



RESPONSIVENESS SUMMARY

Turnbull Landfill Site, Orchards

Draft Second Periodic Review Report

Prepared by
Washington State Department of Ecology
Southwest Regional Office
Toxics Cleanup Program
Lacey, Washington

June 2019

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double-sided copying.*

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Site Information

Site Name: Turnbull Landfill

Address: 12001 NE Fourth Plain Blvd, Orchards

Facility Site ID: 51658363

Cleanup Site ID: 4677

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The Washington Department of Ecology (Ecology) reviewed conditions at the Turnbull Landfill site and concluded that the completed cleanup work combined with the environmental covenant restricting property use and conditions at the site are effective in protecting people's health and the environment. At least every five years, Ecology reviews condition at cleanup sites where some contamination remains at the site. This is the site's second review; the first was in 2014. The current review shows that cleanup work remains effective in protecting human health and the environment.

Ecology held a public comment period from February 28 to March 30, 2019. The comment period provided an opportunity for people to comment on the following document:

- Draft Second Periodic Review Report.

Ecology received one comment during the comment period. The comment and Ecology's response are summarized below.

Site Background

The site was a gravel quarry from the early 1990s to the mid-1960s. Between 1970 and 1974, the owner buried approximately 39,000 cubic yards of solid waste at the site. To clean it up, the owner removed some waste and placed 3 to 12 feet of clean fill over the remaining waste.

Studies showed there was no soil contamination above state cleanup levels and no detectable landfill gases at the site. However metal (manganese) groundwater contamination was slightly above the state drinking water standards, but below the Model Toxics Control Act (MTCA, state cleanup regulation) Method B cleanup level. In

addition, groundwater sampling indicated that contaminated groundwater was not moving off the site. Nearby residents and businesses do not use groundwater for drinking because the city's water supply is available. The manganese levels decreased over time and Ecology determined that the site required no further cleanup actions. In 2000, a restrictive covenant was filed to prevent possible exposure to the remaining manganese contamination in the groundwater. The covenant restricts property use, requires that groundwater cannot be removed from the property for any use, and that areas capped with clean fill cannot be disturbed. When the property owner plans to develop the site, Ecology's approval is required.

With the cleanup work completed and an environmental covenant in place, conditions at the site are protective of people health and the environment.

Next Steps

Because some contamination remains at the site, Ecology will conduct a periodic review at the site about every five years to ensure that conditions at the site continue to protect human health and the environment.

Comment # 1: Letter from the City of Vancouver

City of Vancouver

See attached City of Vancouver engineering staff water resource protection comments.



DATE COMMENTS SUBMITTED VIA ON-LINE FORM: March 28, 2019

RE: City of Vancouver Comments – Second Periodic Review Report
Turnbull Landfill, 12001 NE Fourth Plain Blvd.
Facility Site ID#:51658363 Cleanup Site ID#: 4677
<https://fortress.wa.gov/ecy/gsp/Sitepage.aspx?csid=4677>

FROM: Patrick Craney, Water Resources Engineer, Public Works/Water Engineering
Kris Olinger, Sr. Field Engineer, Public Works/Surface Water Engineering
Nikki Guillot, Environmental Scientist, Public Works/Surface Water Engineering

CC: Patti McEllrath, Sr. Planner, Community & Economic Development

Attachment – Water Resource Protection Ordinance (WRPO) Map

City of Vancouver staff appreciate the opportunity to comment on the following site within City limits which in its entirety has been designated a Critical Aquifer Recharge Area (VMC Chapter 14.26 Water Resources Protection).

Water Resource Protection

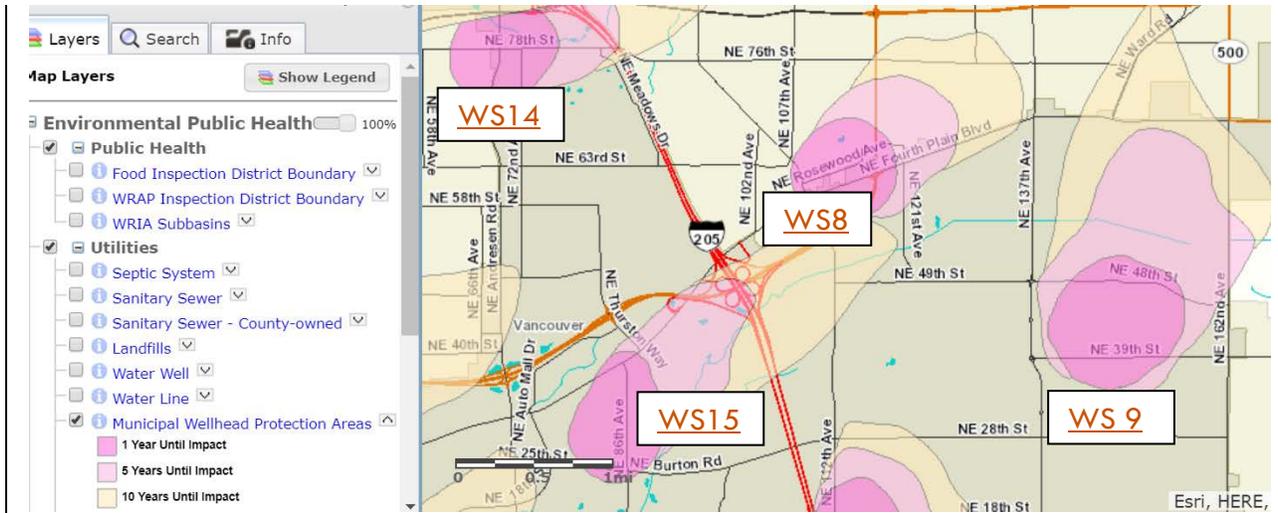
The site sits within a Special Protection Area for City of Vancouver Water Station (WS) 8 with two active municipal supply wells, see *attached WRPO Map*. WS 8 supplies roughly 4.0% of the City's drinking water supply.

In addition, the landfill is situated upgradient of WS8 within the one-year travel time. The figure below, excerpted from the Clark County Maps Online, illustrates the groundwater travel paths for nearby municipal water supplies.

The City of Vancouver requests any existing monitoring wells be left in place for potential future sampling of groundwater and subsurface conditions. The City conducts periodic groundwater monitoring and potentially could use this access in the future.

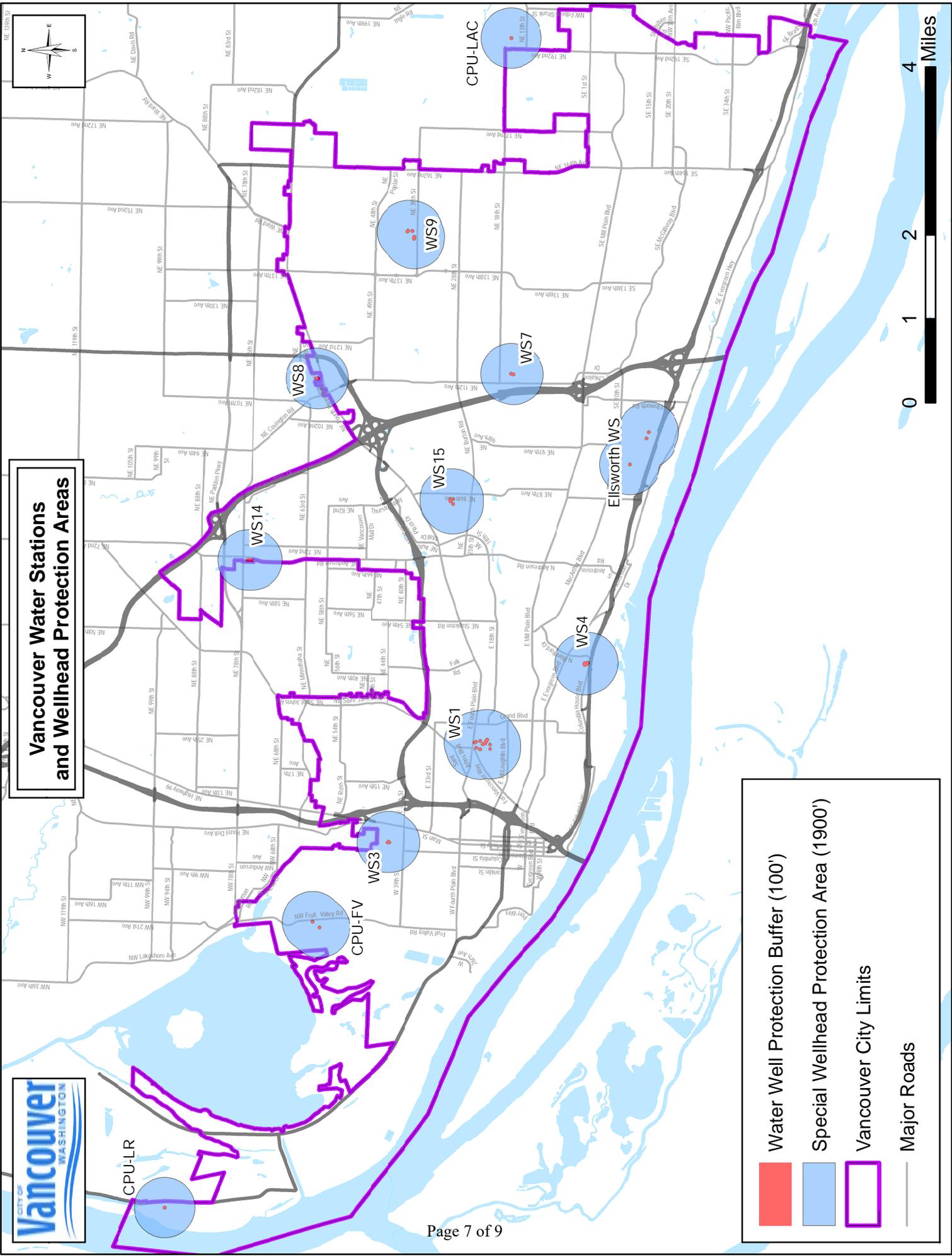
In addition to the existing covenant on the property prohibiting groundwater withdrawal, Vancouver would like to see guidance on the conflict between infiltration-based stormwater management, required by the WA Dept. of Ecology and the risk of migrating contamination on this site. This may be included with the Ecology review of any proposed developments but it could be a conflict between the City stormwater requirements and the site conditions.

Attachment A. Figures Attached to Comment # 1





Vancouver Water Stations and Wellhead Protection Areas



	Water Well Protection Buffer (100')
	Special Wellhead Protection Area (1900')
	Vancouver City Limits
	Major Roads

Ecology's Response

Thank you for taking the time to review the draft periodic review report and providing the Department of Ecology (Ecology) with your comments. Based on your comments, Ecology understands that the Turnbull Landfill Site (Site) is situated upgradient of the City of Vancouver (City) Water Station (WS) 8 with two water supply wells. We also understand that these water supply wells are located within the one-year travel time in a Special Protection Area of WS 8 downgradient from the Site.

Ecology Guidance for Infiltration-based Stormwater Management

We recognize the City's concerns regarding any potential risk of migration of contamination from this Site towards WS 8 as it relates to infiltration of stormwater at the Site. However, in general, Ecology's "2014 Stormwater Management Manual for Western Washington (SWMMWW)" provides guidance for dealing with different situations of soil and groundwater contamination issues encountered during any new development. As requested in your comments, the appropriate best management practices (BMPs) Chapters/Sections presented in the SWMMWW's are outlined below for dealing with the different sources of contamination:

- Volume V- Section 5.6, Site Suitability Criteria (SSC), SSC-1, Setback Criteria.
- Volume I – Minimum Requirements 5: On-Site Stormwater Management, Competing Needs Criteria.
- Volume III – Chapter 3 – Flow Control Design, Section 3.3.5 – Site Characterization Criteria.
- Volume II – Chapter 2 – Regulatory requirements, Section 2.5 – Other Applicable Regulations and Permits.
- Volume IV, Appendix IV-D – Regulatory Requirements That Impact Stormwater Programs, Source Control BMPs.
- Volume IV – Appendix IV-G – Recommendations for Management of Street Wastes, Contamination in Street Waste Solids.
- Volume V – Chapter 5 – On-Site Stormwater Management, Section 5.3.1 On-Site Stormwater Management BMPs, Competing Needs.
- Volume V – Chapter 9 – Biofiltration Treatment Facilities, Section 9.4-Best Management Practices.

Site Conditions

The Turnbull Landfill was operated for approximately four years from 1970 through 1974 accepting municipal solid waste, construction debris, and demolition debris. Since 1983 through 2006, several soil, groundwater, and/or landfill gas investigations were conducted at the Site. No contamination was detected in soil above the Model Toxics Control Act (MTCA) Method A or B cleanup levels. No landfill gas was detected during the investigation (including the recent landfill gas investigation conducted in 2017). Only manganese was detected above the MTCA Method B cleanup level in one of the monitoring wells. However, results of the last round of sampling conducted in February 2000 was below the MTCA Method B cleanup level.

Since no contamination was detected both in soil and groundwater (except manganese below MTCA Method B cleanup level) and due to the type of wastes disposed of at the Site, Ecology believes that it is highly unlikely that the Site will pose any risk to the WS 8 public water supply wells located down-gradient of the Site. In addition, since no contamination was detected in the groundwater above MTCA Method A or Method B cleanup levels at the Site, the groundwater monitoring wells were decommissioned as per WAC 173-160 requirements.

Site Development Approvals

In mid-1998, the Site was cleared of brush in preparation for the early stages of development. The Site was then filled and compacted with granular fill material. The resulting surface was graded to reduce infiltration of stormwater. Roadways and associated utilities were installed at this time for future property development. In July 2003, a hydrology study was conducted for designing a master stormwater treatment and disposal system/infiltration system for the Turnbull Business Park development. The specific design of the offsite stormwater facility was analyzed and subsequently approved by the City of Vancouver. Recently the western portion of the Site was developed as Golden Corral Restaurant and associated parking lot. This Property Development/Construction was approved by the City of Vancouver Community and Economic Development (CED Engineer: Leo Kuzmin, App #: ENG-52971, Project: Golden Corral Restaurant PRJ-147756, Approval Letter dated 6/1/2017; Senior Planner: Patti McEllrath). The stormwater system for this development was tied into the previously approved master stormwater treatment and disposal system. Also, note that the infiltration portion of the system is located downgradient of the landfill portion of the property.

If you have any more questions, please call me at (360) 407-6335.

Panjini Balaraju, P.E.