State of Oregon
Department of
Environmental
Quality

SOLID WASTE DISPOSAL SITE CLOSURE PERMIT: Municipal Solid Waste Landfill

Oregon Department of Environmental Quality
2020 SW Fourth Ave. Suite 400
Portland, OR 97201-4987
Telephone: (503) 229-5353

Issued in accordance with the provisions of ORS Chapter 459 and subject to the land use compatibility statement referenced below.

ISSUED TO:

Metro
600 Grand Avenue
Portland, OR 97232-2736

FACILITY NAME AND LOCATION:

St. Johns Landfill
Sec. 36, T2N, R1W, W.M.
Multnomah County

OWNER:

Metro

OPERATOR:

Metro

ISSUED IN RESPONSE TO:

- a solid waste permit renewal application received November 26, 1997

The determination to issue this permit is based on findings and technical information included in the permit record.

ISSUED BY THE OREGON Department OF ENVIRONMENTAL QUALITY

Sally Puent, Northwest Region Solid Waste Program — Date 10/31/2003

Permitted Activities

Until such time as this permit expires or is modified or revoked, the permittee is authorized to maintain a closed solid waste land disposal site in conformance with the requirements, limitations, and conditions set forth in this document including all attachments.

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Introduction

This document is a solid waste permit issued by the Oregon Department of Environmental Quality in accordance with Oregon Revised Statutes (ORS) 459 and Oregon Administrative Rules (OAR), Chapter 340.

In this document

This document contains the following sections:

PERMIT ADMINISTRATION

1.0 ISSUANCE

1.1	**In this section**	This section describes the parameters surrounding permit issuance, including the following information: • permittee • permit number • permit term • facility type • facility owner/operator • basis for issuance, and • definitions
1.2	**Permittee**	This permit is issued to Metro 600 Grand Avenue
1.3	**Permit number**	This permit will be referred to as Solid Waste Permit Number 116.
1.4	**Permit term**	The issue date of this permit is the date signed by the Regional Administrator. The expiration date of this permit is November 30, 2013.
1.5	**Facility type**	The facility is permitted as a municipal solid waste landfill.
1.6	**Facility owner/ operator**	Metro Metro
1.7	**Basis for issuance**	This permit is Issued based upon the following documents submitted by the permittee: • solid waste permit application received November 26, 1997
1.8	**Definitions**	Unless otherwise specified, all terms are as defined in OAR 340-93-030.

2.0 DISCLAIMERS

2.1	**In this section**	This section describes disclaimer information for the Department, including property rights and liability.
2.2	**Property rights**	The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights.
2.3	**liability**	The Department, its officers, agents, or employees do not sustain any liability on account of the issuance of this permit or on account of the construction, maintenance, or operation of facilities pursuant to this permit.

3.0 AUTHORITY

3.1	**In this section**	This section describes the authority of the Oregon Department of Environmental Quality to issue this permit, including the following information: • 10 year permit • documents superseded • binding nature • other compliance, and • penalties
3.2	**Ten year permit**	This permit is issued for a maximum of 10 years as authorized by Oregon Revised Statutes 459.245 (2).
3.3	**Documents superseded**	This document is the primary solid waste permit for the facility, superseding all other solid waste permits issued for St. Johns Landfill by the Department .
3.4	**Binding responsibility**	Conditions of this permit are binding upon the permittee. The permittee is liable for all acts and omissions of the permittee's contractors and agents.
3.5	**Other compliance**	Issuance of this permit does not relieve the permittee from the responsibility to comply with all other applicable federal, state, or local laws or regulations, including the Title V Air Quality permit for this facility. This also applies to the following solid waste requirements, as well as all updates or additions to these requirements: • solid waste permit application received November 26, 1997 • Oregon Revised Statutes, Chapters 459 and 459A • Oregon Administrative Rules Chapter 340 • Attached ***Remedial Investigation/Feasibility Study (RI/FS)*** Consent Order, and • any documents submitted by the permittee and approved by the .

3.6	**Cleanup Consent Order**	The attached RI/FS Consent Order (Attachment 3 to this permit) includes detailed provisions for completing the remedial investigation (Phase II site characterization and risk assessment) and feasibility study in accordance with OAR 340-122-080 through OAR 340-122-085. After the RI/FS is completed, DEQ will issue a Record of Decision (ROD) for the site and select a remedial action that is protective of human health and the environment. The permittee will implement the ROD under an addendum to the RI/FS Cleanup Order or under a new Remedial Design/Remedial Action Cleanup Order, per the Department's direction. Following remedy implementation, DEQ will incorporate any long-term remedial requirements of the remedy into this permit.
3.7	**Penalties**	Violation of permit conditions will subject the permittee to civil penalties of up to $10,000 for each day of each violation.

4.0 PERMIT MODIFICATION

4.1	**In this section**	This section describes information about modification of this permit, including: • 5 year review • modification • modification by • modification by permittee • public participation, and • changes in ownership
4.2	**Five year review**	Between the 4th and 6th year of the life of the permit, the may review the permit and determine whether or not the permit should be amended. While not an exclusive list, the following factors will be used in making that determination: • compliance history of the facility • changes in volume, waste composition, or operations at the facility • changes in state or federal rules which should be incorporated into the permit • a significant release of leachate or landfill gas to the environment from the facility • significant changes to a -approved site development plan and/or conceptual design
4.3	**Modification**	At any time in the life of the permit, the Department or the permittee may propose changes to the permit.

4.4	**Modification and revocation by**	The Director may, at any time before the expiration date, modify, suspend, or revoke this permit in whole or in part, in accordance with Oregon Revised Statutes 459.255, for reasons including but not limited to the following: • violation of any terms or conditions of this permit or any applicable statute, rule, standard, or order of the Commission • obtaining this permit by misrepresentation or failure to disclose fully all relevant facts, or • a significant change in the quantity or character of solid waste received or in the operation of the disposal site
4.5	**Modification by permittee**	The permittee must apply for a modification to this permit if there is a significant change in facility operations or a deviation from activities described in this document.
4.6	**Public participation**	Significant changes in the permit will be made public by the issuance of a public notice as required by Department rules.
4.7	**Changes in ownership**	The permittee must report to the any changes in either ownership of the disposal site property, or of the name and address of the permittee or operator no later than ten (10) days prior to the change.

CLOSURE CARE

5.0 AUTHORIZATIONS

5.1	**In this section**	This section describes the activities the permittee is authorized to conduct.
5.2	**Closure care**	The permittee is authorized to provide post-closure care to the facility.
5.3	**Authorization of activities**	All facility activities are to be conducted in accordance with the provisions of this permit. All plans required by this permit become part of the permit by reference once approved by the Department. Any conditions of the approval are also incorporated into this permit unless contested by the permittee within 30 days of the receipt of a conditional approval.

6.0 PROHIBITIONS

6.1	**In this section**	This section describes specific activities the permittee is prohibited from conducting.
6.2	**Waste receipt**	The disposal site is closed to waste receipt. The permittee is prohibited from accepting solid waste.
6.3	**Open burning**	The permittee must not conduct any open burning at the site.

7.0 POST-CLOSURE OPERATION AND MAINTENANCE

7.1	**In this section**	This section describes post-closure operation and maintenance (O&M) requirements for the facility.
7.2	**Post-closure plan compliance**	The permittee must maintain the disposal site in accordance with the approved Final Engineered Post-Closure Plan (a.k.a. the DEQ-approved Operation and Maintenance Manual), and any amendments to the plan approved in writing by the Department. The engineered post-closure plan must be updated to reflect current conditions and any proposed changes in closure and post-closure activities.
7.3	**Vegetation**	The permittee must establish and maintain vegetation over the closed areas of the landfill consistent with the landfill's proposed final use and erosion and leachate prevention requirements.
7.4	**Surface contour maintenance**	The permittee must maintain the final surface contours of the landfill cover to prevent soil erosion and standing water to the maximum extent practicable. Erosion damage (cuts) must be repaired and seeded so that all waste remains covered. The permittee must refill with soil, grade, and seed all areas that have settled or where water ponds, and all areas where the cover soil has been damaged by cracking or erosion. Areas where vegetation has not been fully established must be fertilized, re-seeded, and maintained. Depressions in the final cover must be identified and repaired as detailed in Metro's December 8, 1992 letter to DEQ. In addition, the permittee must continue to take annual aerial photographs of the site during the period from February through April of each year for as long as the site is subject to a solid waste closure permit.
7.5	**Cover System maintenance**	The permittee must maintain the integrity of the final cover, identify any breaches in the cover, and repair such breaches in a manner approved by the Department.
7.6	**Perimeter Dike Maintenance**	The permittee must maintain the structural integrity of the landfill's perimeter dikes to prevent erosion and slope failures to the maximum extent practicable and repair and stabilize any areas of significant erosion or slope failure.
7.7	**Surface water control**	The permittee must divert surface water drainage around or away from the landfill at all times. The permittee must maintain surface water diversion ditches or structures in good working condition and free of obstructions and debris at all times.
7.8	**Leachate prevention and control**	The permittee must maintain the disposal site in a manner which deters leachate production to the maximum extent practical. Leachate must be prevented, collected, evaporated, or otherwise treated and controlled in a manner approved by the Department. The leachate collection system must be maintained and operated in accordance with the -approved operation and maintenance manual.

7.9	**Landfill gas control system maintenance**	The permittee must operate and maintain the landfill gas control, and monitoring systems in good working order as required to prevent nuisance odors and subsurface migration and as required to comply with all requirements of the Title V Air Quality Permit.
7.10	**Landfill gas control system repair**	Within 60 days of discovery of significant gas control system equipment damage, the permittee must replace or repair the equipment and submit a written inspection report to the Department.
7.11	**Response to Catastrophic events**	In the event of a catastrophic event such as a major flood or an earthquake that causes wide-spread structural damage in the Portland area, the permittee must, as soon as practicable, conduct a comprehensive inspection of all landfill facilities including the cover system, perimeter dikes, environmental monitoring network, gas control system, leachate collection system and other critical site features that may be affected by the event. The permittee shall document the results of the inspection and submit a summary report to the Department within seven working days of completion of the inspection. The inspection report shall include a plan and schedule for repair any significant damage. In addition, the permittee shall amend the current Operations & Maintenance Manual to include plans, procedures, and contingency measures to address catastrophic events, as described above, which may impact the structural integrity of the landfill.

8.0 FACILITY MANAGEMENT

8.1	**In this section**	This section describes requirements for the on-going management of the facility after closure.
8.2	**Routine Inspections**	The permittee must physically inspect the entire disposal site at least monthly to determine compliance with this permit and the rules of the Department. The permittee must record any post-closure repairs performed. Inspection records must be made available to the upon request.
8.3	**Evaluation**	Prior to March 31 of each year, the permittee must conduct and submit to the an evaluation of the facility's status, including: • a discussion of implementation of the closure and post-closure plans • a description of unanticipated occurrences and any changes to the closure or post-closure plans, and • a discussion of the status and adequacy of the financial assurance plan, including an accounting of amounts deposited, expenses drawn from the fund, and the current balance
8.4	**Fees**	The permittee must pay the solid waste fee each year this permit is in effect. An invoice indicating the amount of the fee will be mailed prior to the date due.

8.5	**Access control**	The permittee must control public access to the facility as necessary to prevent unauthorized entry and dumping.
8.6	**Fire protection**	Arrangements must be made with the local fire control agency to immediately acquire their services when needed and adequate on-site fire control protection, as determined through the local fire control agency, must be provided. Fires must be immediately and thoroughly extinguished and promptly reported to the .
8.7	**Future use**	Any future use, activity, or construction of buildings, structures, or utilities on this disposal site must have prior written approval of the and must be done in a manner that protects the integrity of the final cover system, landfill stability, and all gas, leachate, surface water and groundwater control and monitoring systems.
8.8	**Design plans**	The permittee must submit engineering design plans for new on-site facilities for Department review and approval at least six months prior to the anticipated construction date. The design plans must be prepared and stamped by a qualified professional engineer with current Oregon registration. The engineering design plans must: • specify applicable performance criteria, construction material properties and characteristics, dimensions, and slopes, and • provide all relevant engineering analyses and calculations as a basis for the design
8.9	**Construction requirements**	The permittee must perform all construction in accordance with approved plans and specifications, including all conditions of approval, and any amendments to those plans and specifications approved in writing by the Department.
8.10	**Submittal address**	All submittals to the under this section must be sent to: Oregon Department of Environmental Quality Manager, Solid Waste Program 2020 SW 4th Avenue, Suite 400 Portland, OR 97201 (503) 229-5353

9.0 FINANCIAL ASSURANCE

9.1	**In this section**	This section describes financial assurance responsibilities of the permittee.
9.2	**Funds**	The permittee must set aside funds in the amount and frequency specified in the approved financial assurance plan.
9.3	**Use of financial assurance**	The permittee must not use the financial assurance for any purpose other than to finance the approved closure, post-closure, and corrective action activities or to guarantee that those activities will be completed.

ENVIRONMENTAL INVESTIGATION AND MONITORING

10.0 ENVIRONMENTNAL CLEANUP PROCESS

10.1	**In this section**	This section describes requirements for completing the remedial action process under the Environmental Cleanup Rules (OAR 340-122-010 to 115), including: • RI/FS Requirements • Cleanup Consent Order
10.2	**RI/FS Required**	The permittee must complete the Remedial Investigation (RI), Risk Assessment (RA) and Feasibility Study (FS) as prescribed in Attachment 3 of this permit.
10.3	**Consent Order**	The permittee must abide by the RI/FS Consent Order and the risk assessment process required under the Environmental Cleanup Rules. Risk-based concentrations (RBCs) for chemicals of concern will be established for all effected media including groundwater, surface water, sediments, and soil and will represent concentrations that meet the acceptable risk levels as set forth in OAR 340-122-115 (1-6).

11.0 ENVIRONMENTAL MONITORING PLAN (EMP)

11.1	**In this section**	This section describes requirements for the Environmental Monitoring Plan (EMP) for the facility, including: • EMP contents; • EMP Updates and revisions; • Long-term environmental monitoring; • Additional environmental monitoring points; and, • Submittal address.
11.2	**EMP updates and revisions**	The permittee must revise the current EMP as necessary to reflect current and future facility conditions, procedures, and sampling requirements. The permittee must submit four copies all EMP revisions to the Department for approval prior to their implementation. The EMP revisions must be prepared and stamped by either a Geologist or a Certified Engineering Geologist, with current Oregon registration.
11.3	**Long-term monitoring plan**	Within 180 days after approval of the Record of Decision (ROD), any Permit-Specific Concentration Limits (PSCLs), Concentration Limit Variances (CLVs), Action Limits (ALs), or Site-Specific Limits (SSLs), the permittee must update the EMP to reflect these milestones and the long-term monitoring requirements for the facility. The permittee must submit the revisions for DEQ review and approval. Note: Also refer to Section 13 of this permit for procedures to establish PSCLs, ALs, or SSLs. Procedures for establishing CLVs are found in OAR 340-40-030(4).
11.4	**Additional monitoring points**	Any new or replacement monitoring point or device established during the permit's term must be incorporated into the Environmental Monitoring Plan (EMP). The updated plan then must be resubmitted to the Department for approval.

11.5 Submittal address

All required copies of submittals to the under this section must be received by the due date and delivered to:

Oregon Department of Environmental Quality
Manager, Solid Waste Program
2020 SW 4th Street, Suite 400
Portland, OR 97201

(503) 229-5353

12.0 ENVIRONMENTAL SAMPLING REQUIREMENTS

12.1 In this section

This section also describes general sampling requirements, including:

- Notification
- Split sampling
- Monitoring schedule
- Changes in sampling or split sampling.

12.2 Notification

The must receive written notification of all upcoming sampling events at least ten (10) working days prior to the scheduled date of the sampling event. Written notification must sent to the following address:

Oregon Department of Environmental Quality
Manager, Solid Waste Program
2020 SW 4th Street, Suite 400
Portland, OR 97201

(503) 229-5353

12.3 Split sampling

The permittee must split samples with the Department when the requests it, and schedule split-sampling events with DEQ's laboratory at least forty-five (45) days prior to the sampling event.

The following sampling events must be conducted as split sampling events with the Department:

Spring 2003 Fall 2007 Spring 2011

12.4 Monitoring schedule

The permittee must perform environmental monitoring according to the approved EMP. Quarters are defined as the following:

If sampling in the...	Schedule the sampling event	
	On, or after....	But on, or before...
Winter	January 1	February 28
Spring	April 1	May 31
Summer	July 1	August 31
Fall	October 1	November 30

12.5	**Changes in sampling or split sampling**	The permittee must obtain the Department's written approval for any changes to the sampling program before the changes are implemented. The permittee may make written requests to change sampling frequency, parameters or locations. Once approved, these changes will become part of the EMP requirements by reference. The Department reserves the right to add to or delete from the list of scheduled sampling events, locations and parameters, and to conduct unscheduled sampling or split sampling events. The Department will attempt to notify the permittee of any changes in the split-sampling schedule at least 30 days prior to the event.

13.0 ESTABLISHING PERMIT-SPECIFIC CONCENTRATION LIMITS (PSCLs), ACTION LIMITS (ALs), CONCENTRATION LIMIT VARIANCES (CLVs) and SITE-SPECIFIC LIMITS (SSLs)

13.1	**In this section**	This section describes how to establish groundwater concentration limits, including Permit-Specific Concentration Limits (PSCLs), Concentration Limit Variances (CLVs), Action Limits (ALs), and/or Site-Specific Limits (SSLs) for non-hazardous substances. The permittee must use the risk-based concentrations (RBCs) developed in the Cleanup RI/FS process to establish PSCLs, CLVs, ALs and SSLs for hazardous substances. The permittee may also be required to establish RBCs for specific non-hazardous compounds that pose a significant ecological risk. For these non-hazardous compounds, the pemittee shall also use the RBCs to establish PSCLs, CLVs, ALs and SSLs. Groundwater limits for non-hazardous substances, in general, must be established according to the following steps: • Gathering data; • Statistical analysis; • Proposing PSCLs, ALs or SSLs; • Changing PSCLs, ALs or SSLs; • Setting and changing CLVs.
13.2	**Gathering data**	The permittee must monitor the designated background wells in accordance with the approved Environmental Monitoring Plan unless an intrawell approach is proposed. Background monitoring must continue until all necessary data sets have been collected, and PSCLs, ALs, and/or SSLs are proposed for each non-hazardous parameter of concern. The permittee then must demonstrate to the Department's satisfaction that the selected background-data set is valid and unaffected by facility releases.

13.3	**Statistical analysis**	The permittee must perform statistical evaluations of monitoring results for each sampling event in accordance with 40 CFR 258.53 or other -approved methods. References: *Statistical Analysis of Groundwater Monitoring Data at RCRA facilities, Addendum to Interim Final Guidance,* USEPA, June 1992; and, *Statistical Guidance for all RCRA Sites,* DEQ: SWPC, August 3, 1992.
13.4	**Proposing PSCLs, ALs, and/or SSLs**	The permittee must propose for the Department's review and approval, a PSCL, AL, or SSL pursuant to the guidelines specified in OAR 340-40 or permit section 15.3. The proposal must address all required parameters. Once at least nine acceptable data points from the appropriate background well(s) are established, a PSCL, AL, or SSL may be generated for each parameter selected for long-term site monitoring.
13.5	**Changing PSCLs, ALs, and/or SSLs**	If the permittee demonstrates to the Department's satisfaction that background groundwater quality has significantly changed since the PSCL, AL, or SSL was established, and if the change is unrelated to the permitted facility's influence, the permittee can propose for Department approval a revised level for the affected PSCL(s), AL(s), or SSL(s).
13.6	**Setting and changing CLVs**	The Oregon Groundwater Quality Protection Rules [OAR 340-40-030(4)] provide guidance for establishing and changing Concentration Limit Variances (CLVs).

14.0 ST. JOHNS LANDFILL's LEAD-LOAD ALLOCATION TO COLUMBIA SLOUGH

14.1	**In this section**	This section includes requirements for monitoring and assessing releases of lead to the Columbia Slough and milestones for achieving compliance with St. Johns Landfill's annual lead load allocation. The landfill's lead load allocation is 1.31kilograms/year ($3.6X10^{-3}$ kilograms/day) and is based on an average lead concentration of 0.0183 mg/L and a lateral flow rate of 0.08 ft^3/sec (see references below). Compliance activities include: • Compliance Monitoring • Annual evaluation of Lead loading • Responding to lead load allocation exceedences • Addressing load allocations for additional contaminants • Annual Reporting Reference: *Columbia Slough Total Maximum Daily Loads (TMDLS):* Oregon of Environmental Quality, Northwest Region, September 1998 and *Controlling Seepage from St. Johns Landfill to Surrounding Surface Water* (Seepage report); Metro, May 1995.
14.2	**Compliance Monitoring**	The permittee must monitor lead concentrations in monitoring wells K-1, K-2, K-3, K-6a and K-6b semiannually, as prescribed in the approved Environmental Monitoring Plan (EMP).
14.3	**Annual lead load evaluations**	The permittee must estimate average lead loading to the Columbia Slough, annually, using the methods outlined in the approved EMP.

14.4	**Response to exceedences of the lead load allocation**	The permittee must incorporate provisions in the EMP that describe how the permittee will respond to exceedences of the Lead load allocation.
14.5	**Load allocations for other contaminants**	The permittee must update the EMP as needed to incorporate any new contaminant load allocations for the Columbia Slough established during or after the remedial investigation and risk assessment process.
14.6	**Annual reporting**	The permittee must incorporate the monitoring results and evaluation of annual lead loads to the Columbia Slough in the Annual Environmental Monitoring Report (AEMR).

15.0 ENVIRONMENTAL MONITORING STANDARDS

15.1	**In this section**	This section describes requirements for evaluating compliance with environmental monitoring standards, including: • Rule • Review of groundwater monitoring results • Re-sampling results • Methane limits • Methane exceedance • Certified environmental Laboratory
15.2	**Rule and Consent Order**	The permittee must not allow the release of any substance from the landfill into groundwater, surface water, or any other media which will result in a violation of any applicable federal or state air or water limit, drinking water rules, or regulations beyond the solid waste boundary of the disposal site or an alternative boundary specified by the Department, except to the extent that that the releases are being or have been investigated and addressed under the provisions of the Cleanup Consent Order (Attachment 3).
15.3	**Concentration limits**	The RI/FS cleanup process will establish risk-based concentrations (RBCs) for chemicals of concern in groundwater, surface water, sediments, and soil. The RBCs represent concentrations that meet the acceptable risk levels as set forth in OAR 340-122-115 (1) through (6). Once established, the RBCs will be incorporated into this permit as permit-specific concentration limits.

15.4 Review of results The permittee must review the analytical results after each monitoring event according to the following table.

If monitoring results are...	Then...
above any one PSCL, CLV, or AL, or more than two SSLs (if established) or if data indicate a significant change in water quality at any monitoring point, Note: Examples of significant changes • Detection of a VOC or other hazardous constituent not detected in background; • Exceedance of a Table 1 or 3 value listed in OAR 340-40 unless the background water quality is above these numerical limits; • Exceedance of a Safe Drinking Water Standard; • Exceedance of a Risk Based Concentration (RBC) established by the Cleanup RI/FS process; • Exceedance of background concentration of any compound by an order of magnitude or more.	1. Notify the in writing within 10 days of receipt of laboratory results; and, 2. Perform resampling immediately and evaluate results as described below. Note: re-sampling is not required for a known release, previously confirmed in writing to the .
None of the above	Continue groundwater monitoring with next scheduled sampling event

Note: PSCLs, CLVs, ALs, and SSLs established to date are listed in Attachment 2 of this permit.

15.5 Resampling results Upon receipt of data from resampling, the permittee must review the results according to the following table.

If resampling results...	then: ...
confirm the exceedance of at least one permit-specific concentration limit (PSCL), risk based concentration (RBC) or concentration limit variance (CLV), *See ~~Att~~achment 1: Parameter Groups	1. notify the Department in writing within 10 days of receipt of laboratory data, or within 60 days of the sample date (whichever occurs first); and, 2. submit for the 's review and approval a proposal for risk-assessment screening of the new parameter(s) and/or new concentration(s).
confirm the significant change in water quality results noted in the routine sampling event or confirm that at least any one AL or more than two SSLs were exceeded,	1. notify the Department in writing within 10 days of receipt of laboratory data, or within 60 days of the sample date (whichever occurs first); and, 2. submit for the 's review and approval a proposal for risk-assessment screening of the new parameter(s) and/or new concentration(s).
do not confirm the results noted in the routine sampling event,	1. continue with routine monitoring; and, 2. discuss the data from the routine sampling event and the resampling results in the next annual environmental monitoring report.

15.6	**Methane limits**	The concentration of methane must not exceed: • 25 percent of the Lower Explosive Limit for methane in onsite structures (excluding gas control structures or gas recovery system components), or • the Lower Explosive Limit for methane at the facility property boundary Note: The Lower Explosive Limit for methane is 5 percent.
15.7	**Methane exceedance**	If methane levels exceed the specified limits, the permittee must: 1. immediately take all necessary steps to ensure protection of human health; 2. within 7 days of detection (unless the approves an alternative schedule), enter the methane levels in the operating record and describe measures taken to protect human health and safety; 3. within 60 days of detection, implement a remediation plan for the methane releases, incorporate the plan into the monitoring records, and notify the of plan's implementation.
15.8	**Certified laboratory data**	The Department suggests that the permittee submit only environmental sampling data analyzed by labs certified under the Oregon Laboratory Accredited Program (ORLAP) or the National Volunteer Laboratory Accreditation Program (NVLAP). A copy of the certification should accompany the submitted data. Use of an ORLAP or NVLAP approved lab will facilitate the Department's future review of Environmental Monitoring Plan (EMP) updates, Annual Environmental Monitoring Reports (AEMRs), and RI/FS documents.

16.0 RECORDKEEPING AND REPORTING - ENVIRONMENTAL MONITORING

16.1	**In this section**	The permittee must systematically record and report environmental monitoring data as follows: • Annual environmental monitoring report (AEMR) • Statement of compliance • Annual environmental monitoring report contents • Annual leachate management report • Annual leachate management report contents • Annual TMDL reporting • Submittal address • Split sampling submittal • Lab address and, • Department response to split samples.
16.2	**Annual environmental monitoring report (AEMR)**	Prior to March 31 of each year, the permittee must submit to the four copies of an annual monitoring report for the past year's monitoring period: July 1st to June 30th. The report must be prepared and stamped by either a Geologist or a Certified Engineering Geologist, with current Oregon registration and conform to the Environmental-Monitoring-Plan approved format. Note: Whenever possible, the permittee must submit two-sided copies of all reports

16.3	**Statement of compliance**	The AEMR must include a brief cover letter that: • Compares the analytical results with the relevant monitoring standards (RBCs, PSCLs, CLVs, ALs, or SSLs); • Documents any exceedances of remedial action levels, or federal or state standards for the relevant media; and, • Documents any significant change in water quality in monitored media.
16.4	**Annual environmental monitoring report (AEMR) contents**	The Data presented in the AEMR must be accurate and consistent with the original field and lab data and the report must reflect current conditions at the facility. The AEMR must contain, at least, the following information: • A review of all significant site events during the past year; • A review of the monitoring network performance and any recommended changes; • A summary of all the past year's sampling data for, but not limited to groundwater, surface water, leachate, LFG (including any air sampling data), and soil; • A summary of any data problems (for example, QA/QC failures, flagged data, switched samples, etc.); • Piezometric maps for each sampling event and each monitored water bearing zone of concern; • Time history plots for field specific conductivity, dissolved oxygen, and all group 1b and group 2a and 2b parameters; • Box plots for field specific conductivity, dissolved oxygen, and all group 1b and group 2a and 2b parameters; • An anion-cation balance for each sample event at all monitoring points for which there is adequate data. An additional explanation must be included for any balance outside of ±10% in error; • A copy of the lab certification, if applicable (ORLAP or NVLAP) • A copy of all the past year's field and lab data, including all chain-of-custody forms. The may reduce the above reporting requirements for data produced by a laboratory with current ORLAP or NVLAP certification
16.5	**Annual leachate management report**	Prior to March 31 of each calendar year the permittee must submit an annual leachate management report to the as an attachment to the AEMR.
16.6	**Annual leachate management report contents**	The leachate report must include at a minimum: • A review of all the past-year's, leachate-related occurrences; • A review of the leachate monitoring program and recommendations for improvements; • An evaluation of potential human health risk, relative to any reasonably foreseeable human exposure to biological hazards; • The daily volume of leachate disposed. • A summary of activities and issues pertaining to gas-control-system condensate pre-treatment and disposal.
16.7	**Annual TMDL reporting**	The permittee must include or attach monitoring results and an evaluation of annual pollutant loading (especially the TMDL for lead) to the Columbia Slough.

16.8	**Split sampling submittal**	Within 90 days of any split sampling event, the permittee must submit the following information to the 's laboratory: A copy of all information pertinent to the sample collection handling, transport and storage, including field notes; Copies of all laboratory analytical reports; Copies of all laboratory QA/QC reports; A Copy of the lab certification (ORLAP or NVLAP, see Certified Environmental Lab Data condition above); A site map showing flow directions and contours; and, Any other data or reports requested by the Department.
16.9	**Lab address**	All split sampling reporting must be sent to: Oregon Department of Environmental Quality Lab, Groundwater Monitoring Section 1712 SW 11th Avenue Portland, OR 97201 (503) 229-5983
16.10	**response to split samples**	If the permittee submits all required split sampling data and requests the 's results, the 's lab may send the permittee a copy of the following: • The 's analysis of the split sample; • A copy of the QA/QC report; • A copy of the analytical report; and/or, • A copy of field data sheets.

17.0 ENVIRONMENTAL MONITORING NETWORK

17.1 In this section

This section describes requirements for the interim environmental monitoring network, including:

- well installation
- monitoring device maintenance
- damage reporting
- device construction
- construction reporting
- recommendation to abandon

17.2 Monitoring Well Installation

The permittee must install all groundwater monitoring wells and other monitoring devices required to complete the RI/FS Scope of Work. Other monitoring wells and monitoring devices may also need to be installed within the term of this permit. All groundwater monitoring wells and other monitoring devices must be installed in accordance with a Department approved work plan.

17.3 Monitoring device maintenance

The permittee must protect, operate, and maintain gas, groundwater, leachate, and surface water monitoring devices to assure that sample characteristics reflect actual environmental conditions.

17.4 Monitoring Device Damage reporting

The permittee must report any damage to a monitoring device to the Department within fourteen (14) days of the discovery. The report must include a written a description of the damage, the proposed repair or replacement measures and a schedule to complete the repairs.

Example: impaired function or altered physical location of well.

17.5 Monitoring Well/Device construction

Any monitoring well abandonment (decommissioning), replacement, repair, and installation must comply with the Water Resources Rules OAR 690-240 and with the 's Guidelines for Groundwater Monitoring-Well drilling, Construction, and Decommissioning dated August 1992.

17.6 Construction reporting

The permittee must document any monitoring well repairs, abandonments, replacements, and installations, including driller's logs, well location information, and construction information in a report prepared and stamped by a Geologist or a Certified Engineering Geologist with current Oregon registration. The report must be submitted to the Department within thirty (30) days of the action and included in the next AEMR.

17.7 Recommendation to abandon

The permittee must submit a recommendation to the to decommission or replace any well in the monitoring network that:

- was installed in a borehole that hydraulically intersects two saturated stratas,
- lacks documentation of proper installation, or
- is damaged or destroyed during the term of this permit

COMPLIANCE SCHEDULE

18.0 SUMMARY OF DUE DATES

18.1 Summary The following is a summary of event-driven reporting required by this permit. This section does not include routine reporting and submittals required by this permit. ***The permittee must also comply with the schedule of work specified in the Cleanup Agreement, Attachment C, Scope of Work for RI/FS.***

Due Date	Activity	See section... V
April 9, 2004	Submit copy of financial assurance mechanism and certification	9.3 Financial Assurance plan
30 days of any well construction	Submit well construction report	15.6 Construction reporting
6 months before any construction	Submit design plans	8.8 Design plans

ATTACHMENTS TO PERMIT

Attachment listing The following attachments to this document are:

Number	Description
1	Parameter Groups
2	Permit-specific concentration limits
3	RI/FS Consent Order

19.0 ATTACHMENT 1: PARAMETER GROUPS

ATTACHMENT 1: PARAMETER GROUPS

In this attachment This attachment describes the parameter groups and any associated requirements for environmental monitoring.

Note: Method means EPA SW 846 Method [suggested methods are in square brackets].

Group 1a: Field indicators

The following parameters comprise the field indicators parameter group:

Elevation of water level	Specific Conductance
pH	Dissolved Oxygen
Temperature	Eh

These parameters must be measured in the field at the time samples are collected, either down-hole in situ, in a flow-through well, or immediately following sample recovery, with instruments calibrated to relevant standards

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Group 1b: Leachate indicators

The following parameters comprise the laboratory indicators parameter group:

Hardness (as $CaCO_3$)	Total Dissolved Solids (TDS)
Total Alkalinity (as $CaCO_3$)	Total Suspended Solids (TSS)
Total Organic Carbon (TOC)	Chemical Oxygen Demand (COD)
pH (lab)	Tannin/Lignin
Specific Conductance (lab) [Method 9050]	

Sample handling, preservation, and analysis are determined by requirements for each individual analyte: EPA or AWWA Standard Methods techniques must be followed.

Group 2a: Common anions and cations

The following parameters comprise the common anions and cations parameter group:

Calcium (Ca)	Manganese (Mn)
Sulfate (SO_4) [Method 9035]	Magnesium (Mg)
Ammonia (NH_3)	Chloride (Cl) [Method 9250]
Sodium (Na)	Carbonate (CO_3)
Nitrate (NO_3) [Method 9210]	Potassium (K)
Silica (SiO_2)	Bicarbonate (HCO_3)
Iron (Fe)	Ammonium (NH4)
Flouride (F)	

Dissolved concentrations must be measured. Samples must be field-filtered and field-preserved according to standard DEQ and/or EPA guidelines and analyzed by appropriate EPA or AWWA Standard Methods techniques. Results must be reported in mg/L and meq/L.

Group 2b: Trace metals

The following parameters comprise the trace metals parameter group:

Antimony (Sb)	Chromium (Cr)	Selenium (Se)
Arsenic (As)	Cobalt (Co)	Silver (Ag)
Barium (Ba)	Copper (Cu)	Thallium (Tl)
Beryllium (Be)	Lead (Pb)	Vanadium (V)
Cadmium (Cd)	Nickel (Ni)	Zinc (Zn)

If the Total Suspended Solids concentration is...	then analyze for...
less than or equal to 100.0 mg/L in the sample	total concentrations (unfiltered)
Greater than 100.0 mg/L in the sample	both total (unfiltered) and dissolved (field-filtered)

Samples must be field-preserved according to standard DEQ and/or EPA guidelines and analyzed by EPA Method 6010 or department-approved equivalent.

Group 3: Volatile organic constituents

Analysis for all compounds detectable by EPA Method 8260A or EPA Method 524.2, including a library search to identify any unknown compounds present. EPA Method 8260 comprises the volatile organic constituents parameter group. Facilities that want to use EPA Methods 8021, or 8240B, as an alternative must obtain approval by the department prior to use.

Group 4: Assessment monitoring

The following analyses comprise the assessment monitoring parameter group:

Semi-volatile Organic Constituents, including Phenols, EPA Method 8270
Mercury, EPA Method 7470
Cyanide, EPA Method 9010
Nitrite

All Method 8270 analyses must include a library search to identify any unknown compounds present.

Group 5: surface water and leachate

The following parameters comprise the surface water parameter group:

Total Kjeldahl Nitrogen (TKN)	Total Coliform Bacteria [EPA Method 9131]
Total Phosphorus (P)	Fecal Coliform Bacteria [EPA Method 9131]
Orthophosphate (PO_4)	E. Coli

Biological Oxygen Demand (BOD)
Total Halogenated Organics (TOX) [EPA Method 9020B]

Group 6: Other Assessment parameters

The following comprise additional assessment parameters:

Dioxins and Furans [EPA Methods 8280 and/or 8290]
Phenolics [EPA Methods 9065, 9066, and 9067]
PCBs [EPA Methods 8080 and 8270]
Pesticides, Herbicides and Fungicides [EPA Methods 8080, 8141, 8150, 8151, 8270]

20.0 ATTACHMENT 2: PERMIT SPECIFIC CONCENTRATION LIMITS

The Department has not yet established Permit-specific concentration limits for St. Johns Landfill.

21.0 ATTACHMENT 3: RI/FS CONSENT ORDER