



August 21, 2013

Tracking Number: 225272
Authorization Number: 105809

REGISTERED MAIL

Cobble Hill Holdings Ltd. (BC0754588)
Herald Street Law
101-536 Herald Street
Victoria BC V8W 1S6

Dear Permittee:

Enclosed is Permit 105809 issued under the provisions of the *Environmental Management Act*. Your attention is respectfully directed to the terms and conditions outlined in the permit. An annual fee will be determined according to the Permit Fees Regulation.

This permit 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 Permittee. This permit is issued pursuant to the provisions of the *Environmental Management Act* to ensure compliance with Section 120(3) of that statute, which makes it an offence to discharge waste, from a prescribed industry or activity, without proper authorization. It is also the responsibility of the Permittee 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.

Administration of this permit will be carried out by staff from the West Coast Region. Plans, data and reports pertinent to the permit are to be submitted to the Regional Manager, Environmental Protection, at Ministry of Environment, Regional Operations, West Coast Region, 2080A Labieux Road, Nanaimo, BC V9T 6J9.

Yours truly,

A handwritten signature in black ink, appearing to read "Hubert Bunce", written in a cursive style.

Hubert Bunce
for Director, *Environmental Management Act*
West Coast Region

Enclosure

cc: Environment Canada



MINISTRY OF
ENVIRONMENT

PERMIT

PR-105809

Under the Provisions of the Environmental Management Act

Cobble Hill Holdings Ltd. (BC0754588)

**Herald Street Law
101-536 Herald Street
Victoria BC V8W 1S6**

is authorized to discharge refuse to ground and effluent to an ephemeral stream from a contaminated soil treatment facility and a landfill facility located at 640 Stebbings Road, Shawnigan Lake, British Columbia, subject to the terms and conditions listed below. Contravention of any of these conditions is a violation of the *Environmental Management Act* and may lead to prosecution.

1. **AUTHORIZED DISCHARGES**

1.1 **Authorized Discharges – General Conditions**

This section applies to the discharge of refuse from a contaminated soil treatment and to the landfill facility.

- 1.1.1 The combined maximum rate of discharge from the treatment and to the landfill facility is 100000 tonnes per year. The estimated density of soil accepted at the site ranges from 1.5 to 1.8 t/m³ for the purpose of sampling incoming soil or treated soil for characterization. The above density estimate may be modified at any time with a scientific sampling method approved by the Director.
- 1.1.2 The authorized discharge period is between 7am and 5pm Monday to Friday.
- 1.1.3 The characteristics of the discharges must be as described under Subsections 1.2 and 1.3.

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Soil relocation requirements of the Contaminated Sites Regulation (CSR) apply to all other parameters than those specified in this permit and in the Soil Acceptance Plan referred to under Section 2.2.

Soils meeting facility location background quality in accordance with CSR Protocol 4 may also be discharged.

If land use or site specific factors specified in Column I of Schedule 5 of the CSR change at the permitted site, the Permittee must promptly notify the Director and immediately apply them for the purpose of Subsections 1.2 and 1.3.

1.1.4 The authorized works as defined under Subsections 1.2.1, 1.3.1, 1.4.5 and 1.5.4 must be complete and in operation while discharging.

1.1.5 The location of the facilities and the points of discharge is Lot 23, Plan VIP78459, Blocks 156, 201 and 323, Malahat Land District.

1.2 **Authorized Discharge –Treatment Facility**

This section applies to the discharge of refuse from a soil treatment facility. The site reference number for this discharge is E292169.

1.2.1 The authorized works are a lined asphalt paved soil management and bio-remediation treatment area of approximately 1800 m², temporary soil holding area (as described under Subsection 2.3), biocell, berm, primary and secondary containment detection and inspection sumps and associated cleanout ports, catch basins, groundwater monitoring wells (as described under Subsection 3.3), management works and related appurtenances approximately located as shown on Figure A.

1.2.2 The characteristics of the discharge must be equivalent to or better than:

soil suitable for industrial land use, as described by the Generic and Matrix Numerical Soil Standards in Schedule 4, 5, 7 and 10 (Column IV “Commercial, Industrial Soil Standard”) of the CSR, including the most stringent applicable site specific factors as defined in the Environmental Procedures Manual (EPM) referred to in Subsection 2.13, considering intake of contaminated soil, toxicity to soil invertebrates and plants and

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groundwater flow to surface water used by freshwater aquatic life for the authorized soil treatment and discharge parameters as specified in Subsection 1.2.3.

- 1.2.3 The types of soil that can be bio-remediated at the treatment facility are soils contaminated with hydrocarbons, specifically soils contaminated with Benzene, Toluene, Ethylbenzene, Xylene (BTEX), Styrene, Methyl Tertiary Butyl Ether (MTBE), Volatile Petroleum Hydrocarbons (VPHs), Light and Heavy Extractable Petroleum Hydrocarbons (LEPHs/HEPHs), Polycyclic Aromatic Hydrocarbons (PAHs), Chlorinated Hydrocarbons, Phenolic Substances, Chloride, Sodium and Glycols as defined in Schedules 4 and 5 of the CSR.

Soils co-contaminated with hydrocarbons as described in this section and metals or other contaminants not suitable for bioremediation meeting industrial land use standards as defined in Schedules 4 and 5 of the CSR may also be accepted for treatment at the biocell.

1.3 Authorized Discharge – Landfill Facility

This section applies to the discharge of refuse from a soil treatment facility and from relocated contaminated soil and associated ash. The site reference number for this discharge is E292889.

- 1.3.1 The authorized works are a landfill, engineered lined landfill cells, perimeter ditches, erosion and sedimentation control infrastructure, primary and secondary containment detection and inspection sumps and associated cleanout ports, catch basins, groundwater monitoring wells, management works and related appurtenances approximately located as shown on Figure A.

- 1.3.2 The characteristics of the discharge must be better than:

Hazardous waste, as described in the Schedule 1, 1.1, 3 and 4 (Part 3, table 1 – Leachate Quality Standards) of the Hazardous Waste Regulation (HWR) and must be limited to contaminated soils and associated ash. Hazardous waste (as defined in the *Environmental Management Act* and the HWR), liquids, putrescible and other wastes must not be discharged.

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for Director, *Environmental Management Act*
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The Director may specify different standards and other substances in writing for the protection of human health or the environment.

- 1.3.3 The types of soil that can be discharged at the landfill facility are soils and associated ash contaminated with metals, Dioxins, Furans, BTEX, MTBE, VPHs, LEPHs/HEPHs, PAHs, Styrene, Chlorinated Hydrocarbons, Phenolic Substances, Chloride, Sodium and Glycols as defined in Schedules 4 and 5 of the CSR.

1.4 **Ancillary Discharge – Water Treatment System**

This section applies to the discharge of effluent from the water treatment system (WTS). The site reference number for the WTS discharge is E292170.

- 1.4.1 The annual average rate of the WTS discharge is 12.1 cubic metres per day.
- 1.4.2 The maximum rate of the WTS discharge is 274 cubic metres per day.
- 1.4.3 The authorized discharge period is continuous.
- 1.4.4 The characteristics of the discharged treated effluent must be equivalent to or better than the most stringent of those British Columbia Approved Water Quality Guidelines (BCAWQG) and A Compendium of Working Water Quality Guidelines for British Columbia (BCWWQG) for Freshwater Aquatic Life (AL) protection and Drinking Water (DW) uses for the parameters of concern: Inorganic Substances including metals, VPHw, LEPHw, VHW₆₋₁₀, EPHW₁₀₋₁₉, PAHs, BTEX, Styrene, Chlorinated Hydrocarbons, Phenolic Substances, Chloride, Sodium, Glycols, pH and Oil & Grease.

Dioxins and Furans analysis must be conducted at a laboratory and using an analytical method agreed to by the Director and results must be below detection limit at all times.

The source of the discharge must be limited to site stormwater runoff and water from the primary and secondary containment systems authorized under Subsections 1.2.1, 1.3.1 and 1.4.5.

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writing for the protection of human health or the environment.

- 1.4.5 The authorized works are surface runoff collection and diversion ditches associated with the WTS, WTS (including pH control and flocculent injection system, settling tank, bag and activated carbon filters), leachate and leak detection reservoirs, flow measurement device, monitoring and sampling equipment, reservoirs and related appurtenances approximately located as shown on Figure A.
- 1.4.6 The authorized works must be complete and in operation while discharging.
- 1.4.7 The location of the facilities from which the discharge originates and the point of discharge is Lot 23, Plan VIP78459, Blocks 156, 201 and 323, Malahat Land District.

1.5 **Ancillary Discharge – Settling Pond**

This section applies to the discharge of stormwater from the settling pond. The site reference number for the settling pond outlet is E292898.

- 1.5.1 The rate of the settling pond discharge is 42,500 cubic metres per day for up to 1 in 10 year return period flood event of 24 hour duration.
- 1.5.2 The authorized discharge period is continuous.
- 1.5.3 The characteristics of the settling pond discharge effluent (SW-1) must be equivalent to or better than the most stringent of those BCAWQG and BCWWQG for Freshwater Aquatic Life uses and Total Suspended Solids (TSS) must not exceed 25 mg/L for up to 1 in 10 year return period flood event of 24 hour duration.

For flood events greater than 1 in 10 year return period flood event of 24 hour duration, the characteristics of the settling pond discharge must not exceed background concentrations (SW-4).

The source of the discharge must be limited to non contact site stormwater runoff and treated effluent released from the WTS described in Subsection 1.4.

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The Director may specify different standards and other substances in writing for the protection of human health or the environment.

- 1.5.4 The authorized works are surface runoff collection and diversion ditches, leachate, surface runoff and leak detection control reservoirs, one surface settling pond, flow measurement device, monitoring and sampling equipment, emergency overflow and related appurtenances approximately located as shown on Figure A.
- 1.5.5 The authorized works must be complete and in operation while discharging.
- 1.5.6 Settled solids which have accumulated in the settling pond must be removed as required to maintain a minimum water depth below the pond decant of 0.5 metre. The removed solids must be disposed of in a manner approved by the Director.
- 1.5.7 The location of the facilities from which the discharge originates and the point of discharge is Lot 23, Plan VIP78459, Blocks 156, 201 and 323, Malahat Land District.

2. **GENERAL REQUIREMENTS**

2.1 **Soils and Associated Ash Unacceptable for Treatment**


The following types of waste must not be accepted for treatment at the site:

- 1) Hazardous waste as defined in the HWR;
- 2) Soils contaminated with any substances not included in Subsection 1.2 above with concentrations exceeding relevant standards specified in Schedule 4 and 5 of the CSR;
- 3) Soils and associated ash that cannot be treated or landfilled successfully in the opinion of the Director; and
- 4) Liquid waste or soil and associated ash with a water content exceeding those described in the Soil Acceptance Plan.
- 5) Restricted wastes listed in the Soil Acceptance Plan described in Subsection 2.2 of this permit.

2.2 **Screening and Acceptance of Soil**

The Permittee must submit a Soil Acceptance Plan prepared by a Qualified

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Professional to the satisfaction of the Director for screening soil and associated ash for all potential contaminants of concern prior to receiving any material at the facility. No changes must be made to the plan without prior approval by the Director. The Director may amend the plan for the protection of human health or the environment.

Those soils suspected to be unacceptable must be either rejected immediately or placed in a holding area (as defined in Subsection 2.3) within the soil management area waiting further re-characterization by a Qualified Professional in accordance with Technical Guidance Document #1 (Site Characterization and Confirmation Testing). If further characterization confirms soils as unacceptable for treatment or landfilling (as defined in Subsections 1.2 and 1.3) the soil must not be mixed with any other soil and must be removed from the facility in accordance with the requirements of the *Environmental Management Act* and of the CSR.

2.3 **Holding Area for Soil and Associated Ash Suspected/Determined to be Unacceptable**


The Permittee must designate a holding area within the soil management area for short term storage of soil waiting for re-characterization or shipment to an appropriate management site as determined by a Qualified Professional. Short term storage must not exceed 30 days from the day of the delivery or as agreed by the Director. The soil must be kept separate from the soil treatment area and be protected from the weather at all times.

2.4 **Bedrock Integrity Inspection and Risk Assessment**

A bedrock integrity inspection and risk assessment report must be submitted to the Director prior to the construction of any landfill cells. For any abnormalities (open fractures, presence of water, percolation, etc) identified during the inspection, the Permittee must notify the Director immediately and issue a structural report within 30 days following the inspection. The report must be submitted to the satisfaction of the Director and prepared by a suitably Qualified Professional and must include, but is not limited to:

- a) all relevant information collected during the inspection and detailing the abnormality;
- b) an explanation and/or interpretation of the abnormality;
- c) a risk assessment in regards to the risk to human health and the receiving

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- environment; and
d) remedial action planned and/or taken to control the risks.

2.5 Soil Aeration

- a) Where the thickness of contaminated soil within the soil treatment facility is greater than 30 cm, the Permittee must periodically conduct mechanical soil aeration. Soil aeration must only be done under the following conditions to prevent nuisance to potential receptors:
- i. Ventilation index for Southern Vancouver Island for the day of soil turning is forecast as “good”;
 - ii. No sooner than three hours after sunrise and no later than two hours before sunset but within the authorized discharge period defined under Subsection 1.1.2;
 - iii. Favorable weather conditions (considering temperature and wind direction, etc.)
- b) Prior to every soil aeration event the Permittee must record the ventilation index forecast, time of sunrise and sunset, time and duration of aeration, and ambient temperature. Records must be tabulated along with soil volumes aerated and chemical characteristics in the biocell at the time of aeration.

2.6 Soil Amendment and Prohibition of Blending

Bioremediation must be undertaken without blending/mixing of contaminated soil with cleaner soils for the purpose of dilution to meet the required standards.

Soil amendments which will enhance remediation potential, including bulking materials such as sawdust or straw, may be added prior to or during treatment. Should water be required to enhance soil treatment, contact water generated at the facility must be used in priority.

2.7 Weather Protection

The Permittee must cover the soil treatment piles, soil holding area and active landfill areas completely from November to April when not actively worked on and provide sufficient weather protection and containment for nutrients stored at the site for the protection of human health and the environment.

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The Permittee must cover any soil stored within the holding area at all times.

2.8 Erosion and Sedimentation Control

The Permittee must ensure erosion and sedimentation control measures are implemented with the soil management and treatment area and the landfill area, to limit sediment releases to the settling pond, the water treatment system and to the receiving waters. Storm water runoff must be diverted away from the soil management and treatment area and all active landfill areas at all times.

Erosion and sedimentation controls must be developed and implemented according to industry best management practices and consider the Aggregate Operators Best Management Practices Handbook prepared by the Ministry of Energy and Mines.

2.9 Odour Control

There must be no objectionable hydrocarbon odour evident outside the property boundaries. The Permittee must, at a minimum, implement contingency measures if the ambient air quality sampling results exceed the air quality standards defined under Subsection 3.5. The contingency measures must be defined in the EPM as documented in Subsection 2.13 and include, but are not limited to, reduced soil aeration times and the covering of soil piles.

The Director may amend the permit to require the implementation of additional control measures to limit odour generation.

2.10 Dust Control

Fugitive dust created within the operation area must be suppressed. Measured dustfall must not exceed the B.C. Ambient Air Quality Residential Objective of 1.7 mg/(dm²-day) over a two week averaging period at the property boundary. The contingency measures must be documented in the EPM as defined in Subsection 2.13 and include, but not limited to, reduced activities, covering or application of dust suppressant on soil piles and exposed areas.

The Director may amend the permit to require the implementation of additional control measures on fugitive dust sources.

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2.11 Spill Reporting

All spills to the environment (as defined in the Spill Reporting Regulation) must be reported immediately in accordance with the Spill Reporting Regulation. Notification must be via the Provincial Emergency Program at 1-800-663-3456.

2.12 Maintenance of Works and Emergency Procedures

The Permittee must inspect the authorized works regularly and maintain them in good working order. In the event of an emergency or condition beyond the control of the Permittee which prevents effective operation of the authorized works or leads to unauthorized discharge, the Permittee must comply with all applicable statutory requirements, immediately notify the Director, and take appropriate remedial action for the prevention or mitigation of pollution. The Director may reduce or suspend operations to protect human health or the environment until the authorized works have been restored and/or corrective steps have been taken to prevent unauthorized discharges.

The Permittee must prepare and maintain an Emergency Response Plan (ERP) to the satisfaction of the Director that describes the procedures to be taken to prevent or mitigate any discharge in contravention of the EPM. The ERP must be immediately implemented if there is a discharge, or any risk of a discharge in contravention of the EPM. In addition, an up-dated ERP, including a report on any emergency responses, taken in the previous year, must be kept available, on site for inspection, as defined under Subsection 5.1.

The Permittee must review the ERP at least on an annual basis to determine if any changes are required and submit any revisions to the Director for acceptance.

2.13 Environmental Procedures Manual

An Environmental Procedures Manual (EPM) must be prepared and submitted by the Permittee to the Director. No soil may be received prior to acceptance of the EPM by the Director. The EPM must be kept current and available for use as a guide at all times at the facility. The manual must cover all typical aspects of an Environmental Management Systems (EMS) relevant to the management of the soil treatment, water treatment and landfill facilities including but not limited to, the following items:

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- a) Risk identification and prioritization;
- b) Administrative and engineering controls;
- c) Roles and responsibilities;
- d) Training requirements;
- e) A Soil Acceptance Plan;
- f) A Water Management Plan;
- g) An Environmental Monitoring Plan, including on and off site monitoring locations and the sampling procedures for soil, water, groundwater and air quality, as required;
- h) An Emergency Response Plan, including contingency measures.
- i) Details on the site preparation and the construction of landfill cells;
- j) Operation, inspection and maintenance of the soil management and treatment facility, the landfill facility, the water treatment system, erosion and sediment controls measures, the settling pond and associated appurtenances;
- k) Internal and external EMS audits, and;
- l) Notification, reporting, investigation and corrective and preventive measures.

The Permittee must review the EPM at least on an annual basis to determine if any changes are required and submit any revisions to the Director for acceptance. Annual reviews and submission of revisions are due on March 31 of each year.

2.14 **Advisory Committee**

The Permittee must establish an Advisory Committee and develop terms of references to the satisfaction of the Director. The Committee must be composed of one representative of each relevant regulatory agency and one representative from the local government. The Committee must meet annually within 3 months of the submission of the annual report as required under Subsection 5.3 and provide advice to the Director within 30 days of the meeting. Based on advice of the Committee, the Director may revise the monitoring, sampling and reporting requirements in Sections 3 and 5.

2.15 **Qualified Professionals**

All facilities and information, including works, plans, bedrock integrity and risk assessment, assessments, sampling, monitoring, investigations, surveys, programs and reports, must be conducted and certified by Qualified

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Professionals.

"Qualified Professional" means a person who

- a) is registered to practice in British Columbia with his or her appropriate professional association, acts under that professional association's code of ethics, and is subject to disciplinary action by that professional association, and;
- b) through suitable education, experience, accreditation and knowledge may be reasonably relied on to provide advice within his or her area of expertise as it relates to this permit.

2.16 Bypasses

The discharge of contaminants which have bypassed the authorized treatment works is prohibited unless the prior approval of the Director is obtained and confirmed in writing, except those authorized under Subsection 1.2 of this permit.

Temporary storage or accidental deposit of contaminated soil at areas other than the soil management area is considered a bypass.

2.17 Process Modifications

The Director must be notified in writing prior to implementing changes to any process that may adversely affect the quality and/or quantity of the discharge.

2.18 Plans - New Works

Plans and specifications of the works must be certified by a Qualified Professional registered to practice in the Province of British Columbia, and submitted to the Director. A Qualified Professional must certify that the works have been constructed in accordance with the plans before discharge commences.

2.19 Notification

The Director must be notified of a change in ownership of the works a minimum of 10 days prior to an ownership change.

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2.20 Amended or Additional Requirements

Based on the results of the monitoring programs, the Director may:

- a) Amend the monitoring and reporting requirements;
- b) Amend the requirements of any of the information required by this permit; including plans, program and studies;
- c) Require additional investigations, tests, surveys or studies; or
- d) Require additional treatment facilities.

3. MONITORING AND SAMPLING REQUIREMENTS

3.1 Incoming Soil and Associated Ash Sampling and Analysis

The Permittee must follow sampling procedures and frequency specified in the approved Soil Acceptance Plan described under Subsection 2.2 to verify soil and associated ash quality. The contaminants must include, but not be limited to, the parameters of concern listed in Subsection 1.3.3, as determined by a Qualified Professional. The Director may require testing of soil and associated ash for additional parameters.

3.2 Treated Soil Sampling and Analysis

The Permittee must sample and characterize each batch of treated soil in accordance with Technical Guidance #1 Site Characterization and Confirmation Testing or an equivalent sampling protocol approved by the Director. Each batch must be considered to be of suspect waste soil quality. Soil must be analysed prior to disposal as authorised in Subsection 1.2 and 1.3 of this permit. The samples must be analysed for the parameters relevant to the type of contamination for which the soil is undergoing treatment as determined by a Qualified Professional. The appropriate parameters must include, but must not be limited to, the parameters of concern listed in Subsection 1.3.3 as determined by a Qualified Professional.

Confirmation of completion of soil treatment must be obtained in writing from a Qualified Professional prior to discharge, for each stockpile of treated soil.

3.3 Groundwater Sampling and Analysis

The Permittee must install and maintain a minimum of seven groundwater

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sampling facilities (MW-1(S/D), MW-2, MW-3(S/D), MW-4 and MW-5) as shown on Figure B and obtain groundwater samples once each quarter in a manner satisfactory to the Director. MW-4 and MW-5 must be drilled using a non-destructive method and cores must be logged by a Qualified Professional. The design and location of the wells must be to the satisfaction of the Director. Proper care must be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination, breakage, etc.

Groundwater samples must be analysed for all potential contaminants of concern. The contaminants may include, but not be limited to, the parameters of concern listed in Subsection 1.3.3, as determined by a Qualified Professional. The groundwater quality must be compared to the standards described in Schedules 6 and 10 of the CSR or any additional standards specified by the Director in writing.

The Permittee may be required to install additional groundwater sampling facilities upon request. The location and structural details of these sampling facilities are subject to the approval of the Director.

3.4 Surface Water Sampling and Analysis

The Permittee must sample the water treatment system effluent (WTS) and the settling pond discharge point (SW-1) monthly and every 2000 m³ for the water treatment system discharge effluent in a manner suitable to the Director. Proper care must be taken in sampling, storing and transporting the samples to adequately control temperature and avoid contamination, breakage, etc.

Turbidity of the settling pond discharge effluent (SW-1) must be monitored bi-weekly between November to April and after every event greater than 1 in 10 year return period flood event of 24 hour duration.

Surface water samples must be analysed for all potential contaminants of concern. The contaminants may include, but not be limited to, the parameters of concern listed in Subsection 1.3.3, as determined by a Qualified Professional. The surface water quality results must be compared to the standards set out in Subsection 1.4.4 and 1.4.5.

3.5 Air Quality Monitoring

The Permittee must collect monthly ambient air samples during the active

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season (i.e. between April and November, inclusive) at the down-wind property line using a Summa® Canister. Ambient air samples must also be collected using a Summa® Canister if and when soils with measurable volatile contaminant concentrations exceeding the established thresholds are being managed or treated at the soil treatment facility at the location and as documented in the EPM.

The ambient air sample must be analysed for the all potential contaminants of concern, as determined by a Qualified Professional, and results must be compared to the CSR Schedule 11 RL standards. In the event that results exceed the standards, the Permittee must follow the requirements stated under Subsection 2.9.

3.6 Receiving Environment Sampling

The Permittee must implement a receiving environment monitoring program for the receiving groundwater and surface water summarized in the table below and as defined under the EPM:

Receiving Waters	Monitoring Locations		Frequency
Groundwater	Up Gradient	(MW-4) Southeast corner of the site	Quarterly
	Down Gradient	(MW-1(S/D)) On site	
		(MW-2) Property boundary	
		(MW-3(S/D)) Property boundary	
		(MW-5) North of the site	
Surface Water	Up Gradient	(SW-4) Shawnigan Creek	5 in 30** (2 times/year, conducted during fall first flush event and in the spring freshet)
		(SW-2) Ephemeral Creek 1	
	Down Gradient	(SW-5) Shawnigan Creek	
		(SW-3) Ephemeral Creek 2	

* 5 in 30 refers to at least 5 weekly samples taken in a period of 30 days. Due to the ephemeral nature of some of the creeks, the first 5 in 30 sample should be collected when the ground has first been saturated.

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Flow measurements must be collected from all surface water monitoring locations at the time of sampling.

Based on the results from the receiving environment monitoring program, the monitoring requirements may be extended or altered by the Director.

3.7 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 www.env.gov.bc.ca/epd/wamr/labsys/lab_meth_manual.html

3.8 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 www.env.gov.bc.ca/epd/wamr/labsys/lab_meth_manual.html

3.9 Quality Assurance

- a) The Permittee must obtain from the analytical laboratory (ies) their precision, accuracy and blank data for each sample set submitted as well as an evaluation of the data acceptability, based on the criteria set by the laboratory.
- b) A duplicate sample must be prepared and submitted for analysis for each parameter sampled for each monitoring period.
- c) The analytical laboratory (ies) must be registered in accordance with the Canadian Association of Laboratory Accreditation (CALA) unless otherwise instructed by the Director.

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4. SECURITY REQUIREMENTS

4.1 Closure Plan

The Permittee must submit a closure plan to the satisfaction of the Director in 6 months after the issuance of this permit. Based on monitoring results or changes in the operation, the Director may require amendment of the plan for environmental protection.

The closure plan must include, but may not be limited to investigations of soil, sediments, surface water and groundwater quality and treatment, identification and assessment of any residual contamination. If any residual contamination is identified, the Permittee will be required to remediate the site to meet the applicable soil, surface water and groundwater standards and objectives, as determined by the Director.

The closure plan must be reviewed at least every five (5) years to inform the security adjustment defined in Subsection 4.2.

4.2 Posting of Security and Costs

The Permittee must submit a cost estimate for maintenance, monitoring, remediation and closure of the landfill for the active life of the site and a minimum twenty-five year post-closure period based on the current updated Closure Plan referred to in Subsection 4.1. The cost estimate must be prepared or reviewed by a suitably qualified, independent third party. The cost estimate is subject to the Director's approval.

An updated cost estimate must be reassessed and submitted to the Director for approval at least once every five (5) years and the security adjusted accordingly. The Director has the discretion to require reassessment on a more frequent basis.

The Permittee must provide and maintain security in a form and amount specified by the Director. At the discretion of the Director security may be applied, to any of the following:

- To correct any inadequacy of the works relating to their construction,

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operation and maintenance;

- To correct any non-compliance with this permit or the *Environmental Management Act*; and remediation.

Any money spent from the posted security must be replenished within sixty (60) days or as otherwise specified by the Director.

The operation of the facility without valid security is not authorized.

The Permittee may request the return of security where the title of the works has been transferred to a municipal authority or where the posted amount exceeds the estimated closure and post-closure costs, including remediation. Granting the request is at the discretion of the Director.

5. REPORTING REQUIREMENTS

5.1 Records

Maintain for inspection by Environmental Protection Division staff, a record of the following logs, suitably tabulated:

- 1) Landfill cells construction QA/QC results;
- 2) Maintenance records of pollution control equipments listed as authorized works;
- 3) Facility inspection log with a record of observations of the soil management and treatment and landfill areas (including but not limited to bedrock integrity, liner, cover, stormwater and effluent collection and treatment works inspections), and preventative and corrective actions identified and implemented;
- 4) Current soil and associated ash inventory, including volumes and characteristics of soils and associated ash in the soil management and treatment area and landfill area;
- 5) Tracking ID number linked to soil and associated ash analysis results and the signature of a Qualified Professional who certifies completion of remediation in accordance with the requirements of the CSR and compliance with this permit;
- 6) Location of each batch of soil and associated ash in the soil management and treatment and landfill area on a map;
- 7) Analyses of screening of incoming soils and associated ash, and

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- associated QA/QC results, as described in Subsection 2.1 and 2.2 of this permit;
- 8) Soil treatment activities including turning records and quantities of nutrients, bacteria seed or amendments added by date;
 - 9) Weather conditions during turning events as described in Subsection 2.5 of this permit;
 - 10) Results of the vapour and dust monitoring activities as required;
 - 11) Analyses of treated soil, and associated QA/QC results, as described in Subsection 1.2 of this permit;
 - 12) Quarterly volumes of soil stored in the holding area, awaiting final disposal as described in Subsection 2.3 of this permit;
 - 13) A summary of Emergency Response Plan exercises, and incidents, including effluent/soil spills, requiring the Emergency Response Plan implementation.

The above records of analyses for the re-characterization or characterization of incoming soil or treated soil, respectively, must include batch sizes, number of samples collected and analysed per volume.

Records must be kept on site or at another location acceptable to the Director for at least three years and made available upon request.

5.2 Environmental Quarterly Reports

The Permittee must submit environmental quarterly reports prepared by a Qualified Professional with all monitoring data and associated QA/QC results, interpretations, conclusions and recommendations in a format acceptable to the Director and post the results online and provide a hard copy to the Director no later than 30 days after the end of each quarter.

5.3 Environmental Annual Reports

The Permittee must submit an environmental annual report prepared by a Qualified Professional with monitoring data and associated QA/QC results, interpretations, conclusions and recommendations in a format acceptable to the Director no later than March 31 of each year.

The environmental annual report must include, but is not limited to, the following:

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- 1) An executive summary;
- 2) Quality and quantity (in tonnes and m³) of soil and associated ash received for treatment, direct landfilling and as direct landfill cover;
- 3) Quality and quantity (in tonnes and m³) of soil and associated ash that could not be treated in the soil treatment facility and soil and associated ash rejected and diverted to other facilities for treatment and/or disposal;
- 4) Updated maps showing the active landfill area, the areas reclaimed and the location of each landfill cells (completed and in progress);
- 5) Landfill operational plan and remaining landfill life and capacity;
- 6) Review of the preceding year of operation, plans for the next year and a summary of any new information or changes to the facilities and plans, assessments, programs and reports;
- 7) Review of any non-compliances with the conditions of this permit, including an action plan and schedule to achieve compliance (as per Subsection 6.1); and
- 8) Results from the Environmental Monitoring Plan with interpretations, conclusions and recommendations.

The Permittee must post the environmental annual report online and provide a hard copy to the local library by March 31 of each year. The Permittee may omit proprietary information from the publically available environmental annual report in accordance with the Freedom of Information and Protection of Privacy Act, as agreed to by the Director.

6. NON-COMPLIANCE REPORTING

6.1 Non-compliance Reporting

For any non-compliance with the requirements of this permit, the Permittee must submit to the Director, Environmental Protection, a written report within 30 days of the non-compliance occurrence. The report must include, but is not necessarily limited to, the following:

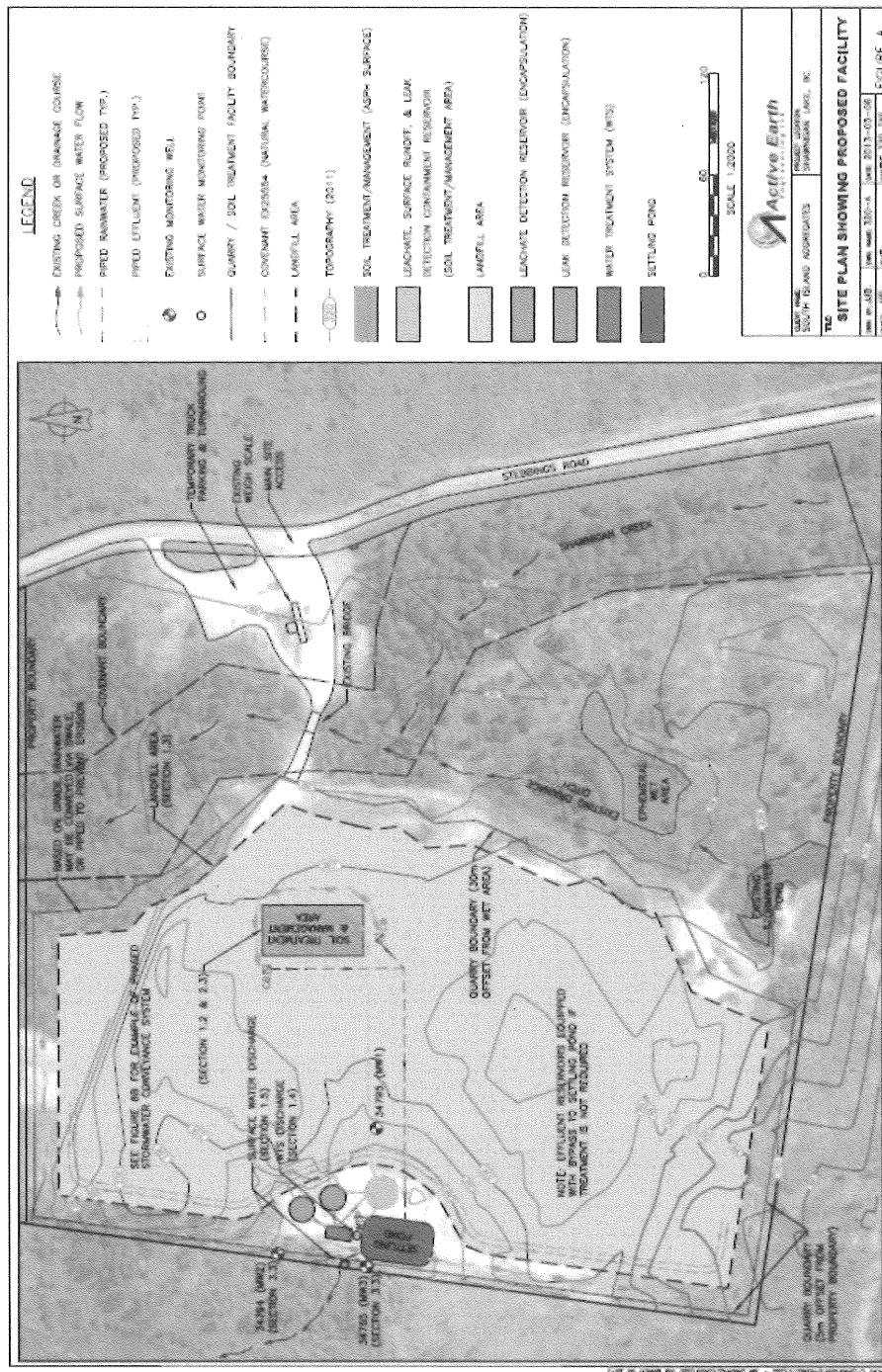
- a) all relevant test results related to the non-compliance;
- b) an explanation of the most probable cause(s) of the non-compliance; and
- c) remedial action planned and/or taken to prevent similar non-compliance(s) in the future.

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Figure A – Site Plan

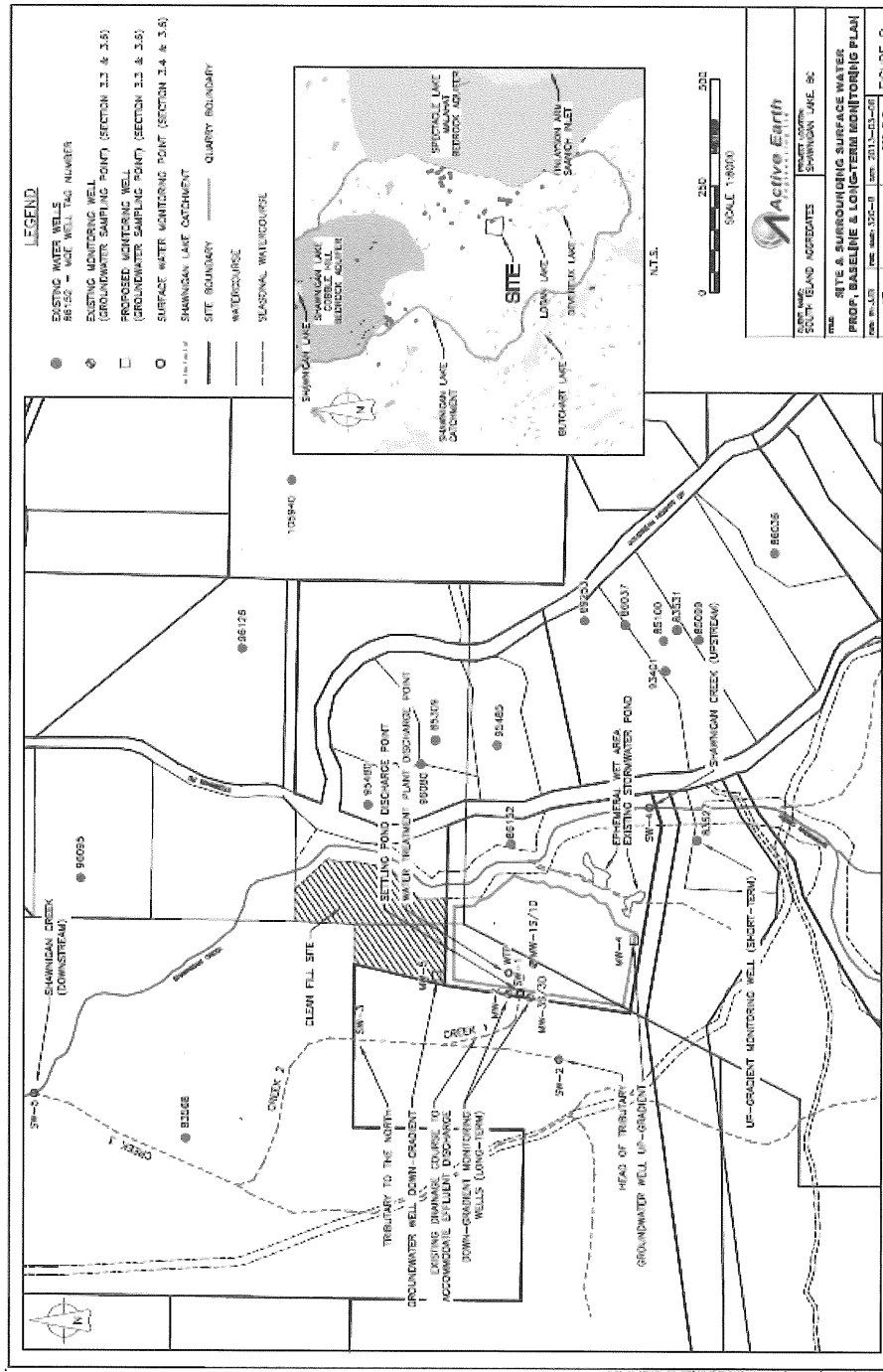


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Figure B – Monitoring Sites



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