



**metro**vancouver

Greater Vancouver Regional District • Greater Vancouver Water District

Greater Vancouver Sewerage and Drainage District • Metro Vancouver Housing Corporation

4330 Kingsway, Burnaby, BC, Canada V5H 4G8 604-432-6200 [www.metrovancouver.org](http://www.metrovancouver.org)

*Metropolitan Planning, Environment and Parks Department  
Tel. 604-432-6200 Fax 604-436-6707*

## PERMIT GVA0004

Pursuant to  
Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008  
and BC Environmental Management Act

### **Reichhold Industries Limited**

located at  
**50 Douglas Street, Port Moody, BC V3H 3L9**

is authorized to discharge air contaminants to the air from  
**a resin and chemical manufacturing plant**

subject to the requirements in this Permit for the emission sources and works existing or planned on  
February 15, 2012.

Contravention of any of these requirements is a violation of the bylaw  
and may result in enforcement action.

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Issued:  
Amended:

November 14, 1992  
February 15, 2012

  
Don Miller  
Assistant District Director

**GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT**

**SECTION 1 – AUTHORIZED EMISSION SOURCES**

Authorization to discharge air contaminants from the authorized Emission Sources and Works listed below are subject to the specified terms and conditions.

Approximate locations of the emission sources are shown on the Site Plan in section 4.

**EMISSION SOURCE 01: Dowtherm heater discharging through a Stack(s).**

MAXIMUM EMISSION FLOW RATE: **10** m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: **8760** hrs/yr  
MAXIMUM PRIMARY BURNER INPUT FIRING RATE: **1.58** GJ/hr

MAXIMUM EMISSION QUALITY:

1. 10% Opacity.

WORKS AND PROCEDURES:

The firing of the heaters and boilers with natural gas using good combustion practices and operating procedures.

**EMISSION SOURCE 02: Dowtherm heater discharging through a Stack(s).**

MAXIMUM EMISSION FLOW RATE: **32** m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: **8760** hrs/yr  
MAXIMUM PRIMARY BURNER INPUT FIRING RATE: **4.91** GJ/hr

MAXIMUM EMISSION QUALITY:


1. 10% Opacity.

WORKS AND PROCEDURES:

The firing of the heaters and boilers with natural gas using good combustion practices and operating procedures.

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**EMISSION SOURCE 06: Various kettles, process tanks, and raw material storage tanks (as described below) discharging through an incinerator stack(s).**

MAXIMUM EMISSION FLOW RATE: **50** m<sup>3</sup>/min

MAXIMUM ANNUAL OPERATING HOURS: **8760** hrs/yr

MAXIMUM PRIMARY BURNER INPUT FIRING RATE: **0** GJ/hr

MAXIMUM AFTERBURNER INPUT FIRING RATE: **5.28** GJ/hr

MAXIMUM EMISSION QUALITY:

1. 102 mg/m<sup>3</sup> Total Hydrocarbon (as Methane) Corrected to 11% oxygen.
2. 50 mg/m<sup>3</sup> Particulate Matter
3. 10% Opacity.
4. Odour: None past the plant boundary such that pollution occurs.
5. Chemical Contaminants: The maximum allowable emission concentration (EC) for each emitted chemical contaminant with a Threshold Limit Value (TLV) is such that the sum of the individual EC/TLV ratios for all such contaminants in any single emission is less than 10.

WORKS AND PROCEDURES:

A "Hirt Combustion Engineering Model HPH-3.7 MX" fume incinerator and related appurtenances controlling emissions from the following equipment:

A. Kettles:

- a. Alkyd (including urethane and alkyd-emulsions) resin production: Kettles K-2 & K-4
- b. Latex emulsion resin production: Kettle K-3.

B. Process Tanks:

- a. Alkyd (including urethane and alkyd-emulsions) resin production equipment: Thinning tanks T-2, T-3, T-7 and F-1.
- b. Latex emulsion resin production equipment: Monomer tanks T-11 and T-12; Cool down tank F-1.

C. Raw material storage tanks:

- a. R-11 (xylene)
- b. R-12 (mineral spirits)
- c. R-20 (vinyl acetate)
- d. R-21 (butyl acrylate)
- e. R-23 (toluene)
- f. R-24 (styrene)
- g. R-26 (TDI)
- h. R-28 (methyl methacrylate)
- i. R-29 (phthalic anhydride)

Pretreatment of emissions from resin kettles K-2 & K-4, and raw material storage tank R-29 emissions through a packed tower caustic scrubber and related appurtenances.

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The temperatures referred to in Section 1 of this Permit shall be continuously monitored and recorded in a conveniently visible location. The Permittee shall calibrate this temperature measurement system at the discretion of, and in a manner acceptable to, the District Director.

MINIMUM INCINERATOR EXIT TEMPERATURE: 760 °C

**EMISSION SOURCE 17: Fifteen raw material storage tanks, thirty-three intermediate, blending, or finished product storage tanks, two polyester blending tanks, and emissions resulting from use of PCBTF solvent discharging through a Vent(s).**

MAXIMUM EMISSION FLOW RATE: **The authorized maximum rate of discharge is that resulting from vapour venting during tank filling and breathing.**

MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr

MAXIMUM EMISSION QUALITY:

1. Odour: None past the plant boundary such that pollution occurs.

WORKS AND PROCEDURES:

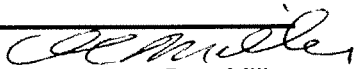
Conservation vents for storage tanks containing volatile materials, and related appurtenances together with good operating practices.

Tanks are divided into four sub-groups depending on their predominant use type:

- A. Raw Material Storage Vessels (15):
  - a. R-5, R-6, R-7, R-8, R-9, R-10, R-13, R-17, R-25, R-27, R-30, R-32, R-33, R-34, T-9
- B. Intermediate, Blending, or Finished Product Storage Tanks (33):
  - a. T-6, T-8, T-10, F-3 to F-15, F-17, F-18, F-21 to F-31, F-34 to F-36, and K-1
- C. Polyester blending Tanks (2):
  - a. T-1 and T-4
- D. p-Chlorobenzo trifluoride (PCBTF) Processing (2):
  - a. Emissions from T-3 and T-7

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**EMISSION SOURCE 20: Truck, drum, and rail car loading and unloading discharging through a Vent(s).**

**MAXIMUM EMISSION FLOW RATE: The authorized maximum rate of discharge is that resulting from vapour venting during container filling and breathing**

**MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr**

**MAXIMUM EMISSION QUALITY:**

1. Odour: None past the plant boundary such that pollution occurs.

**WORKS AND PROCEDURES:**

Good operating practices.

**EMISSION SOURCE 21: Wastewater treatment plant discharging via the treatment pond surface.**

**MAXIMUM EMISSION FLOW RATE: The authorized maximum rate of discharge is that resulting from aeration**

**MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr**

**MAXIMUM EMISSION QUALITY:**

1. Odour: None past the plant boundary such that pollution occurs.
2. Chemical Contaminants: The maximum allowable emission concentration (EC) for each emitted chemical contaminant with a Threshold Limit Value (TLV) is such that the sum of the individual EC/TLV ratios for all such contaminants in any single emission is less than 10.

**WORKS AND PROCEDURES:**

Good operating practices.

**EMISSION SOURCE 22: Quality control laboratory discharging through a Fan Exhaust(s).**

**MAXIMUM EMISSION FLOW RATE: 100 m<sup>3</sup>/min**

**MAXIMUM ANNUAL OPERATING HOURS: 8760 hrs/yr**

**MAXIMUM EMISSION QUALITY:**

1. Odour: None past the plant boundary such that pollution occurs.
2. Chemical Contaminants: The maximum allowable emission concentration (EC) for each emitted chemical contaminant with a Threshold Limit Value (TLV) is such that the sum of the individual EC/TLV ratios for all such contaminants in any single emission is less than 10.

**WORKS AND PROCEDURES:**

Good operating practices. Five fans.

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**EMISSION SOURCE 23: Research laboratory discharging through a Fan Exhaust(s).**

MAXIMUM EMISSION FLOW RATE: **450** m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: **8760** hrs/yr

MAXIMUM EMISSION QUALITY:

1. Odour: None past the plant boundary such that pollution occurs.
2. Chemical Contaminants: The maximum allowable emission concentration (EC) for each emitted chemical contaminant with a Threshold Limit Value (TLV) is such that the sum of the individual EC/TLV ratios for all such contaminants in any single emission is less than 10.

WORKS AND PROCEDURES:

Good operating practices. Four fans.

**EMISSION SOURCE 24: Cleaver Brooks packaged gas fired boiler discharging through a Stack(s).**

MAXIMUM EMISSION FLOW RATE: **50** m<sup>3</sup>/min  
MAXIMUM ANNUAL OPERATING HOURS: **8760** hrs/yr  
MAXIMUM PRIMARY BURNER INPUT FIRING RATE: **8.83** GJ/hr

MAXIMUM EMISSION QUALITY:


1. 10% Opacity.

WORKS AND PROCEDURES:

The firing of the heaters and boilers with natural gas using good combustion practices and operating procedures.

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# GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT

## **SECTION 2 – GENERAL REQUIREMENTS AND CONDITIONS**

### **A. AMENDMENTS**

The terms and conditions of this permit may be amended, as authorized by applicable legislation. New and modified sources must receive authorization prior to start-up.

### **B. POLLUTION**

Notwithstanding any conditions in this permit, no person shall discharge or allow or cause the discharge of any air contaminant so as to cause pollution as defined in the Greater Vancouver Regional District Air Quality Management Bylaw No. 1082, 2008 and the Environmental Management Act.

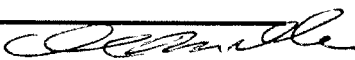
### **C. STANDARD CONDITIONS AND DEFINITIONS**

Unless otherwise specified, the following applies to this permit:

1. Gaseous volumes are corrected to standard conditions of 20° Celsius & 101.325 kPa with zero percent moisture.
2. Contaminant concentrations from the combustion of specific fuel types are corrected to the following Oxygen content, unless specified otherwise:
  - 3% O<sub>2</sub> for natural gas and fuel oil;
  - 8% O<sub>2</sub> for wood fuel.
  - 15% O<sub>2</sub> for turbines
3. Where compliance testing is required, each contaminant concentration limit in this permit will be assessed for compliance based on a valid test using test methods approved by the District Director.
4. Visual opacity measurements are made at the point of maximum density, nearest the discharge point and exclude the effect of condensed, uncombined water droplets. Compliance determinations are based on a 6 minute average in accordance with the provincial "Source Testing Code for the Visual Measurement of The Opacity of Emissions from Stationary Sources". Continuous Emission Monitor System (CEMS) opacity compliance determinations are based on a one hour average (taken from the top of each hour).
5. If authorized in section 1 of this permit, standby fuel use is restricted to a maximum of 350 hrs/yr and to those periods during which the primary authorized fuel is not available. Fuel oil sulphur content shall not exceed 15 mg/kg and emissions during fuel oil firing shall not exceed 10% Opacity.
6. Definitions in the Environmental Management Act and Air Quality Management Bylaw apply to terminology used in this permit.
7. Threshold Limit Values (TLV) refer to the Time Weighted Average (TWA) exposure limits for substances specified in the American Conference of Governmental Industrial Hygienists Threshold Limit Values handbook, current on the latest date that this permit issuance or amendment came into effect.
8. Sulphur Oxides (SOx) are expressed as Sulphur Dioxide.
9. Nitrogen Oxides (NOx) are expressed as Nitrogen Dioxide.
10. The Canadian Council of Ministers of the Environment (CCME) "Environmental Guidelines for Controlling Emissions of Volatile Organic Compounds from Aboveground Storage Tanks (June

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1995, CCME-EPC-87E)" shall be adhered to for all applicable tanks unless otherwise stated in this permit.

11. Authorized 'Maximum Annual Operating Hours' of 8760 hrs/yr for an emission source is equivalent to authorization for continuous operation of the emission source for an entire calendar year, including leap years.

## **D. HEATING, VENTILATION, AIR CONDITIONING AND INTERNAL COMBUSTION ENGINES**

Air contaminants discharged from any natural gas-fired heating, ventilation or air conditioning systems for buildings and any internal combustion engines located at the discharge site shall be maintained and operated in a manner prescribed by the manufacturer to ensure good combustion of the fuel with minimum discharge of air contaminants.

## **E. AUTHORIZED WORKS AND PROCEDURES**

Works and procedures, which this permit authorizes to control the discharge of air contaminants, shall be employed during all operating periods of the related facilities. The permit holder shall regularly inspect and maintain all such works in good repair.

The discharge criteria described in this permit are applicable on the issued or amended date of this permit unless specified otherwise. If a date different to the issued or amended date is specified, the existing control works and procedures must be maintained in good operating condition and operated in a manner to minimize emissions.

## **F. BYPASSES**

The discharge of contaminants which have bypassed authorized control works during non-emergency conditions are prohibited unless approval has been obtained in writing from the District Director.

## **G. EMERGENCY PROCEDURES**

In the event of an emergency that prevents compliance with a requirement(s) of this permit, that requirement(s) shall be suspended for such time as the emergency continues or until otherwise directed by the District Director, provided that:

1. Due diligence was exercised in relation to the process, operation or event that caused the emergency and that the emergency occurred notwithstanding this exercise of due diligence; and,
2. The District Director is notified at the first available opportunity of the emergency and of contingency actions invoked or planned to mitigate adverse impacts and restore compliance. Notification shall be made to Metro Vancouver's 24-hour number: 604-436-6777; and,
3. Due diligence is exercised in shutting down related processes and/or taking action to restore compliance in the shortest possible time frame, unless specified otherwise in this permit or by written notice from the District Director.

Notwithstanding 1, 2 and 3 above, the District Director may specify contingency actions to be implemented to protect human health and the environment while authorized works and/or standard operating procedures are being restored.

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If an emergency situation results in a "spill" as defined in the Environmental Management Act Spill Reporting Regulation, the spill shall also be reported immediately to the Provincial Emergency Program by telephoning 1-800-663-3456.

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## SECTION 3 – REPORTING REQUIREMENTS

### A. MONITORING REQUIREMENTS AND REPORTING

Unless otherwise approved by the District Director prior to any sampling or analysis, all measurements shall be performed by an independent agency in accordance with Metro Vancouver Air Emissions Sampling Program Manual of Methods and Standard Operating Procedures and the BC Ministry of Environment Field Sampling Manual, as they may be amended from time to time. Any variance from these procedures must receive prior approval from the District Director.

A minimum of 3 days advance notice must be given prior to taking measurements required by this Monitoring and Sampling Program. Notification must be given to the Metro Vancouver, Regulation & Enforcement Division (phone 604-436-6777, Fax 604-436-6707, email [regulationenforcement@metrovancover.org](mailto:regulationenforcement@metrovancover.org) ).

Unless otherwise specified, sampling shall be performed under operating conditions representative of the previous 90 calendar days of operation. All field data and calculations must be submitted with monitoring results and they shall be reported in the metric units which are used in this permit. These submissions shall include process data relevant to the operation of the source of the emissions and the performance of the emission control works.

The permit holder shall conduct the following monitoring and sampling and submit electronic reports of the results to the District Director by the dates specified below using a password enabled web based application provided by Metro Vancouver.

SOURCE	DUE DATE	FREQUENCY	REQUIREMENT	PARAMETER(S)	TEST METHOD	REPORT TYPE
06	July 31, 2012	Yearly	Written report detailing the measured discharge rate and concentration of particulate matter and total hydrocarbons in the emissions.	Particulate Matter, Total Hydrocarbon (as Methane)	Metro Vancouver AQ02/02/1.00M, EPA Test Method 25A	Stack

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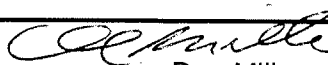
**GREATER VANCOUVER REGIONAL DISTRICT AIR QUALITY MANAGEMENT PERMIT**

**B. INFORMATION REPORTING REQUIREMENTS**

The permit holder shall submit electronic reports containing the required information to the District Director by the dates specified below using a password enabled web based application provided by Metro Vancouver.

<b>EMISSION SOURCE</b>	<b>DUE DATE</b>	<b>FREQUENCY</b>	<b>REQUIREMENT</b>	<b>REPORT TYPE</b>
01, 02, 06, 17, 20, 21, 22, 23, 24	March 31, 2012	Yearly	Written report providing details of the total number of hours and days operated in the preceding calendar year. Detailed records are to be maintained in a written bound log or other format approved by the District Director and made available for inspection by Metro Vancouver staff for a minimum period of three years.	Operating Period
17	April 30, 2012	Quarterly	A written report on the condition, inspection frequency, and repairs on all in-line flame arresters, pressure release valves and conservation breather vents on the tanks described in Section 1 of this Permit.	Information - Other
17	March 31, 2012	Yearly	A written report on organic compounds in storage tanks described in Section 1 of this Permit. The report shall list tank designation, volume, service, product vapour pressure, emission control equipment, and annual throughput for each tank for the preceding calendar year.	Information - Other
Facility	March 31, 2012	Yearly	Written report providing details of the types and amounts of principle products produced and principal raw materials used in the preceding calendar year.	Materials and Products
Facility	March 31, 2012	Yearly	Written report providing details of the types and amounts of fuel burned in the preceding calendar year.	Fuel Use

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Facility	March 31, 2012	Yearly	A written report on work underway or proposed to reduce fugitive emissions from plant equipment and operations including valves, seals and flanges in the process area; storage tanks, material transfers and wastewater treatment.	Information - Other
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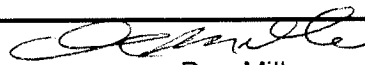
**C. AMENDED OR ADDITIONAL REQUIREMENTS**

Based on the results of the monitoring program, including the stack sampling results or any other information, the District Director may:

1. Amend the monitoring and reporting requirement of any of the information required by this Permit including plans, programs and studies.
2. Require additional investigations, tests, surveys or studies.

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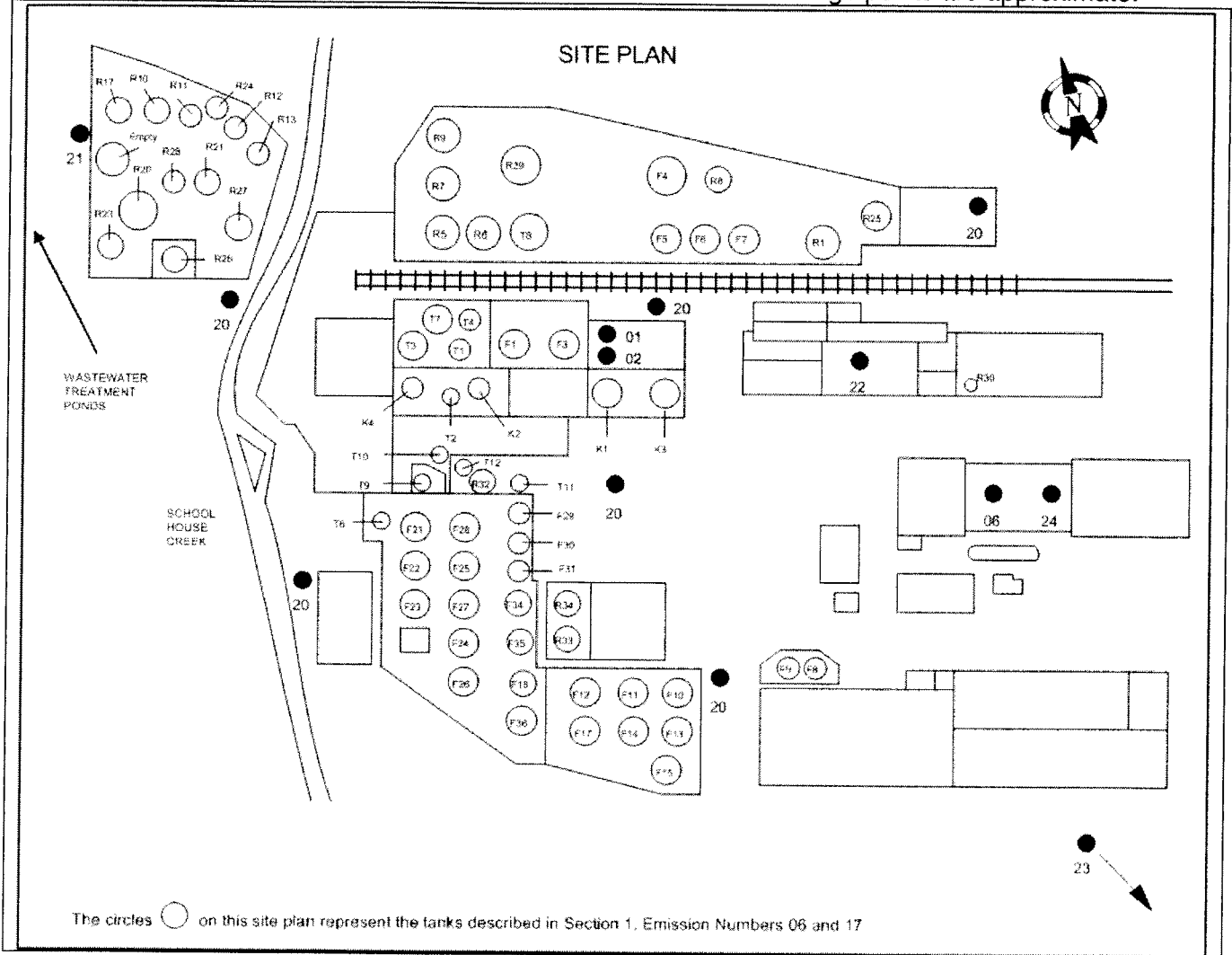
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**SECTION 4 – SITE PLAN**

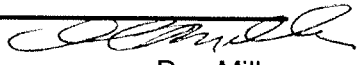
LEGAL DESCRIPTION OF DISCHARGE SITE: City of Port Moody Parcel Identifier: 003-802-591, Lot 81 of District Lot 202, Group 1, New Westminster District Plan 27800; City of Port Moody Parcel Identifier: 003-802-647, Lot "B" Except: Part Subdivided By Plan 43464, District Lot 202, Group 1, New Westminster District Plan 20953; City of Port Moody Parcel Identifier: 003-802-825, Lot 82 Except: Part Subdivided By Plan 43428, District Lot 202, Group 1, New Westminster District Plan 30084.

The following site plan is not to scale and the locations of the discharge points are approximate.



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