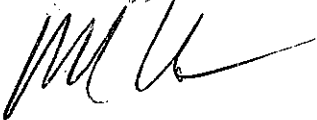
Please note that this opinion is based solely on the information contained in the documents listed above. Therefore, if any of the information contained in those documents is materially false or misleading, then this opinion will automatically be rendered null and void.

The state, Ecology, and its officers and employees make no guarantees or assurances by providing this opinion, and no cause of action against the state, Ecology, its officers or employees may arise from any act or omission in providing this opinion.

Again, Ecology appreciates your initiative in conducting independent remedial action and requesting technical consultation under the VCP. As the cleanup of the Site progresses, you may request additional consultative services under the VCP, including assistance in identifying applicable regulatory requirements and opinions regarding whether remedial actions proposed for or performed at the Site meet those requirements.

If you have any questions you may reach me at (425) 649-7107.

Sincerely,



Mark Adams  
Site Manager, Toxic Cleanup Program

MA:nr

Enclosure: Site Map

cc: Clyde Wright, Schnitzer Northwest  
Pam Fehrman, City of Bellevue  
Mark Edens, NWRO VCP Unit Manager  
Melissa Rourke, Assistant Attorney General

