

ITEM# 9

MANAGER'S REPORT NO. 1

COUNCIL MEETING 1983 01 04

RE: DISCHARGE OF CONTAMINATED WASTEWATER TO EAGLE CREEK FROM THE
STORMWATER LEVEE,
TRANS MOUNTAIN PIPE LINE COMPANY LTD., BURNABY TANK FARM

ACTING MUNICIPAL MANAGER'S RECOMMENDATION:

1. THAT the recommendation of the Chief Public Health Inspector be adopted.

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TO: MUNICIPAL MANAGER
FROM: CHIEF PUBLIC HEALTH INSPECTOR
SUBJECT: DISCHARGE OF CONTAMINATED WASTEWATER TO EAGLE CREEK
FROM THE STORMWATER LEVEE, TRANS MOUNTAIN PIPE LINE
COMPANY LTD., BURNABY TANK FARM

RECOMMENDATION

1. That this report be received for the information of Council.

SUMMARY

The following report outlines events which occurred during a discharge of contaminated wastewater to Eagle Creek from the stormwater levee, Trans Mountain Pipe Line Company Ltd., Burnaby Tank Farm. As of 1982 December 17, the stormwater levee was discharging to Eagle Creek natural storm drainage water. Surveys by Federal Fisheries which would have determined environmental effects of the discharge could not be carried out due to unfavourable climatic conditions immediately after the discharge.

The Burnaby Health Department, Environmental Health Division has served a notice under authority of the Provincial Health Act and Burnaby Sewer Connection By-law to Trans Mountain Pipe Line Company Ltd., which requires immediate compliance by discharging only natural storm drainage water to Eagle Creek. Should further inspections reveal a discharge to Eagle Creek of other than natural storm drainage water, the Environmental Health Division will proceed with enforcement under authority of the Provincial Health Act and Municipal By-law.

REPORT

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Further to a request during the enquiry portion of the 1982 December 13 meeting of Municipal Council, we would forward the following report concerning a discharge of contaminated wastewater to Eagle Creek from the stormwater levee, Trans Mountain Pipe Line Co. Ltd., Burnaby Tank Farm.

A. CHRONOLOGICAL HISTORY OF EVENTS REGARDING TRANS MOUNTAIN PIPE LINE CO. LTD., BURNABY TANK FARM, STORMWATER LEVEE DISCHARGE TO EAGLE CREEK

1982 NOVEMBER 29

On 1982 November 29, this Division received a telephone call from Mr. T. Reid, Environmental Officer, Trans Mountain Pipe Line Co. Ltd., regarding the necessity of discharging water contained in their stormwater levee to Eagle Creek. Due to heavy precipitation, the water level within the stormwater levee was approaching a critical height. Should the water level have caused the stormwater levee to collapse, approximately 26,000,000 gallons of water would have escaped.

Under normal conditions, the stormwater levee holds natural stormwater and discharges to Eagle Creek in order to keep the levee at a constant height. The purpose of the stormwater levee is to serve for emergency containment in the event of a pipeline break or storage tank rupture.

The 1982 November 29 concern over discharging to Eagle Creek from the stormwater levee was due to staff at Trans Mountain's Burnaby Tank Farm directing to the stormwater levee approximately 150,000 gallons of process wastewater of unknown quality. According to Trans Mountain officials, the process wastewater had arrived at their Burnaby Terminal through the Inter-Provincial oil pipeline from an unknown source.

At 11:00 h, 1982 November 29, Trans Mountain Burnaby Tank Farm staff did discharge contents of the stormwater levee to Eagle Creek for approximately 20 minutes. During the discharge, the District Public Health Inspector observed extensive foaming at Eagle Creek and a strong hydrogen sulphide odour.

Upon receipt of information of the discharge from Trans Mountain's stormwater levee to Eagle Creek, the Chief Public Health Inspector verbally requested Trans Mountain to cease any further discharge. Trans Mountain curtailed the discharge at approximately 11:20 h.

As this Division was concerned over the possible environmental effects from the stormwater levee discharge of contaminated process wastewater to Eagle Creek, the Provincial Ministry of Environment, Fish & Wildlife Branch, was briefed on the 20-minute discharge.

12:00 - 13:00 h - Senior staff from the Environmental Health Division met with Trans Mountain officials to discuss means of removing the contaminated water from the stormwater levee. An opinion on the best alternative for removal of the contaminated process wastewater from the stormwater levee was requested from the Provincial Ministry of Environment, Fish & Wildlife Branch, and Federal Fisheries and Oceans, Salmonoid Enhancement Program. Both agencies stated that considering the preliminary chemical and oxygen sampling results, which revealed the contents of the stormwater levee to be toxic to fish, the best alternative was to discharge to the sanitary sewer. This would serve to dilute the process wastewater prior to discharging to the Fraser River.

Taking into consideration the environmental sensitivity of Eagle Creek and Burnaby Lake, a decision was made to investigate whether the contents of the stormwater levee could be pumped to the Municipal sanitary sewer. This Division contacted the Greater Vancouver Regional District and staff of the Municipal Engineering Department for approval of the proposed discharge and made arrangements for sampling of the effluent on 1982 November 30.

1982 NOVEMBER 30

At 09:00 h, the Greater Vancouver Regional District and Environmental Health Division staff sampled the contents of the stormwater levee. Upon receipt of the samples, senior staff of the Greater Vancouver Regional District made the decision not to accept the contents of Trans Mountain's stormwater levee. However, the Greater Vancouver Regional District did advise that they would accept the discharge from Trans Mountain on the following condition: That the Provincial Ministry of Environment, Waste Management Branch, notify the Greater Vancouver Regional District in writing that during Trans Mountain's discharge to the sanitary sewer, they would not proceed with enforcement, should the Annacis Island Sewage Treatment Plant receive effluent exceeding the quality parameters set by permit under the Provincial Pollution Control Act. The Annacis Island Sewage Treatment Plant accepts sanitary sewage from a major portion of this municipality, including the area occupied by Trans Mountain Pipe Line's Burnaby Mountain Tank Farm.

At 16:00 h, the Chief Public Health Inspector briefed the Medical Health Officer, the Director-Administrative and Community Services and the Deputy Director-Engineering on the decision of the Provincial Ministry of Environment, Waste Management Branch. Taking into consideration the necessity of removing the contents of the stormwater levee in order to protect public safety, the environmental sensitivity of Eagle Creek and Burnaby Lake, and the technical input by Provincial and Federal Fisheries, it was decided to give Trans Mountain Pipe Line permission to pump the contents of the stormwater levee to the Burnaby sanitary sewer system.

1982 DECEMBER 01

05:00 h - The water level within the stormwater levee reached a critical height due to extremely heavy precipitation. The Provincial Emergency Program, expressing concern for public safety, requested the cooperation of Trans Mountain Pipe Line in lowering the water level within the stormwater levee by discharging to Eagle Creek.

09:00 h - The Chief Public Health Inspector, after discussing the situation with Trans Mountain officials, and finding that the level within the stormwater levee was not now at a critical height, requested the discharge to Eagle Creek to cease. This was immediately attended to by Trans Mountain Pipe Line. Both Provincial and Federal Fisheries were contacted and advised of the four-hour discharge.

14:00 h - Environment Canada, Environmental Protection Service, served a written order under the Federal Fisheries Act to Trans Mountain Pipe Line Co. Ltd., which required the curtailment of any further discharge from the stormwater levee to Eagle Creek, consistent with public safety.

1982 DECEMBER 02

The Environmental Health Division and the Municipal Engineering Department worked with Trans Mountain Pipe Line to establish the temporary connection from the stormwater levee to the Municipal sanitary sewer. At 14:30 h, Trans Mountain Pipe Line commenced pumping from the west end of the stormwater levee to the sanitary sewer. The Municipal Engineer communicated with senior staff of the Greater Vancouver Regional District on the fact that Trans Mountain Pipe Line was discharging contents of the stormwater levee to the municipal sanitary sewer.

1982 DECEMBER 03

05:30 h - Extremely heavy rainfall caused the water level within the stormwater levee to reach a critical height, even with continuous pumping of the stormwater levee to the sanitary sewer. Environment Canada, Environmental Protection Service, was on the scene and in order to protect public safety, permitted Trans Mountain Pipe Line to supplement the discharge to the sanitary sewer by discharging to Eagle Creek. This safety measure was consistent with the 1982 December 02 written notice served by Environment Canada, Environmental Protection Service, to Trans Mountain Pipe Line Co. Ltd.

1982 DECEMBER 03 - Cont.

15:30 h - As the water level was within four feet of the top of the stormwater levee, the discharge to Eagle Creek was discontinued. Environment Canada, Environmental Protection Service, advised this Division that the first bioassay results of samples collected on 1982 December 01 revealed an acute toxicity to fish within 18 hours. Further bioassay work would be conducted.

18:00 h - The Greater Vancouver Regional District served Trans Mountain Pipe Line Co. Ltd. with a Supreme Court of British Columbia injunction to discontinue discharging to the municipal sanitary sewer. Trans Mountain Pipe Line complied with this injunction and ceased discharge to the sanitary sewer immediately.

1982 DECEMBER 03 TO DECEMBER 12

Due to a lack of precipitation and diversion by Trans Mountain of a major portion of incoming creeks, the water level within the stormwater levee remained stabilized and did not require any discharge to Eagle Creek.

Environment Canada, Environmental Protection Service, continued bioassay tests on contents of the stormwater levee. Test results to date showed a gradual dilution of the toxicity of the contents of the stormwater levee.

1982 DECEMBER 13

16:00 h - Environment Canada, Environmental Protection Service, approved an emergency discharge by Trans Mountain Pipe Line to Eagle Creek in order to reduce the water level within the stormwater levee.

1982 DECEMBER 14

06:30 h - As the water level within the stormwater levee had been reduced by four feet, the discharge to Eagle Creek was stopped. Trans Mountain Pipe Line, utilizing pumps which were originally intended for discharge to the sanitary sewer, were aerating water within the stormwater levee in order to improve oxygen levels. Bioassay test results provided by Environment Canada, Environmental Protection Service, continued to show a marked improvement in the quality of the water contained within the stormwater levee.

1982 DECEMBER 17

Environment Canada, Environmental Protection Service, notified this Division and Trans Mountain Pipe Line that the water contained within the stormwater levee had been diluted to a significant degree to be considered as natural storm drainage water. For this reason, Environment Canada, Environmental Protection Service, lifted the 1982 December 01 order and gave permission for Trans Mountain Pipe Line to continuously discharge stormwater to Eagle Creek. Trans Mountain Pipe Line to date continues to maintain the discharge from the stormwater levee in order to keep the water level within the lagoon at a constant height. Inspections of Eagle Creek by this Division reveal an absence of any trace of foaming or odour from this date.

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B. ENVIRONMENTAL EFFECTS ON EAGLE CREEK, BURNABY LAKE AND BRUNETTE RIVER DUE TO DISCHARGE OF PROCESS WASTEWATER FROM TRANS MOUNTAIN PIPE LINE COMPANY LTD.

Environment Canada, Fisheries and Oceans, Salmonoid Enhancement Program staff were requested by this Division for information on:

- a) The ability of Eagle Creek, Burnaby Lake and Brunette River to continue as a suitable fish habitat for recreational fish, i.e. cutthroat trout, salmon.
- b) The immediate effects of the Trans Mountain discharge on existing fish stock in Eagle Creek, Burnaby Lake and Brunette River.

Federal Fisheries staff have advised that due to high water levels it is not possible to proceed with a comprehensive survey to accurately determine the effects of the process wastewater discharge by Trans Mountain Pipe Line Company Ltd. to Eagle Creek.

Federal Fisheries staff are concerned on findings from recent investigations that revealed as absence of mature fish in sections of Eagle Creek, Burnaby Lake and Brunette River that were known to support fish prior to the Trans Mountain discharge.

Without data from a comprehensive survey, Environment Canada, Fisheries and Oceans cannot state whether or not the absence of mature fish in sections of Eagle Creek, Burnaby Lake and Brunette River is directly due to the process wastewater discharge from Trans Mountain. To date no dead fish have been found in Eagle Creek, Burnaby Lake or Brunette River.

Environmental Health Division staff will maintain close liaison with both Federal and Provincial Fisheries staff regarding Fish Enhancement Programs within this Municipality.

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C. ACTION TAKEN BY THE BURNABY HEALTH DEPARTMENT, ENVIRONMENTAL HEALTH DIVISION TO PREVENT FURTHER POLLUTANTS FROM TRANS MOUNTAIN PIPE LINE COMPANY LTD. ENTERING EAGLE CREEK 151

On 1982 December 17, the District Public Health Inspector hand delivered to Trans Mountain Pipe Line Company Ltd. the following notice:

1982 December 17
Our File: 3-12-04

Mr. E.J. Lockwood
Vice President, Operations
Trans Mountain Pipe Line Co. Ltd.
Suite 800, 601 West Broadway
Vancouver, B.C.
V5Z 4C5

RE: DISCHARGE OF WASTEWATER FROM STORMWATER LEVEE
TRANS MOUNTAIN PIPE LINE, BURNABY MOUNTAIN TERMINAL

Dear Mr. Lockwood:

Beginning on 1982 December 01, and subsequently thereto, the Eagle Creek tributary of Burnaby Lake, within the Municipality of Burnaby, was subjected to an industrial wastewater effluent which originated from the stormwater levee, Trans Mountain Pipe Line, Burnaby Mountain Terminal.

The discharge of this industrial wastewater was due to Trans Mountain Pipe Line staff directing approximately 150,000 gallons of process wastewater of an unknown quality to the stormwater levee, which discharges into Eagle Creek.

The Municipality of Burnaby has a vital interest in the preservation of the environmental quality of Eagle Creek and Burnaby Lake, which is a recognized wildlife sanctuary. The Municipality, in cooperation with Provincial and Federal Governments, has been able to promote programs which have rejuvenated fish stocks to Burnaby Lake and its tributaries, including Eagle Creek. The current rejuvenation of the fish stocks to Burnaby Lake and Eagle Creek is now in question due to the recent discharges from Trans Mountain Pipe Line's stormwater levee at the Burnaby Mountain Terminal.

The Burnaby Sewer Connection By-law No. 4247 regulates discharges to the sanitary and storm sewers. The By-law specifically regulates against any discharge to the Burnaby storm sewer system other than natural storm drainage water. For your information, Section 18.1 of the Burnaby Sewer Connection By-law No. 4247 is quoted, as follows:

"No person shall discharge into any ditch, drain, creek, stream, watercourse, waterway, lake, bay or ocean, any sanitary sewage, other waters, industrial wastes, petroleum, without first obtaining permission to do so from the Engineer."

In addition, the Provincial Health Act, Sanitary Regulations, Section 66 (1) states:

"No solid refuse or waste matter of any kind shall be deposited in any stream or lake so as to obstruct its flow, or put into any stream or lake so as to pollute its waters, and no solid or liquid sewage matter from either public or private sewers shall be discharged into any stream or lake, but if it can be proved that the best means have been adopted to purify the sewage, etc., before it enters the stream or lake, no offence is committed, that is, unless the Local Board has notified the offending parties that the means adopted are insufficient; nor shall any poisonous, noxious, or polluting liquid proceeding from any other source be passed into any stream or lake unless the best means have been first adopted to purify the same."

NOTE: "Local Board" is Municipal Council.

As discussed during our 1982 December telephone conversation, the Environmental Health Division did instruct Trans Mountain Pipe Line Co. Ltd. staff at the meetings conducted on 1981 November 26, 1982 December 01 and 06 that the stormwater levee is not to be used as a treatment process for wastewater effluent.

We would require that Trans Mountain Pipe Line Co. Ltd., take immediate action to:

- (a) Immediately proceed with implementation of an appropriate treatment process and disposal system at the Burnaby Mountain Terminal, which will collect and treat all contaminated wastewater. This is to eliminate the discharge of anything other than natural storm drainage water from the Burnaby Mountain stormwater levee.
- (b) During the interim period leading to the implementation of the wastewater treatment and disposal system, Trans Mountain Pipe Line Co. Ltd. is to eliminate any contaminated wastewater from entering the stormwater levee.

We must bring to your attention that should Trans Mountain Pipe Line's stormwater levee be found to be discharging other than natural storm drainage water to the Municipality's storm sewer system, we will have no alternative other than to proceed with immediate enforcement of the aforementioned By-law and section of the Provincial Health Act.

At the 1982 December 13 meeting of Municipal Council, a requirement was made that staff provide a complete report on the environmental impact of the recent discharges and the means of preventing future industrial waste discharges from the stormwater levee at the Trans Mountain Pipe Line Burnaby Mountain Terminal.

In order that this information can be forwarded to the Municipal Council, we would request a firm, written commitment from Trans Mountain Pipe Line Co. Ltd., outlining the method and manner to be taken to prevent future discharges of anything other than natural storm drainage water to the Burnaby storm sewer system. Please forward your reply to:

G.V. Harvie, C.P.H.I.(C)
Chief Public Health Inspector
Corporation of the District of Burnaby
Environmental Health Division
6161 Gilpin Street
Burnaby, B.C. V5G 4A3

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Should any further information be required, please do not hesitate to contact the undersigned at 294-7390.

Yours truly,

G.V. Harvie, C.P.H.I. (C)
CHIEF PUBLIC HEALTH INSPECTOR

GVH:La

cc: Mr. T. Reid, Environmental Officer, Trans Mountain Pipe
Line Company Ltd.

Mr. A.W. Samson, Manager of Engineering, Trans Mountain
Pipe Line Company Ltd.

A reply from Trans Mountain Pipe Line Company Ltd. was forwarded and received by this office on 1982 December 23. The correspondence states:

December 23, 1982

G.V. Harvie, C.P.H.I. (C)
Chief Public Health Inspector
Corporation of the District of Burnaby
Environmental Health Division
6161 Gilpin Street
BURNABY, B.C.
V5G 4A3

Dear Sir:

In response to your letter of December 17, 1982 we wish to confirm that we have suspended any further discharge of untreated water originating from our pipeline system into our oil spill containment reservoir. We are presently exploring alternative methods of handling this waste water and will be in touch with you further in that connection. Of course we will continue to discharge from the reservoir natural storm drainage water, some of which originates on our property, the balance of which flows onto our property from higher elevations on Burnaby Mountain.

I trust this action on our part will bring an end to the concern of the Municipality and the Health Department.

Yours very truly,

E.J. Lockwood

EJL/b

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The Burnaby Health Department, Environmental Health Division will continue inspections and periodic sampling of Trans Mountain Pipe Line Company Ltd.'s stormwater levee to ensure that only natural storm drainage water is being discharged. Should Trans Mountain Pipe Line's stormwater levee be found to be discharging other than natural storm drainage water to Eagle Creek, we will immediately proceed with enforcement under authority of the Burnaby Sewer Connection By-law No. 4247 and the Provincial Health Act.

Environmental Health Division staff will continue to liaison with Trans Mountain Pipe Line Company Ltd. and Provincial and Federal Environmental agencies in regards to their proposed method of handling and treating pipe line wastewater.

Respectfully submitted,

G.V. Harvie

G.V. Harvie, C.P.H.I.(C)
CHIEF PUBLIC HEALTH INSPECTOR

GVH/sf

cc: Medical Health Officer
Municipal Engineer

