



[sign]CurrentDate
[sign]TrackingNumber

Tracking Number:

Authorization Number: 101804

REGISTERED MAIL

FRASER VALLEY REGIONAL DISTRICT
#1 - 45950 CHEAM AVENUE
CHILLIWACK, BC
V2P 1N6

Dear Operational Certificate Holder:

Enclosed is Operational Certificate 101804 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the operational certificate. An annual fee will be determined according to the Permit Fees Regulation.

Please be aware that the following documents are required for submission by the specified dates set forth in the operational certificate:

- A hydrogeological characterization and impact assessment of the landfill by May 31, 2018;
- An updated design and operating plan by May 31, 2018;
- A geotechnical and seismic assessment by May 31, 2018;
- An environmental monitoring plan by May 31, 2018;
- A leachate management plan for the landfill, acceptable to the Director, by May 31, 2018; and
- An annual report for the preceding 12 month period from January 1 to December 31 must be submitted to the Regional Director, Environmental Protection, by March 31 of each year.

Administration of this permit will be carried out by staff in the Environmental Protection Division's Regional Operations Branch. Plans, data and report submissions pertinent to this Operational Certificate are to be submitted in accordance with the Ministry's electronic reporting (eReporting) guidelines. Information regarding eReporting is available on the Ministry's web page at:

<http://www2.gov.bc.ca/gov/content/environment/waste-management/waste-discharge-authorization/data-and-report-submissions>

Requirements may also be specified by the *Environmental Management Act* and regulations including, but not limited to, the Contaminated Sites Regulation, Environmental Data Quality Assurance Regulation, Hazardous Waste Regulation, Landfill Gas Management Regulation, Organic Matter Recycling Regulation, Ozone Depleting Substances and Other Halocarbons Regulation, Recycling Regulation, Spill Reporting Regulation, Storage of Recyclable Material Regulation, and the Waste Discharge Regulation. For example, the Landfill Gas Management Regulation requires the installation of landfill gas management facilities.

This operational certificate does not authorize entry upon, crossing over, or use for any purpose of private or Crown lands or works, unless and except as authorized by the owner of such lands or works. The responsibility for obtaining such authority rests with the operational certificate holder. It is also the responsibility of the operational certificate holder to ensure that all activities conducted under this authorization are carried out with regard to the rights of third parties, and comply with other applicable legislation that may be in force.

This decision may be appealed to the Environmental Appeal Board in accordance with Part 8 of the *Environmental Management Act*. An appeal must be delivered within 30 days from the date that notice of this decision is given. For further information, please contact the Environmental Appeal Board at (250) 387-3464.

Yours truly,

[sign]image:SigningAuthoritySignatureId

[sign]SignatureBlockFirstLine
for Director, *Environmental Management Act*
Authorizations - South Region

Enclosure

cc: Environment Canada



OPERATIONAL CERTIFICATE

101804

Under the Provisions of the Environmental Management Act

FRASER VALLEY REGIONAL DISTRICT

#1 - 45950 CHEAM AVENUE
CHILLIWACK, BC
V2P 1N6

is authorized to manage municipal solid waste / recyclable material and discharge residual solid waste to the ground at Chaumox Road Landfill, located at 50390 Chaumox Road approximately 6 kilometers north of North Bend, British Columbia, subject to the conditions listed herein. Contravention of any of these conditions is a violation of the Environmental Management Act and may result in prosecution.

This Operational Certificate supersedes and cancels all previous versions of the permit PR-07763 issued under the authority of the Environmental Management Act.

1. AUTHORIZED DISCHARGES

1.1 This section applies to the discharge of municipal solid waste and contaminated soil to the Chaumox Landfill. The discharge of municipal solid waste must be restricted to sources within the Fraser Valley Regional District. The site reference number for this discharge is E213482.

1.1.1 The discharge is authorized by the Fraser Valley Regional District's approved solid waste management plan. The maximum rate of discharge is 750 metric tonnes per year.

1.1.2 The characteristics of the discharge must be municipal solid waste as defined in the Environmental Management Act and include other material as specifically authorized by the Director. Waste asbestos may be discharged in accordance to Section 40 of the Hazardous Waste Regulation and in accordance with the Fraser Valley Regional District's bylaws.

[[sign]DateLabel] [[sign]WILastUpdated]
[[sign]AmendmentText]

[[sign]image:SigningAuthoritySignatureId]
[[sign]SignatureBlockFirstLine]
for Director, Environmental Management Act
Authorizations - South Region

Materials prohibited from discharge include hazardous waste (excluding asbestos), liquids, semi-solid waste, biomedical waste and the following:

- Recyclable Materials including:
 - a. used white goods,
 - b. auto hulks and other large metallic waste,
 - c. used tires,
 - d. used lead acid batteries,
 - e. gypsum wallboard, and
 - f. corrugated cardboard.
- Any other waste and/or recyclable material regulated under the Ministry's Recycling Regulation when alternate disposal options become available;
- Other materials banned by the regional district in implementing the Fraser Valley Regional District's solid waste management plan or bylaws; and
- Other materials which may be designated by the Director when alternative disposal becomes available.

1.1.3 Waste must not be discharged into water or within a buffer zone as identified in Section 2.9, 2.10 and 2.11. The burning of waste is prohibited.

1.1.4 The authorized works common to this section and Section 1.2 and 1.3 are a sanitary landfill, locking gate to control access by the public, weigh scale and related appurtenances, approximately located as shown on Site Plan A.

1.1.5 The authorized works specific to this section are those associated with a landfill operation and include berms, covering material, electrified bear fence, surface water diversionary works and environmental monitoring systems, approximately located as shown on attached Site Plan A and Location Map 1 and 2.

1.1.6 The authorized works must be complete and in operation while discharging.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

- 1.1.7 The legal description of the locations of the area of discharge is the unsurveyed portion of legal subdivisions 5 and 12, Sec. 14, and legal subdivisions 8 and 9, Sec. 15, all of Twp. 11, R. 26, W6M, YDYD, west CPR R/W and south of Blk. A, Sec. 14, Twp. 11, R. 26, W6M, YDYD.
- 1.1.8 The civic address of the Chaumox Road Landfill is 50390 Chaumox Road, North Bend, BC.
- 1.2 This section applies to a public drop off and recycling area - for the management of municipal solid waste and recyclable material from sources within the Fraser Valley Regional District.
- 1.2.1 The types of materials which may be managed in this area include waste as set out in Section 1.1.2, and typical recyclable materials.
- 1.2.2 The quantity of recyclable material that may be stored is limited to the capacity that can be reasonably handled on the site.
- 1.2.3 The authorized works are those associated with a public drop of and recycling area and include an access area, roll-off bins and related appurtenances approximately located as shown on Site Plan A.
- 1.2.4 The facility is located on Block "C" of Section 14 and Block "A" of Section 15, Township 11, Range 26, West of the 6th Meridian, Yale Division of Yale District.
- 1.3 This section applies to a return collection facility - for the management of household hazardous waste from sources within the Fraser Valley Regional District.
- 1.3.1 The operational certificate holder must obtain the necessary approvals prior to commencement of operation of the return collection facility and ensure compliance with all applicable legislation. The operational certificate holder must notify the Director at least 30 days prior to commencement of operations.
- 1.3.2 The types of material which may be managed at this facility are typical household hazardous wastes.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

- 1.3.3 The quantity of household hazardous waste that may be stored must be in accordance with the Hazardous Waste Regulation and is limited to the registration quantity as a return collection facility.
- 1.3.4 The authorized works are those associated with a return collection facility and include an access area, a secured storage area for household hazardous waste and related appurtenances approximately located as shown on Site Plan A.
- 1.3.5 The facility location is proposed to be on Block “C” of Section 14 and Block “A” of Section 15, Township 11, Range 26, West of the 6th Meridian, Yale Division of Yale District.
- 1.3.6 The operational certificate holder must submit an updated Site Plan A at least 30 days prior to commencement of operations.

2. **DESIGN AND PERFORMANCE REQUIREMENTS**

2.1 **Design, Operations and Closure Plan**

The Operational Certificate holder must operate the facility authorized in Section 1 in accordance with a Design, Operations and Closure Plan (DOCP).

The Plan must address each of the subsections in the ministry’s Landfill Criteria for Municipal Solid Waste including performance, siting, design, operational, closure and post-closure criteria and the Guideline for Environmental Monitoring at Municipal Solid Waste Landfills. The Plan must be certified by a qualified professional.

The plan must include, but is not limited to, information regarding:

- A filling plan for the design capacity of the landfill showing planned development of the individual phases. The plan must incorporate the concept of progressive closure required in Section 6.1 and 6.2 and take into consideration environmental protection measures and the proposed end use of the site;
- Anticipated schedule for progressive closure activities;
- Estimated closure/post closure-costs and details of how the dedicated closure fund required in Section 5.1 will be accrued;
- Estimated elevations;

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

- Cell size, compaction details, daily, intermediate and final cover including types of materials used;
- Actions taken to ensure slope stability;
- Measures to minimize leachate generation, including surface water diversion measures;
- Measures to minimize hazards to public safety;
- Measures to control vectors, odours, dust, wind-blown litter and scavenging;
- Fire prevention measures;
- Operational requirements for the return collection facility for household hazardous waste, if applicable;
- Operational requirements for the organic materials processing facility, if applicable;
- Operational requirements for the soil treatment facility for hydrocarbon contaminated soil, if applicable;
- List of recyclable materials accepted and how they are managed at the site;
- Incoming waste inspection, removal of unauthorized waste and staff supervision on the active face;
- An environmental monitoring program in accordance with the requirements of Section 4.1;
- Contingencies to address environmental protection issues, including leachate, landfill gas management and slope stability, in the event of an earthquake or any other emergency;
- Recommended action plan to be undertaken as a result of the existing and subsequent leachate management assessment required in Section 3.13;
- Recommended actions as a result of the existing and subsequent geotechnical, hydrogeological, landfill gas and any other assessments;
- A landfill gas management plan if required by Section 2.5 and updated in accordance with the Landfill Gas Management Regulation; and
- A contingency plan to close the landfill is to be developed should the landfill close for any other reason.

Should there be any inconsistency between this Operational Certificate and the DOCP, this Operational Certificate will take precedence unless otherwise agreed upon in writing by the Director.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

The DOCP must be reviewed every five (5) years throughout the operating life of the landfill and updated to encompass the next 10 years of landfill operation and/or closure activities. The next updated Design, Operations and Closure Plan is required by **May 31, 2022**.

The Director may require additional reviews of the DOCP based on the compliance history and design performance of the site. The Director may also require the Operational Certificate holder to obtain an independent or third party review of some or all of the DOCP.

2.2 Geotechnical and Seismic Assessment

The Operational Certificate holder must submit a Geotechnical and Seismic Assessment for the landfill that meets the Landfill Criteria for Municipal Solid Waste. The assessment must address, at a minimum, slope stability during construction, operation, and post-closure as required. The Geotechnical and Seismic Assessment must be reviewed and updated every five (5) years. The next updated Geotechnical and Seismic Assessment is required by **May 31, 2018**. Actions recommended in the assessment and subsequent reviews must be incorporated into the Design, Operations and Closure Plan as required in Section 2.1.

2.3 Hydrogeology and Hydrology Characterization Report

The Operational Certificate holder must review the geology, hydrogeology and surface hydrology at and near the landfill authorized in Section 1.1 annually and submit results as part of the annual report required in Section 4.6. Actions recommended in the annual reviews must be incorporated into the design, operations and closure plan as required in Section 2.1 and form the basis of a recommended groundwater and surface water monitoring program as required in Section 4.1. A qualified professional must conduct the annual reviews.

The assessment must meet the Landfill Criteria for Municipal Solid Waste and be reviewed and updated every five (5) years hereafter. The Operational Certificate holder must submit an updated hydrogeology and hydrology characterization report of the landfill authorized in Section 1.1 by **May 31, 2018**. A qualified professional must conduct the assessment and subsequent reviews.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

2.4 **Construction Report**

The Operational Certificate holder must submit a Construction Report after the completion of stage 1 construction and then after any significant construction and/or modification of the landfill facility. The Construction Report must meet the Landfill Criteria for Municipal Solid Waste. Each Construction Report must be submitted within six (6) months following completion of any significant addition and/or modification to the landfill and its authorized works.

2.5 **Landfill Gas Assessment**

The Operational Certificate holder must manage landfill gas in accordance with the Landfill Gas Management Regulation, its guidance documents and this Operational Certificate.

At any time, based on any assessment, report or any other information, the Director may require the installation and operation of further gas recovery and/or pollution prevention works.

2.6 **Qualified Professionals**

All plans, reports, assessments and surveys must be signed and certified by a qualified professional(s). Refer to Section 3.1 of the Operational Certificate for the definition of a qualified professional.

2.7 **Additional Facilities, Works, Plans or Operational Requirements**

The Director may require investigations, surveys, and the construction of additional facilities or works including, but not limited to, leachate control and bear-proofing measures. The Director may also amend any conditions required by this Operational Certificate including plans, programs, assessments and reports.

2.8 **Public Health, Safety and Nuisance**

The landfill must be operated in a manner such that it will not create a public nuisance or become a significant threat to public health or safety with respect to landfill gas, unauthorized access, roads, traffic, airport activity, noise, dust, litter, vectors, or wildlife attraction.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

2.9 Surface Water Diversion

Discharge of municipal solid waste and other waste materials into water is prohibited. The Operational Certificate holder must construct adequate surface water and groundwater diversion works to minimize surface water runoff and groundwater seepage from entering the landfill.

2.10 Ground and Surface Water Quality Impairment

The landfill must be operated in a manner such that ground and surface water quality conditions do not result in a risk of impairment of designated water uses at and beyond the property boundary or 150 metres from the landfill footprint, whichever is closure. Water quality assessments will utilize Approved and Working Water Quality Guidelines, background levels and/or other appropriate criteria as may be specified by the Director.

If exceedances to the specified water quality criteria occur as a result of landfill operations, the Director may require that control measures or works be undertaken in addition to those outlined in Section 3.13.

2.11 Buffer Zones

The Operational Certificate holder must maintain a buffer zone that meets the Landfill Criteria for Municipal Solid Waste or a suitable alternative that is approved by the Director. The buffer zone will provide separation between the waste footprint and the property boundary but may allow for operational infrastructure such as containment berms, access roads, forest service roads, etc.

The existing buffer zone relative to the property boundary is shown in Site Plan A.

2.12 Survey of the Landfill

The Operational Certificate holder must conduct a legal survey which identifies the metes and bounds for both the limits of the landfill footprint and the boundaries of the landfill site. Copies of the land surveys are to be kept on file for review if requested by the Director. The corners and breakpoints of landfill footprint limits and landfill site boundaries are to be established and maintained in the field.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

The Operational Certificate holder must also conduct an aerial survey every 5 years of the height, contour, surface area and settlement of the landfill and submit as part of every 5th annual report required in Section 4.6.

3. OPERATIONAL REQUIREMENTS

3.1 Definitions

“Director” means the Director or a person delegated to act on behalf of the Director, as defined in the *Environmental Management Act*;

“commercial quality soil” means soil which does not contain any substance with a concentration exceeding the lowest applicable numerical soil standard for commercial land as set forth in the Contaminated Sites Regulation;

“Guideline for Environmental Monitoring at Municipal Solid Waste Landfills” means the most recent edition published by the Ministry of Environment, currently dated January 1996;

“hazardous wastes” are defined by the Hazardous Waste Regulation pursuant to the *Environmental Management Act* and are prohibited from disposal unless expressly authorised by the Hazardous Waste Regulation and specified in the Operational Certificate;

“industrial quality soil” means soil which does not contain any substance with a concentration exceeding the lowest applicable numerical soil standard for industrial land as set forth in the Contaminated Sites Regulation;

“Landfill Criteria for Municipal Solid Waste” means the most recent edition published by the Ministry of Environment, currently the 2nd edition dated June 2016;

“qualified professional” means an applied scientist or technologist specializing in a particular applied science including, but not necessarily limited to, agronomy, biology, chemistry, engineering, geology, or hydrogeology and

- who is registered in British Columbia with their appropriate professional organization, acting under that association’s Code of Ethics and subject to disciplinary action by that association, and

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

- who, through suitable education, experience, accreditation and knowledge, respecting solid waste management and related engineering disciplines for the management of leachate, surface water, storm water, ground water and landfill gas and other specialist disciplines may be reasonably relied on to provide advice within their area of expertise;

“Regional Director” means Regional Director, Environmental Protection Division of the Ministry of Environment, or someone designated to carry out authorization administration duties on behalf of the Regional Director;

“return collection facility” means a household hazardous waste collection facility or a mobile household hazardous waste collection facility;

“suitable cover” means soils utilized in accordance with Section 3.5 of this operational certificate or other material acceptable to the Director.

3.2 **Bypasses**

The discharge of effluent which has bypassed site control works as listed in Section 1.1.5 is prohibited unless the prior approval of the Director is obtained and confirmed in writing. In the event of an emergency, Section 3.3 must be followed.

3.3 **Emergency Procedures**

The authorized works must be inspected regularly and maintained in good working order. In the event of an emergency or condition beyond the control of the Operational Certificate holder including, but not limited to, unauthorized fires arising from spontaneous combustion or other causes, or detection of leachate impacting ground water, surface water and/or other media, the Operational Certificate holder must take appropriate remedial action and notify the Director immediately. The Director may reduce or suspend operations to protect the environment until the authorized works have been restored, and/or corrective steps taken to prevent unauthorized discharges.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

3.4 **Inspections**

The Operational Certificate holder must inspect the authorized works regularly and maintain them in good working order. The Regional Director must be immediately notified of any malfunction of these works.

The Operational Certificate holder must inspect the property boundaries regularly and notify the Regional Director of any visual evidence of environmental impacts on adjacent properties.

3.5 **Soil Management**

Soil meeting the commercial land use standard, as set forth in the Contaminated Sites Regulation, may be utilized for berm construction, daily, intermediate and final cover, top dressing and landscaping. Soil with any substance with a concentration exceeding the lowest applicable numerical soil standard for commercial land may only be used for internal berms or daily or intermediate cover. The utilization or discharge exceeding the industrial quality soil standard and hazardous waste soil is prohibited.

Soils utilized for berm construction, intermediate and final cover, top dressing and landscaping shall not be included in determining the rate of discharge specified in Section 1.1.1.

3.6 **Waste Compaction and Covering**

All waste must be placed in cells of a size determined by a qualified professional, and in accordance with the Design, Operations and Closure Plan (DOCP). The working face must be confined to the smallest practical area. The waste must be compacted and covered as per DOCP.

Daily cover consisting of a minimum of 0.15 metres of suitable cover material or a functionally alternate cover material, as authorized by the Director, must be applied to the working face at the end of each operating day. If alternate cover is utilized, then the working face must be covered with a minimum of 0.15 meters of suitable cover at least once every week or as approved by the Director. Intermediate cover, consisting of a minimum 0.30 metres of suitable cover material must be applied within thirty (30) days to any area of the landfill which will not receive any further waste for thirty (30) days. The Director may vary the frequency of covering when freezing conditions adversely affect normal operation.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

3.7 **Completed Areas of the Landfill**

The Operational Certificate holder must apply final cover to any area of the landfill which will not receive any further waste. Final cover is to be applied within 365 days once the total area requiring final cover exceeds 1.5 hectares. Final cover must be applied in accordance with the DOCP required in Section 2.1 and, at a minimum, must consist of a minimum of 1.0 metre of low permeability ($<1 \times 10^{-5}$ cm/s) compacted soil (or equivalent) cap plus a minimum of 0.15 metre of topsoil and suitable vegetative cover, or as approved by the Director.

With the written approval of the Director, the topsoil used for the final covering may be mixed with conditioning agents such as sludge (biosolids), compost and the like to add organics and improve the moisture holding capacity and nutrient value of the soil. Soil must be utilized in accordance with Section 3.5. Final cover must be constructed and maintained with adequate drainage and erosion controls and seeded with suitable grasses. Surface water runoff must be directed away from the landfill footprint.

3.8 **Wildlife and Vector Management**

Vectors (carriers capable of transmitting a pathogen from one organism to another including, but not limited to flies and other insects, rodents, and birds) must be controlled by the application of cover material at the required frequency per Section 3.6 or by such additional methods as specified by the Design Operations and Closure Plan and the Director. This landfill must be operated so as to minimize the attraction of wildlife such as bears and birds by applying cover at required frequencies and instituting a good housekeeping program.

Additional works may be required or other operating instructions may be issued by the Director should a wildlife nuisance or hazard arise.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

3.9 **Electric Fencing**

The Operational Certificate holder must maintain an electrified bear fence, at a minimum, around the landfill footprint, or implement alternative bear-proofing measures, acceptable to the Director, that will deter bears from entering that part of the site. The electric fence must be energized at all times, except for during times of public events, for access to other parts of the site or unless otherwise approved prior by the Regional Director in writing. The fence must be maintained to the standards set out by the manufacturer until implementation of the landfill closure plan required in Section 5.2. Any observations and/or penetrations of the electric fencing by medium and/or large predators must be immediately addressed with repairs and maintenance as necessary. Any repeat observations or penetrations must be reported to the Ministry's Conservation Officer Service.

3.10 **Litter Control**

Litter must be controlled by compacting the waste, minimizing the work face area, applying cover at the required frequencies, providing litter control fences and instituting a regular litter pickup and general good housekeeping program or as specified by the Director.

3.11 **Fire Prevention and Control**

The Operational Certificate holder must take all reasonable measures necessary to prevent fires from occurring at the site and is responsible for complying with all local fire safety requirements. The Operational Certificate holder must provide adequate fire breaks that are free of combustibles around the perimeter of the landfill footprint.

The Operational Certificate holder must maintain firefighting equipment and materials as required. In the event of a landfill fire, immediately notify the local fire department, the Provincial Emergency Program and the Regional Director.

3.12 **Posting of Signs**

The Operational Certificate holder must post signage, to the satisfaction of the Director, at the entrance of the landfill site with the following current information including:

{[sign]DateLabel} {[sign]WILastUpdated}
{[sign]AmendmentText}

{[sign]image:SigningAuthoritySignatureId}
{[sign]SignatureBlockFirstLine}
for Director, *Environmental Management Act*
Authorizations - South Region

- Site name;
- Owner and operator;
- Contact telephone number and address for the owner and operator;
- 24 hour telephone number for landfill concerns;
- Hours of operation;
- Materials and wastes accepted for recycling and land filling;
- Prohibited materials and wastes; and
- Tipping fees.

3.13 **Leachate Management**

The Operational Certificate holder must take measures to minimize leachate generation, including but not limited to, providing effective covering and surface water management. Actions taken and their effectiveness must be detailed in the annual report as required in Section 4.6.

The Operational Certificate holder shall submit a Leachate Management Plan for the landfill authorized in Section 1.1, to the Director, by **May 31, 2018**. The plan must meet the Landfill Criteria for Municipal Solid Waste and the Guideline for Environmental Monitoring at Municipal Solid Waste Landfills and must be reviewed and updated every five (5) years hereafter.

The Leachate Management Plan, prepared by a qualified professional, must review the adequacy of the existing works to determine if leachate is being adequately managed to ensure the protection of the receiving environment. If leachate is not being managed adequately, then the engineered works must be upgraded to ensure effective leachate management to mitigate any identified impacts to the receiving environment. Any identified upgrades must include a schedule for their implementation. Once implemented, the upgraded works shall form part of the authorized works identified in Section 1.1.4.

3.14 **Landfill Gas Management**

The Landfill must not cause combustible gas concentrations to exceed the lower explosive limit in soils at the property boundary or 25% of the lower explosive limit at or in on-site or off-site structures.

{[sign]DateLabel} {[sign]WILastUpdated}
{[sign]AmendmentText}

{[sign]image:SigningAuthoritySignatureId}
{[sign]SignatureBlockFirstLine}
for Director, *Environmental Management Act*
Authorizations - South Region

3.15 Management of Recyclable Materials

The Operational Certificate holder must take all practical measures to segregate recyclable and reusable materials from waste destined for disposal at this site.

Recyclable materials must be managed in a manner to not cause pollution and in accordance with the *Environmental Management Act* and its regulations.

4. MONITORING AND REPORTING REQUIREMENTS

4.1 Environmental Monitoring Plan

The Operational Certificate holder must submit to the Director an Environmental Monitoring Plan by **May 31, 2018**. The Plan must meet the requirements set forth in the Landfill Criteria for Municipal Solid Waste, the Guideline for Environmental Monitoring at Municipal Solid Waste Landfills and the Landfill Gas Management Facilities Design Guidelines in part related to landfill gas management.

The Environmental Monitoring Plan must be kept up-to-date at all times and the Operational Certificate holder must maintain records of all monitoring program data and analyses available for inspection. Any changes to the Environmental Monitoring Plan require the Operational Certificate holder to resubmit the entire plan with the changes to the Director. Based on the information submitted in the annual report, or any other information relevant to the site, the Director may vary the frequency, location and analyses of environmental monitoring as warranted.

The Operational Certificate holder must create an appendix at the end of the Environmental Monitoring Plan that tracks all changes made to the program over the years.

4.1.1 Slope Stability Monitoring

The Operational Certificate holder shall regularly monitor slopes associated with historic or current fill areas for evidence of slope instability as part of regular operations for evidence of tension cracking, veneer instability or failure.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

4.2 **Sampling Procedures**

Sampling is to be carried out in accordance with the procedures described in the "British Columbia Field Sampling Manual for Continuous Monitoring and the Collection of Air, Air-Emission, Water, Wastewater, Soil, Sediment, and Biological Samples, 2003 Edition (Permittee)", or most recent edition, or by suitable alternative procedures as authorized by the Director. A copy of the above manual is available on the Ministry web page at <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance>.

4.3 **Analytical Procedures**

Analyses are to be carried out in accordance with procedures described in the "British Columbia Laboratory Manual (2009 Permittee Edition)", or the most recent edition, or by suitable alternative procedures as authorized by the Director.

A copy of the above manual is available on the Ministry web page at <http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/sampling-methods-quality-assurance>.

4.4 **Waste and Recyclable Materials Recording**

The Operational Certificate holder must record the quantities, in tonnes, of waste, recycling, organics, soil and household hazardous waste received at and removed from the landfill.

4.5 **Records Management**

The Operational Certificate holder must maintain the following information and records, current and suitably tabulated, at the landfill scale house and municipal city hall for inspection:

- A copy of Operational Certificate 101804;
- Training procedures and personnel training records;
- Contingency plans and notification procedures;
- The current Design, Operations and Closure Plan;
- Inspection records from staff and regulatory agencies;

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

- Most recent hydrogeological, hydrology, geotechnical and landfill gas management assessments;
- Incoming waste and soil records;
- Records of recyclable material, soil and household hazardous wastes shipped offsite, including the name of company and the location the recyclable material, soil and household hazardous waste is sent to;
- Environmental monitoring results and interpretations;
- Records of commercial quality soil used as cover material identified in Section 3.5 along with records of soil shipped offsite; and
- Annual operating and monitoring reports for the previous 5 years.

4.6 **Reporting**

The Operational Certificate holder must prepare an annual operations and monitoring report that meets the Landfill Criteria for Municipal Solid Waste and must include, but is not limited to, the following:

- Summaries of waste and recyclable material records, with the amount of waste landfilled reported as a volume or tonnage;
- Summary of recyclable material and household hazardous wastes shipped offsite, including the name of companies and locations the recyclable material and household hazardous waste is sent to;
- Summary of amount of commercial quality soil brought onsite;
- Updated estimates for the remaining capacity, closure date for the current phase and closure date for the current landfill footprint;
- Results of the annual survey required under Section 2.12;
- An evaluation of leachate generation control measures;
- Results of the landfill gas capture, destruction/utilization (when applicable) and monitoring;
- Revised closure/post closure costs, confirmation of sufficient funds available, and a statement of the current dollar value of the Closure Fund and the amount earmarked for the site;
- Recommendations to update the Design, Operations and Closure Plan;
- Revised Environmental Monitoring Plan;
- Identification of operating problems and corrective actions taken;
- An evaluation of the recycling programs including waste diversion;
- A summary of environmental complaints received and their resolutions;
- A summary of occurrences or observations of wildlife at the landfill;

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

- In the event of any non-compliance with the conditions of this Operational Certificate, an action plan and schedule to achieve compliance; and
- The results of all monitoring programs as specified in this Operational Certificate including data interpretation, trend analysis and comparison to the receiving environment water quality guidelines and performance criteria and in the Landfill Criteria for Municipal Solid Waste, the Guidelines for Environmental Monitoring at Municipal Solid Waste Landfills. Where applicable, data should be considered in conjunction with data/information related to any other applicable local activities and land uses.

The annual report for the preceding 12 month period from January 1 to December 31 must be submitted to the Regional Director, Environmental Protection, by **March 31** of each year in accordance with the Ministry's electronic reporting (eReporting) guidelines.

The report is intended as an operational update and monitoring report and also a self-assessment and review of compliance with the conditions of this Operational Certificate. The content of the report should provide the Ministry sufficient details to confirm that monitoring activities for the site have been completed for the subject year and to make an informed assessment of the environmental performance of the site. Further, for any identified non-compliance, the Operational Certificate holder must include in the annual report:

- Mitigation measures to achieve compliance; and
- Implementation schedule for the above mitigation measures.

Other mitigation measures may be specified by the Director.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

5. FINANCIAL SECURITY REQUIREMENTS

5.1 Financial Security

The Operational Certificate holder must accrue, during the life of the landfill, a dedicated reserve fund in a form acceptable to the Director, sufficient to finance liabilities throughout the life of the landfill including progressive closure, closure, post-closure and environmental contingencies related to the landfill. The dedicated closure fund must be established to promote local government accounting and ensure that taxpayers are appropriately funding the future liability associated with the landfills, including progressive closure, closure and post-closure care and monitoring. The methodology and amount of security required in the dedicated reserve fund must be calculated using methods identified in the Landfill Criteria for Municipal Solid Waste and included in the Design, Operations and Closure Plan required in Section 2.1.

The estimated costs of progressive closure, closure and post-closure care and monitoring must be updated annually and submitted to the Regional Director as part of the annual report required in Section 4.6. Should the estimated costs of progressive closure, closure and post-closure care and monitoring increase, then the Operational Certificate holder must increase the rate of accrual, as necessary.

The Director may use all or part of the security to study, assess and/or correct a potential impact to the environment and/or inadequacy of the works as it relates to the construction, operation, maintenance and/or closure when the Operational Certificate holder does not take necessary environmental protection measures in a timely and sufficient manner as determined by the Director. The Operational Certificate holder must replenish all dispensed security within 60 days.

{[sign]DateLabel} {[sign]WILastUpdated}
{[sign]AmendmentText}

{[sign]image:SigningAuthoritySignatureId}
{[sign]SignatureBlockFirstLine}
for Director, *Environmental Management Act*
Authorizations - South Region

6. CLOSURE AND POST-CLOSURE REQUIREMENTS

6.1 Progressive Closure Plan

The Operational Certificate holder must submit a progressive closure plan for the facilities authorized in Section 1 as part of the Design, Operations and Closure Plan to the Director. The Plan must be reviewed and updated every five (5) years or until the site is decommissioned and a post-closure plan under Section 6.3 is approved. The Plan must be prepared by a qualified professional and include information that meets the Landfill Criteria for Municipal Solid Waste, including:

- Phasing Plan showing areas to be progressively closed;
- Plan area of each progressive closure;
- Schedule for each progressive closure;
- Proposed cover system profile, defining materials and material properties for each cover system layer;
- Specifications for a re-vegetation strategy;
- Stability analysis demonstrating cover system will be stable under design storm conditions;
- Analysis of landfill gas production and the need for venting of LFG from beneath the cover system; and
- A materials management plan indicating the quantity of each material required for closure, where it will be sourced, and where it will be stored on-site during closure construction.

6.2 Landfill Closure Plan

The Operational Certificate holder must submit a closure plan for the facilities authorized in Section 1 as part of the Design, Operations and Closure Plan to the Director. The plan must be reviewed and updated every 5 years or until the site is decommissioned and a post-closure plan under Section 6.3 is approved.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

The plan must be prepared by an independent qualified professional and include information that meets the Landfill Criteria for Municipal Solid Waste, including:

- Estimated total waste volume and tonnage and the closure date;
- A topographical plan showing the final elevation contours of the landfill and surface water diversion and drainage controls;
- Design of the final cover, including the thickness and permeability of barrier layers and drainage layers and information on topsoil, vegetative cover and erosion prevention controls;
- Rodent and wildlife control procedures;
- Proposed end use of the property after closure;
- A post-closure monitoring program for groundwater, surface water, landfill gas, erosion and settlement based on the contaminating lifespan assessment;
- Post-closure operation of pollution abatement engineering works such as leachate and landfill gas collection/treatment systems based on the contaminating lifespan assessment; and
- Contingencies to address environmental impact concerns which may arise during the post-closure period based on the contaminating lifespan assessment.

6.3 **Post-Closure Plan**

A post-closure plan that meets the Landfill Criteria for Municipal Solid Waste must be submitted not less than two (2) years prior to decommissioning of the landfill. The post-closure plan must be reviewed every five (5) years following closure and updated to encompass the next 10 years of post-closure activities. The post-closure plan and subsequent updates must be prepared by an independent qualified professional licensed to practice in the province of British Columbia and knowledgeable in such matters.

The post-closure plan and subsequent updates must be submitted to the Director for approval and must include at least the following:

- Incorporation of the closure plan(s) required in Section 6.1 and 6.2;
- A complete review and assessment report of the overall integrity of the landfill;
- Procedures for notifying the public about the closure and alternative waste disposal facilities;

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

- A detailed timetable for post-closure procedures and correction of any deficiency identified in the review and assessment report;
- A detailed schedule of inspection, monitoring and maintenance to be carried out for a minimum post-closure period based on the contaminating lifespan assessment required by the Landfill Criteria for Municipal Solid Waste; and
- A process for the administration of the post-closure security fund required under Section 5.1 of this Operational Certificate.

6.4 **Declaration of Landfill**

Landfills sited on titled land must register a covenant that the property was used for the purpose of waste disposal as a charge against the title to the property as provided for under Section 219 (1) of the Land Title Act, as well as a requirement that binds successors in title to uphold the continued implementation of the approved closure plan.

Landfills located on crown land are to have a “notation on file” registered that the property was used for the purpose of waste disposal as well as a requirement that binds successors in title to uphold the continued implementation of the approved closure plan under Sections 6.2 and/or 6.3. The Operational Certificate holder cannot cancel its lease with the Province on the land in question until such time that the Ministry of Environment agrees to the cancellation. The registration of the charge or legal notification must be submitted to the Regional Director.

6.5 **Site Decommissioning**

In accordance with Section 40 of the *Environmental Management Act* and Part 2 of the Contaminated Sites Regulation, the Operational Certificate holder must submit a site profile to the Director not less than 10 days prior to decommissioning the facilities authorized in Section 1.

{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

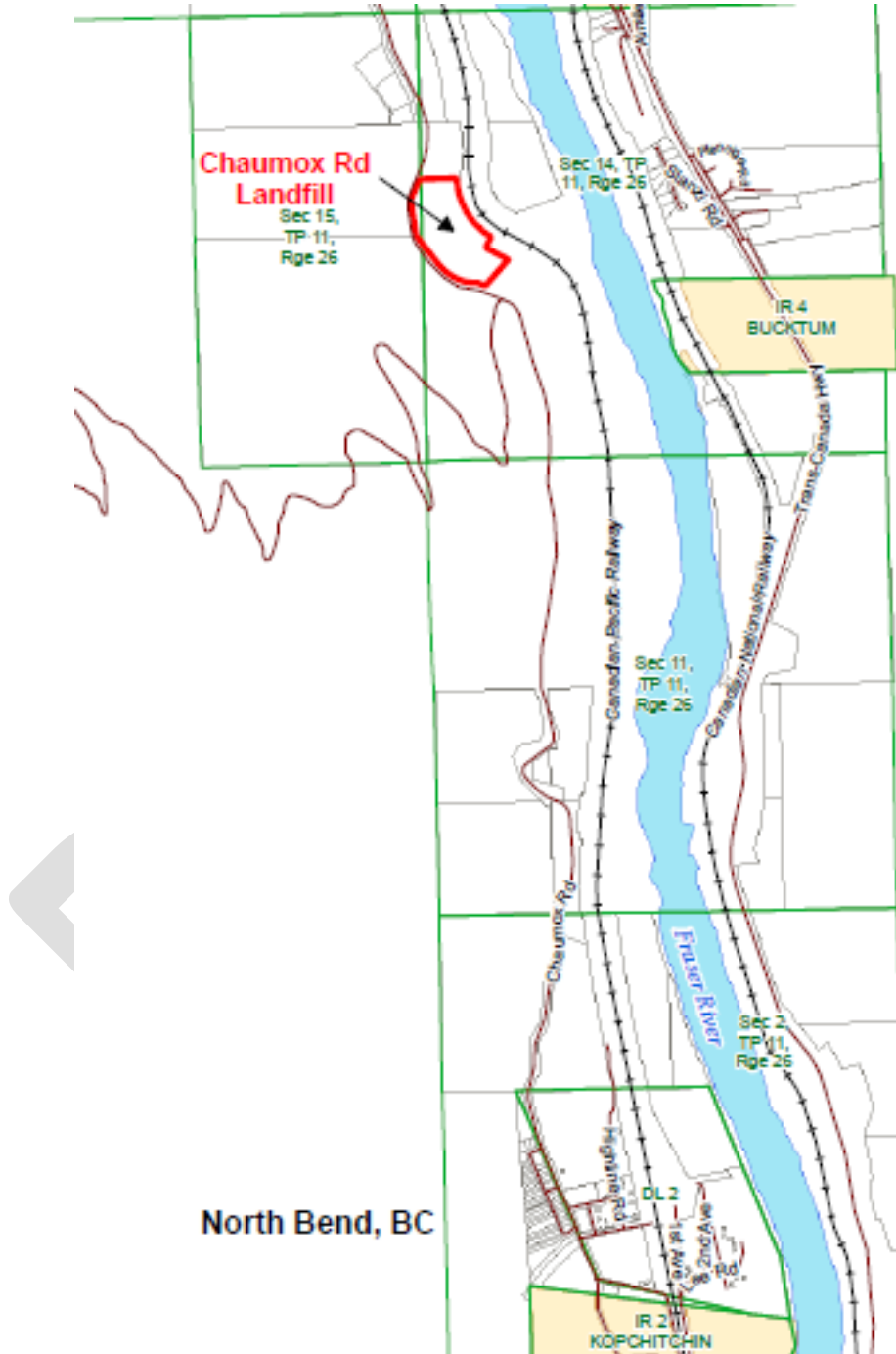
SITE PLAN A



{{[sign]DateLabel}} {{[sign]WILastUpdated}}
 {{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
 {{[sign]SignatureBlockFirstLine}}
 for Director, *Environmental Management Act*
 Authorizations - South Region

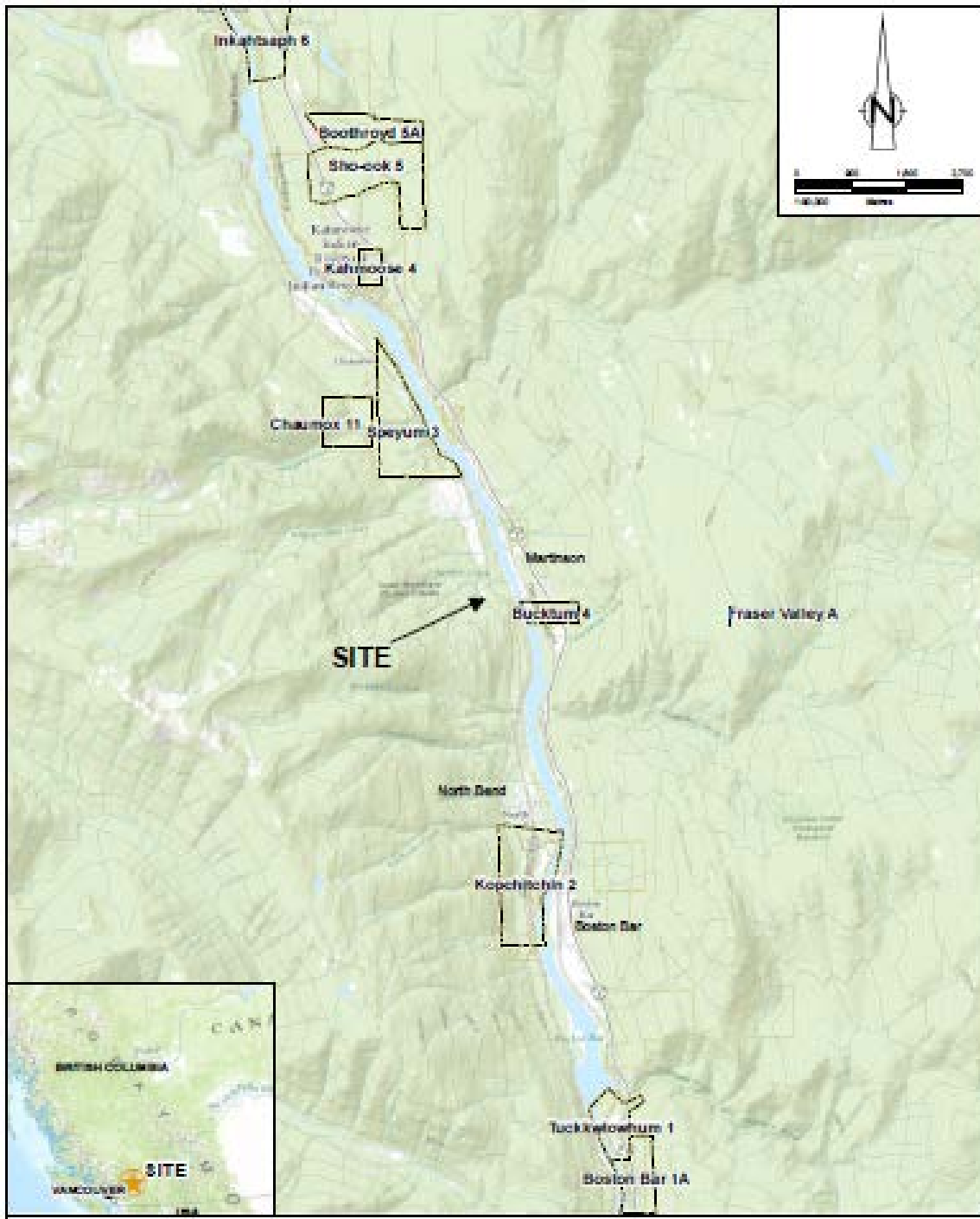
LOCATION MAP 1



{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region

LOCATION MAP 2



{{[sign]DateLabel}} {{[sign]WILastUpdated}}
{{[sign]AmendmentText}}

{{[sign]image:SigningAuthoritySignatureId}}
{{[sign]SignatureBlockFirstLine}}
for Director, *Environmental Management Act*
Authorizations - South Region