



**WASTE DISCHARGE PERMIT**  
**No. SC-100027-FSA**  
(the "Permit")

Under the provisions of the

Greater Vancouver Sewerage & Drainage District Sewer Use Bylaw No. 299, 2007 (as amended)  
(the "Bylaw")

**Canadian National Railway Company**  
(the "Permittee")

is authorized to discharge Wastewater to Sewer from

a railway maintenance facility located at

**13477 116 Avenue, Surrey, BC**

This Permit has been issued under the terms and conditions prescribed in the attached

Schedules A, B, C, D and E for discharge sources and works existing or planned on

**June 16, 2014**

All previous versions of this Waste Discharge Permit are hereby rescinded and rendered null and void.

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Issued: July 31, 1994  
Amended: June 16, 2014



Grant McGillivray

Deputy Sewage Control Manager

**SCHEDULE A**

This Schedule sets out requirements for the quantity and quality of the discharge to Sewer.

**1. AUTHORIZED RATE OF DISCHARGE**

The Permittee shall not exceed the following:

**Sample Point: 1**

- Maximum daily discharge flow rate: **325.00 m<sup>3</sup>/day**
- Maximum instantaneous peak flow rate: **3.75 L/second**

**2. AUTHORIZED DISCHARGE CRITERIA**

- a) The Permittee shall not discharge Restricted Waste or other Waste, as defined in the Bylaw, including but not limited to the following (regardless of sample type):

Parameter	Authorized Limit	Notes
pH	5.5 - 10.5 pH Units	
Total Suspended Solids	600 mg/L	
Oil & Grease Hydrocarbon	15 mg/L	
Total Oil & Grease	150 mg/L	
Sulphide	1 mg/L	
Phenols	1 mg/L	
Polycyclic Aromatic Hydrocarbons	0.05 mg/L	
Total BETX	1 mg/L	
Aluminum - total	50 mg/L	
Arsenic - total	1 mg/L	
Boron - total	50 mg/L	
Cadmium - total	0.2 mg/L	
Chromium - total	4 mg/L	
Cobalt - total	5 mg/L	
Copper - total	2 mg/L	
Iron - total	10 mg/L	
Lead - total	1 mg/L	
Manganese - total	5 mg/L	
Molybdenum - total	1 mg/L	
Nickel - total	2 mg/L	
Selenium - total	1 mg/L	
Silver - total	1 mg/L	
Zinc - total	3 mg/L	

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**SCHEDULE A**

- b) The Permittee shall not discharge Restricted Waste or other Waste, as defined in the Bylaw, with the following exceptions (regardless of sample type):

<b>Parameter</b>	<b>Authorized Limit</b>	<b>Notes</b>
Biochemical Oxygen Demand	No Limit	

- c) The Permittee shall not discharge Prohibited Waste, Storm Water or Uncontaminated Water, as defined in the bylaw, with the exception of the storm water sources authorized in Schedule B.
- d) The Permittee shall not discharge Hazardous Waste, or effluent from the treatment of Hazardous Waste which exceeds the Effluent Standards for Hazardous Waste Facilities, as stipulated in Schedule 1.2, Column 3, of the BC Environmental Management Act Hazardous Waste Regulation.

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**SCHEDULE B**

This Schedule sets out requirements and locations for the approved sample points, waste sources, and works and procedures to treat and/or control the discharges to Sewer.

**1. SAMPLE POINTS, WASTE SOURCES, WORKS & PROCEDURES**

**SAMPLE POINT: 1**

This sample point is considered to be a point of discharge to Sewer. The approved sample point location is described and is illustrated in the photo(s) below.

**Description:** The treated water transfer tank located on the discharge line from the DAF unit.

**Source:** All Plant Sources

Process Waste Water:

- Maintenance shops
- Locomotive wash area
- Vacuum truck unloading bin
- Locomotive fuelling area
- Intermodal shop

Storm Water collected from the following areas:

- Lube oil truck unloading area
- Oil car unloading area
- Fuel truck unloading area
- Tank farm and fuel pumps
- Tank car unloading area
- Locomotive wash area
- Treatment plant containment area

**Type:** Continuous

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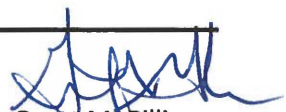
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Deputy Sewage Control Manager

**SCHEDULE B**

<b>Works and Procedures</b>	<b>Completion Date</b>
Collection system	Completed
Basket strainer	Completed
Holding tank (T-101)	Completed
Surge tank (T-102)	Completed
Oil skimmer (T-101 & T-102)	Completed
Slop oil holding tanks (T-944 & T-201)	Completed
Oil water separator (OWS-103)	Completed
Flocculent injection and mixing	Completed
Coagulant injection and mixing	Completed
Dissolved air flotation unit	Completed
Sulphuric acid storage vessel	Completed
Flow monitoring & recording	Completed
Sludge decant tank	Completed
Filter press	Completed
Sludge management system - flocculent injection and mixing	Completed
Sludge management system - coagulant injection and mixing	Completed
Sludge management system - geobag filters	Completed
Sludge management system - drainage unit	Completed
Recycle tank (T-108)	Completed
Continuous pH adjustment	Completed
Continuous pH monitoring and recording	Completed
Good operating practices	Completed

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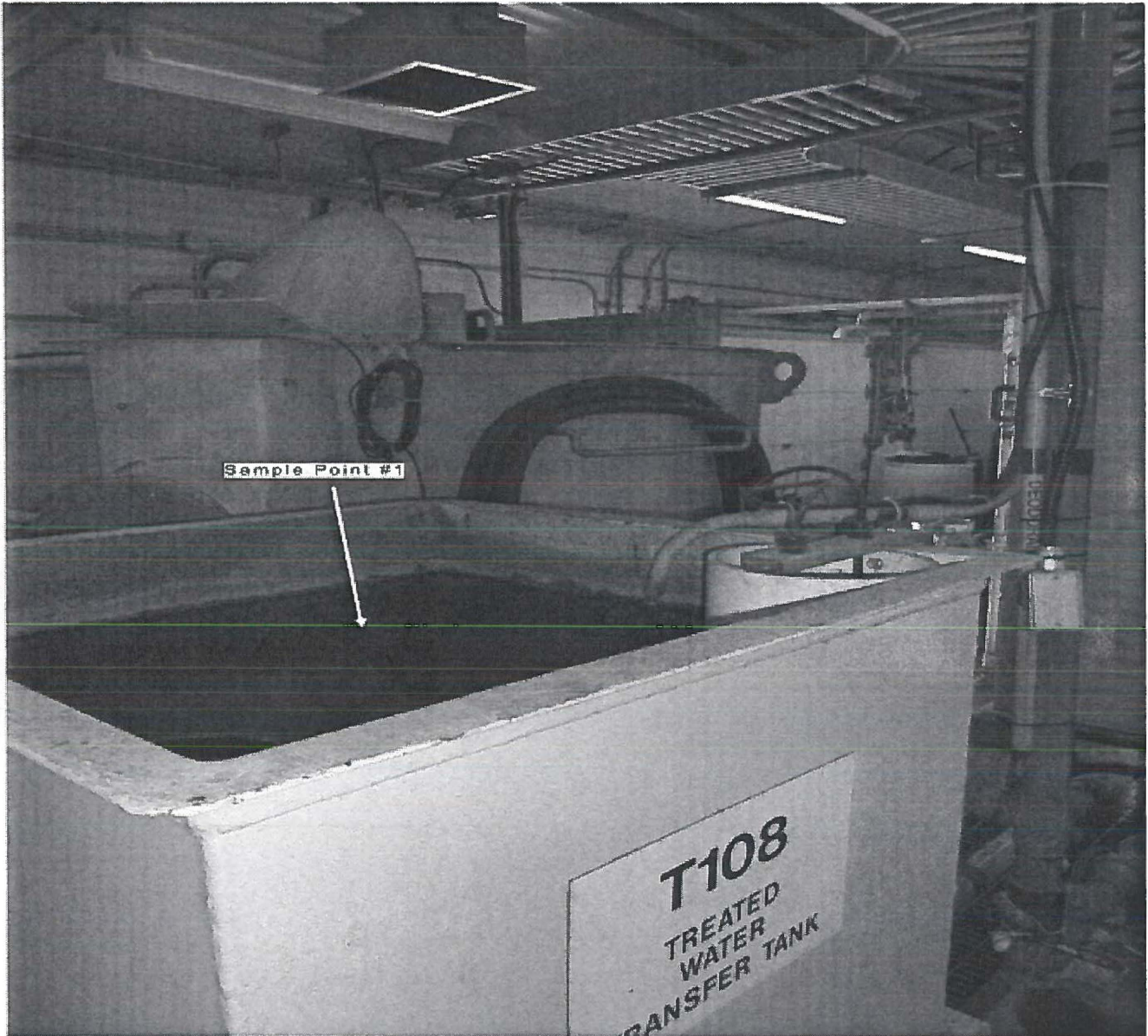
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SCHEDULE B

Photograph of Sample Point 1:



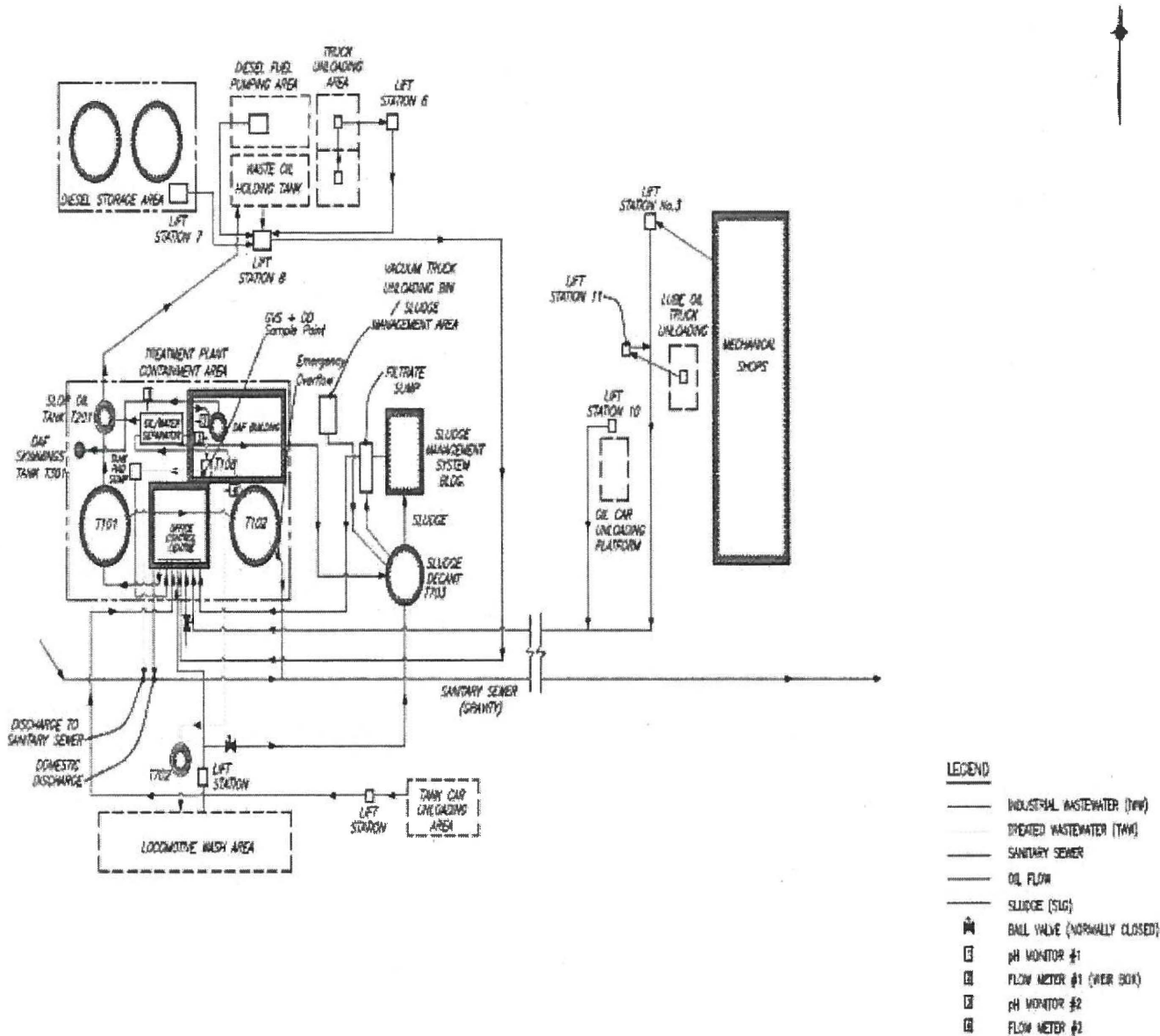
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SCHEDULE B

2. SITE PLAN(S)



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**SCHEDULE C**

This Schedule sets out standard conditions and requirements for emergency procedures.

**1. STANDARD CONDITIONS**

- a) Except as otherwise provided in this Permit, all terms, conditions and definitions stipulated in the Bylaw shall apply to this Permit.
- b) Pursuant to the Bylaw, the Sewage Control Manager (the Manager) may amend the terms and conditions of this Permit.
- c) All records required by this permit shall be kept available for a minimum period of one year.

**2. WORKS AND PROCEDURES**

- a) All authorized works, procedures and requirements shall be employed at all times during any discharge to sewer. As applicable, all such works shall be inspected and calibrated regularly and maintained in good working condition.
- b) The Manager may require that additional works be installed if the existing works do not provide an acceptable level of treatment. The Manager must authorize new works or alterations to existing works. The Manager must authorize new waste sources.

**3. NOTIFICATION PROCEDURES**

The Permittee shall immediately report to Metro Vancouver at 604-643-8488 (24 hours):

- a) Spills with the potential to be discharged to the Sanitary Sewer.
- b) Failure of authorized works or conditions and/or failure to carry out authorized procedures that will or have the potential to result in a Permit limit being exceeded.
- c) Discharge pH less than 2 or greater than 12.5.

**4. BY-PASSES**

The discharge of Wastes that by-pass any authorized works or is not in accordance with procedures designated by the Permit is prohibited, unless prior authorization of the Manager is obtained.

**5. DISCHARGE MONITORING**

- a) All sampling, measurements, tests and analyses of waste discharges shall be carried out in accordance with the latest edition of "Standard Methods for the Examination of Water and Wastewater" published by the American Public Health Association, or an alternate method authorized by the Manager. With the exception of pH measurements, all samples shall be analyzed by an independent laboratory unless otherwise authorized by the Manager. The pH shall be measured immediately using Standard Method 4500-H+.
- b) Laboratories used by the Permittee must be accredited by the Canadian Association for Laboratory Accreditation.
- c) Any changes in method or location of monitoring must be authorized by the Manager.
- d) Additional monitoring and/or reporting shall be undertaken by the Permittee when required by the Manager.

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**SCHEDULE D**

This Schedule sets out the requirements for the monitoring of the discharge to Sewer.

**DISCHARGE SAMPLING AND ANALYSES**

**1. FLOW MEASUREMENTS**

The Permittee shall measure or estimate the discharge flow to sanitary sewer during each month of operation using the method(s) authorized in Schedule B and record for reporting purposes the following:

- Total discharge volume (m<sup>3</sup>) for the month for sample point(s) 1
- Number of days of discharge to sewer during the month for sample point(s) 1
- Maximum daily discharge flow rate (m<sup>3</sup>/day) during the month for sample point(s) 1

**2. CONTINUOUS MEASUREMENTS**

The Permittee shall continuously measure the discharge pH during the period of discharge to sewer for sample point(s) 1 and record for reporting purposes the following:

- The total number of hours of discharge below the authorized pH range and the total number of hours of discharge above the authorized pH range during each month of operation.
- Total number of hours of discharge during the month.

**3. SAMPLING PROGRAM**

**Continuous Discharge Sampling:**

The Permittee shall record for reporting purposes for each sample the following:

- Sample date
- Sample collection time or sample collection start and stop time(s) if applicable
- Total daily discharge volume (m<sup>3</sup>) on the date of sampling

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**SCHEDULE D**

**SAMPLE POINT: 1**

**Continuous Discharges:**

On one normal operating day once per month collect 1 set of composite samples and analyze for:

- Biochemical Oxygen Demand
- Total Suspended Solids
- Total Metals by ICP Scan including:  
Aluminum, Arsenic, Boron, Cadmium, Chromium, Cobalt, Copper, Iron, Lead,  
Manganese, Molybdenum, Nickel, Selenium, Silver, Zinc

On one normal operating day once per month collect 1 set of grab samples and analyze for:

- pH
- Oil & Grease Hydrocarbon
- Total Oil & Grease
- Sulphide
- Phenols
- Polycyclic Aromatic Hydrocarbons
- Total BETX

Grab sample pH analysis must be conducted immediately upon sampling.

Unless otherwise specified, composite samples shall consist of equal portions of grab samples, collected at a frequency of at least one per hour during discharge to sewer.

If composite sampling is specified, grab samples shall be taken during the period of composite sampling unless noted otherwise in this Schedule.

Unless otherwise specified, all samples should be taken during normal operations.

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**SCHEDULE E**

This Schedule sets out reporting requirements for this Permit.

**1. REPORTING REQUIREMENTS**

**By July 31, 2014 and quarterly thereafter for the term of this permit:**

The Permittee shall submit a report detailing the results of the discharge sampling and analyses program, as specified, for the previous calendar quarter including lab reports. This information shall be submitted electronically using the supplied password-enabled web based application.

Should a violation of any term or condition of the Permit be noted, the report shall include a summary of the investigation into the cause of the violation and the corrective actions taken or proposed to prevent future violations. This does not preclude the immediate notification requirements specified in Schedule C.

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