



**APPROVAL IN PRINCIPLE**  
(Pursuant to Section 53 of the *Environmental Management Act*)

**THIS IS TO CERTIFY** that the remediation plan described herein submitted by Sunbury River Road Developments Ltd. for the contaminated site identified in Schedule A of this document has been approved.

When implemented, the remediation plan must be implemented in accordance with the requirements and conditions specified in Schedule B.

The substances for which remediation will be conducted and for which this Approval in Principle is valid are specified in Schedule C.

I have issued this Approval in Principle based on a review of the documents listed in Schedule D. I, however, make no representation or warranty as to the accuracy or completeness of that information.

A Director may rescind this Approval in Principle if conditions imposed in the Approval in Principle are not complied with or any fees payable under Part 4 of the Act or regulations are outstanding.

This Approval in Principle should not be construed as an assurance that there are no hazards present at the site.

February 6, 2018  
Date Issued

  
Peter Kickham  
For Director, *Environmental Management Act*

## Schedule A

The site covered by this Approval in Principle is located 8576 to 8644 River Road, Delta, British Columbia which is more particularly known and described as the five properties:

- Parcel E (Reference Plan 11347) District Lot 131 Group 2 New Westminster District, except Parcel F (explanatory plan 12202), Plans 22258 and EPP 118. PID 012-976-962. 8576 River Road
- Parcel A (Explanatory Plan 2035) District Lot 131 Group 2 New Westminster District, except Plans 22258 and EPP118. PID 012-976-946. 8594 River Road
- Lot 1 District Lot 131 Group 2 New Westminster District Plan 6284. PID 011-210-320. 8620 River Road
- Lot 2 District Lot 131 Group 2 New Westminster District Plan 6284. PID 011-210-346. 8634 River Road
- Lot 3 District Lot 131 Group 2 New Westminster District Plan 6284. PID 011-210-354. 8644 River Road

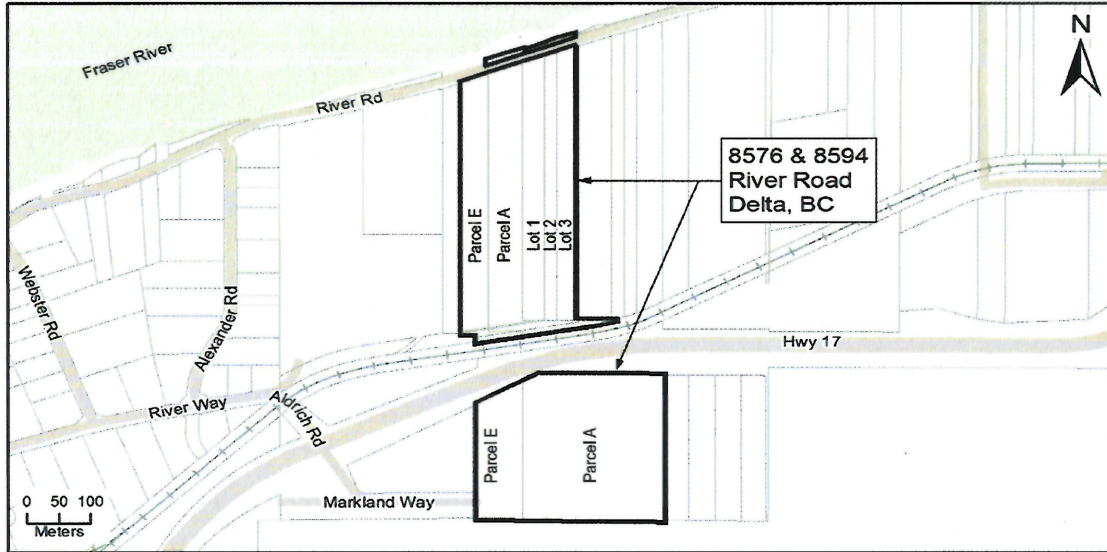
The approximate centre of the site using the NAD (North American Datum) 1983 convention is:

Latitude:	49°	08'	57.04"
Longitude:	122°	59'	05.02"

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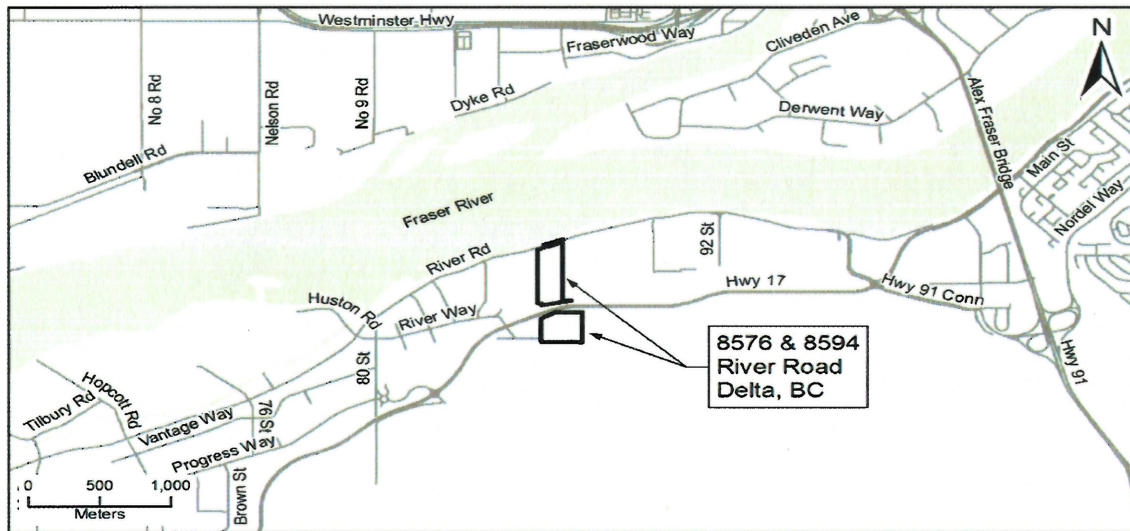
  
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## Site Plan



Site Plan

## Location Map



Site Location

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## Schedule B

### Requirements and Conditions

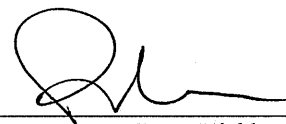
1. Remediation, including monitoring, inspections and maintenance of any works, must be undertaken by the responsible person in the manner and schedule specified in the plan listed in Schedule D or as specified in a modification of the plan approved by the Director.
2. Any substantial modifications to the approved remediation plan, including substantial changes to the remediation schedule, *conditions or circumstances described in the risk assessment upon which the remediation plan is based*, or changes in land, vapour, water, or sediment use, must be promptly identified in a written submission by the responsible persons to the Director. An application for an amendment or new Approval in Principle may be necessary.
3. Up-to-date records of monitoring, inspections and maintenance of any works must be maintained by the responsible persons or their agent. The records must be available for inspection by the Director.
4. Remediation must be completed within 10 years of the date of issuance of this Approval in Principle.
5. Remediation must be confirmed in accordance with applicable legislation and ministry guidance. Within 90 days of completing remediation, a report summarizing confirmation of remediation must be prepared in accordance with section 49 (2) of the Contaminated Sites Regulation and submitted to the Director.
6. A statement signed by an Approved Professional must be submitted to the Director *annually* within 90 days of the anniversary of the date of issuance of this Approval in Principle. The statement must include the following:
  - (a) A summary of remedial activities undertaken during the reporting period; and
  - (b) An assessment comparing remediation progress to the actions and schedule set out in the plans referenced above. Refer to Condition 3 above if remedial progress differs substantially from the schedule set out in the approved plan.

If requested by the Director, a report signed by an Approved Professional must be submitted for review to the Director and must include the following:

- (a) A summary of remedial activities undertaken to date;
- (b) An assessment comparing remediation progress to the actions and schedule set out in the plans referenced above. Refer to Condition 3 above if remedial progress differs substantially from the schedule set out in the approved plan;
- (c) Interpretation of current and cumulative monitoring results from the groundwater, surface water, leachate (where applicable), and landfill gas monitoring programs;
- (d) Evaluation of the performance of the institutional and/or engineering controls; and
- (e) Supporting documentation (e.g., analytical reports, records of inspection, maintenance of treatment works, etc.).

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7. The documents listed in Schedule D indicate that vapour attenuation factors were applied to meet Contaminated Sites Regulation numerical standards at the site. These vapour attenuation factors were selected based on assumptions about the structures, locations and depths of buildings and trenches existing or expected at the site. These assumptions include the following:

- (a) A combination of a slab-on-grade building and asphalt parking lot will cover the top surface of the landfill.

Any substantial inconsistencies that arise between the structures, locations and depths of proposed or constructed buildings or trenches at the site and the range of structures, locations and depths of buildings or trenches assumed in the selection of vapour attenuation factors in the documents listed in Schedule D must be promptly identified by the responsible person in a written submission to the Director. An application for an amendment or new Approval in Principle may be necessary.

8. A Land Title Act section 219 covenant for the former South Alpha Landfill has been registered at the Land Title Office on October 26, 2017, Registration Number CA6399477-CA6399478 and applies to the site. Any breach of the terms of this covenant could invalidate this Approval in Principle. The following restrictions and requirements set out in the covenant apply to the site:

- (a) the Grantor (Sunbury River Road Developments Ltd) is aware, and acknowledges, that from approximately 1987 until approximately 1995 the Lands were used for the purpose of demolition, land clearing and construction waste disposal and were operated as a single integrated demolition, land clearing and construction waste landfill site;
- (b) Nothing in this Agreement will constitute a waiver or otherwise act to the prejudice of the Province in the exercise of its statutory powers in relation to the Lands;
- (c) Notwithstanding anything to the contrary herein contained, the Province is a party to this Agreement in respect of this Article 2 for the purposes only of receiving any rights granted to it in this Article 2 and, without limiting the generality of the foregoing, neither the Province nor any of its elected officials, officers, employees or agents, or the said approving officer (each herein called a "Provincial Party") will be liable for anything done or failed to be done pursuant to or associated with any provision of this Agreement or anything contemplated thereby.

9. The principal risk controls which must be present or implemented and must be maintained at the site include the following:

North Landfill

- (a) The landfill cap, as it currently is, must remain intact.
- (b) Site groundwater must not be used as drinking water.
- (c) The leachate collection system must remain in place and functioning, until such time that the Director is in agreement that leachate collection is no longer required.
- (d) The landfill gas venting system must remain operational as designed, until such time that the Director is in agreement that gas venting is no longer required.

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## South Landfill

- (e) The landfill cap, as it currently is, must remain intact.
- (f) Landfill capping must be completed, including paving the surface, or capping with at least 1 m of clean fill.
- (g) Deep-rooting trees (i.e., those that root deeper than 1.5m) must not be planted on-Site.
- (h) Site groundwater must not be used as drinking water.

10. The following include those requirements associated with landfill closure (Sperling Hansen 2011, 2013):

- a) The landfill gas venting system (operating at the North Landfill) must remain operational as designed unless shown that it is redundant.
- b) The need for a leachate collection system at the South Landfill must be established. If required, then design, installation and connection to the City of Delta's sewer system and/or the Ministry of Transportation and Infrastructure's leachate collection system will be completed.
- c) Future enclosed industrial buildings must be of a slab-on-grade design, without basements.
- d) Post Closure monitoring is required for five years or until monitoring results meet applicable numerical or risk-based standards or show decreasing trends.
- e) A Fire Plan must be in place for any waste handling at the landfills.
- f) Any substantial change in the final closure plan's implementation scheduled required in condition #1 MUST receive written approval of the Director. Requests for any amendment MUST be submitted in writing in a form acceptable to the Director and receive written approval before commencement of the works.
- g) As noted in Section 8, a Land Title Act section 219 covenant for the former South Alpha Landfill has been registered at the Land Title Office. A Land Title Act section 219 covenant for the former North Alpha Landfill site will be registered in advance of obtaining a Certificate of Compliance for the former North Alpha Landfill site.

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**Schedule C**  
**Substances and Uses**

**North Landfill**

***Substances to be remediated in soil for commercial land soil use:***

To meet risk-based remediation standards:

- Antimony, arsenic, barium, chromium, copper, lead, zinc;
- Benzene;
- Benz[a]anthracene, benzo[a]pyrene, benzo[k]fluoranthene, indeno[1,2,3-c,d]pyrene, phenanthrene;
- Trichloroethylene.

***Substances to be remediated in water for freshwater aquatic life water use:***

To meet risk-based remediation standards:

- Nickel, sulphide (as H<sub>2</sub>S), zinc;
- Acridine, anthracene, benz[a]anthracene, benzo[a]pyrene, chrysene, fluoranthene, phenanthrene, pyrene.

***Substances to be remediated in water for marine aquatic life water use:***

To meet risk-based remediation standards:

- Zinc;
- Acridine, anthracene, benz[a]anthracene, benzo[a]pyrene, chrysene, fluoranthene, phenanthrene, pyrene.

***Substances to be remediated in water for drinking water use:***

To meet risk-based remediation standards:

- Barium, boron;
- Benzo[a]pyrene.

**South Landfill**

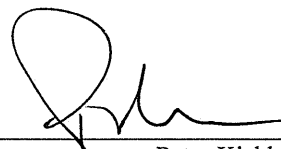
***Substances to be remediated in soil for commercial land soil use:***

To meet risk-based remediation standards:

- Antimony, arsenic, barium, copper, lead, zinc;
- Benzene;
- Trichloroethylene;
- HEPHs;
- Pentachlorophenol.

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***Substances to be remediated in water for drinking water use:***

To meet risk-based remediation standards:

- Arsenic, barium, boron, sulphide (as H<sub>2</sub>S);
- Benzo[a]pyrene.

***Substances remediated in water for freshwater aquatic life water use:***

To meet risk-based remediation standards:

- Sulphide (as H<sub>2</sub>S), zinc;
- Ammonia;
- LEPH<sub>w</sub>;
- Anthracene, benzo[a]anthracene, benzo[a]pyrene, chrysene, fluoranthene, phenanthrene, and pyrene;
- Pentachlorophenol, total nonchlorinated phenols.

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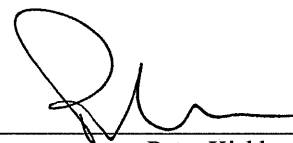
## Schedule D

### Documents

- *Summary of Site Condition*, prepared by Hemmera, dated October 24, 2017;
- *Stage 1 Update and Stage 2 Preliminary Site Investigation, Detailed Site Investigation. South Portions of 8576 and 8594 River Road, Delta, BC*, prepared by Hemmera Envirochem Inc., October 2017;
- *Human Health and Ecological Risk Assessment and Remedial Action Plan – South Alpha Landfill, Delta, BC*, prepared by Hemmera Envirochem Inc., October 2017;
- *Stage 1 Preliminary Site Investigation Update and Detailed Site Investigation Update. 8576 to 8694 River Road, Delta, BC*, prepared by Hemmera Envirochem Inc., October 2017;
- *Human Health and Ecological Risk Assessment and Remedial Action Plan – North Alpha Landfill, Delta, BC*, prepared by Hemmera Envirochem Inc., October 2017;
- *Protocol 6 Approval – Extend AIP to 10 years*, prepared by British Columbia Ministry of Environment and Climate Change Strategy (BC MOECCS), Land Remediation Section (LRS), July 11, 2017;
- *Protocol 9 Application for Determination of Background Sulphide Concentrations in Groundwater, North and South Alpha Landfill, 8576 to 8694 River Road, Delta, BC*, prepared by BC MOECCS, October 30, 2017;
- *Report of Findings – Stage 1 and 2 Preliminary Site Investigation (PSI), South Alpha Landfill, South Portion of 8576 and 8594 River Road, Delta, BC*, prepared by Keystone Environmental Ltd., April 7, 2016;
- *Closure Completion Plan for North Alpha Landfill Report Final*, prepared by Sperling Hansen Associates, March 26, 2016;
- *Alpha North Landfill Closure Completion Report – Final Report*, prepared by Sperling Hansen Associates, March 22, 2016;
- *Stage 2 Preliminary Site Investigation, 8740 River Road, Delta, BC, MOTI South Fraser Perimeter Road Program, MOTI Site No. 9*, prepared by SLR Canada, February 2016;
- *Protocol 9 Application for Determination of Background Sulphide Concentrations in Groundwater*, prepared by Hemmera Envirochem Inc., December 16, 2016;
- *Report of Findings – Preliminary Site Investigations – Stage 1 and 2, and Detailed Site Investigation. 8400 River Road, Delta BC*, prepared by Keystone Environmental Ltd., October 2015;
- *Report of Findings – Human Health and Ecological Risk Assessment, 8400 River Road, Delta, BC*, prepared by Keystone Environmental Ltd., October 2015;
- *Report of Findings – Human Health and Ecological Risk Assessment, 8576 to 8694 River Road, Delta, BC*, prepared by Keystone Environmental Ltd., January 30, 2015;

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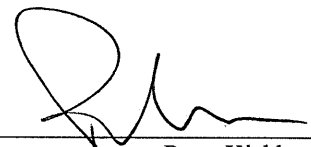
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- *Report of Findings – Preliminary Site Investigations – Stage 1 and 2, and Detailed Site Investigation (DSI), 8576 to 8694 River Road, Delta, BC*, prepared by Keystone Environmental Ltd., December 31, 2014;
- *Closure Plan for North Alpha Landfill Final V2 Report*, prepared by Sperling Hansen Associates, July 8, 2013;
- *Closure Plan for South Alpha Landfill Final Report*, prepared by Sperling Hansen Associates, August 30, 2011; and
- *Environmental Assessment Factual Report of the Former Alpha Landfill 8594 River Road, Delta, BC*, prepared by MOTI Gateway Program / Golder Associates, December 17, 2007.

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