

ITEM 23

MANAGER'S REPORT NO. 9

COUNCIL MEETING Feb. 10/75

Re: Proposed Remedial Treatment for Infilling of the  
Canada Games Rowing Course

Attached is a report from the Parks and Recreation Administrator regarding the infilling of the Canada Games Rowing Course, and more specifically, the action that has been taken by the Commission in regard to this matter.

Since the Commission's deliberations on February 5, 1975, we have received the attached letter dated February 5, 1975 from Mr. D.L. MacKay, Chief Engineer for the Greater Vancouver Sewerage and Drainage District. As can be seen from this correspondence, we must now make an immediate decision regarding the action to be taken, if any, on the infilling of the rowing course on the Lake. Additional details on this matter are contained in the attached memo dated February 6, 1975 to the Manager from the Municipal Engineer.

Because of the urgency involved in obtaining Council's direction on the two alternatives that have now been offered for consideration, this report is not being referred to the Parks and Recreation Commission first as would normally be the case. Instead, the procedure has been reversed for reasons of expediency, and Council's decision on the rowing course will be referred to the Commission for ratification.

It does not appear imperative to make a decision right now with respect to the actual dredging of the rowing course. It is, however, imperative that we know what is happening to the infilling in the rowing course and the way of resolving the problem. The last soundings were taken approximately a year ago and further soundings should be taken in the spring of 1975 after the run-off. The estimated cost of the soundings is \$2,500 and the estimated cost of the vegetation study referred to above is \$1,900. It is therefore suggested that \$5,000 be budgeted for these two studies and that they proceed in 1975 so that we can be sure of the resolution of the problem on the rowing course.

RECOMMENDATIONS:

1. THAT (a) the rowing course be accepted in its present condition at this time (not to International Rowing Standards),  
(b) that soundings be taken, and  
(c) that we get a report from an expert on rooted aquatic plants to recommend a planting program in the littoral areas of the lake and hope that these steps will meet the rowing and canoeing needs of the community for many years to come; and
2. THAT \$5,000 be budgeted for the soundings and planting program in the littoral areas of the lake; and
3. That the recommendations be referred to the Parks and Recreation Commission for ratification.

ITEM 23  
MANAGER'S REPORT NO. 9  
COUNCIL MEETING Feb. 10/75

TO: MANAGER February 7, 1975.  
FROM: PARKS & RECREATION ADMINISTRATOR  
RE: INFILLING OF CANADA GAMES ROWING COURSE, BURNABY LAKE

The Parks and Recreation Commission received a copy of Golder Associates' Report dated December 1974 at its meeting of February 5, 1975.

The Commission was advised that the Municipal Engineer had reviewed the report and concurred with the Consultants' recommendation to proceed with Alternative #2, i.e. to dredge as required. The Commission was also advised that the Municipal Staff C.I.P. Committee recommended that the sum of \$10,000 be inserted in the budget for the sounding survey and for investigation of the aquatic plant situation. (See attached Item 5, Administrator's Report No. 3, 1975, meeting of February 5, 1975). It was recommended that:

1. the Consultants' Report be received.
2. \$10,000 be placed in the 1975 C.I.P. to cover costs of further investigation work.
3. Council be requested to approve the expenditure of these funds in advance of the annual budget.
4. Golder Associates be retained to carry out soundings at an estimated cost of \$2,500.

The Commission passed the following motion:

"That the Commission approve Recommendation #1, and that it take no further action at this time on Recommendations Nos. 2, 3 and 4."

It was the feeling of the Commission that no further monies should be spent on Burnaby Lake at this time.

In view of the position adopted by the Commission at its meeting of February 5, 1975, I can take no action on the memo. of the Municipal Engineer dated February 6, 1975.

  
Dennis Gaunt,  
ADMINISTRATOR.

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ITEM No. 5  
ADMINISTRATOR'S REPORT No. 3/75  
COMMISSION MEETING Feb. 5/75

ITEM 23  
MANAGER'S REPORT NO. 9  
COUNCIL MEETING Feb. 10/75

RE: INFILLING OF CANADA GAMES ROWING COURSE, BURNABY LAKE

The attached report from the Supervisor of Design is submitted. I concur with the contents of this report and the recommendations contained therein.

TO: ADMINISTRATOR

January 31, 1975

FROM: SUPERVISOR OF DESIGN

RE: INFILLING OF CANADA GAMES ROWING COURSE, BURNABY LAKE

The Corporation asked Golder Brawner & Associates to conduct a series of studies on the infilling problem of the Canada Games Rowing Course on Burnaby Lake. The Soil Consultants' first report dated July 1973 determined the cause of the infilling. Their second report dated December 1973 was a sounding survey which established the rate of infilling within the rowing course. The attached xerox copy dated December 1974 is their latest report recommending what they think is the best, most economical and permanent treatment for this problem. Recent observations for this last report shows that a dense growth of aquatic plants has established itself in the shallow and former dredge shore areas beside the rowing course. It was also noted that the rate of infilling had diminished and it was possible that in the future only minimal dredging would be required. The determining factor is the stabilizing effect of the aquatic growth in the areas adjacent to the rowing course. A further three to six years may be required to achieve any effective degree of stabilization. This is based on the fact that the stabilization depends upon the plant root system. The erosion and infilling is greatest during the winter months when the aquatic vegetation dies. Several years of good summer growth of the aquatic vegetation should produce the dense root structure required for the desired stabilization.

It would appear advisable to carry out an additional set of soundings in order to gain additional information on the reduced rate of infilling.

The Soils Consultants have recommended two alternatives for solving the infilling problem. Briefly, they are as follows:

Alternative #1 - Initial dredging, peripheral barrier, and settling basin. Estimated Cost \$250,000

Alternative #2 - Dredge as required. Estimated Cost \$130,000.

The Soils Consultants favour Alternative #2 although at this time they cannot fully preclude the possibility of future dredging requirements if the peripheral barrier and settling basin are not constructed at this time.

The Municipal Engineer, Mr. E. E. Olson, has reviewed the report and concurs with the Consultants' recommendation to proceed with Alternative #2 which is to re-dredge the rowing course to the desired original invert level of 124.0 when a major rowing competition is scheduled for the Canada Games Rowing Course. To date, the Parks and Recreation Office has not received any requests for regatta events which require the specified water depth. Mr. Olson approached the Water Investigation Branch of the Department of Lands and Water Resources and asked for assistance on the aquatic plant aspect of this problem. Although interested, their work load precludes them from assisting and it will, therefore, be necessary to retain commercial aquatic plant experts for advice on aquatic plant growth in the lake.

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The Municipal Manager, in reviewing the Consultants' Report suggested the Engineer contact the Greater Vancouver Regional District to determine if the trunk sewer line north of Burnaby Lake is available for disposing dredging material from the lake, to see how long this is available before it is connected to the Iona Sewage Treatment Plant and to see if it is possible to install a diverter valve, so that if at some future date when the Rowing Course needs dredging, disposal of the spoil material is possible through the trunk sewer line.

The Engineer wrote to the Greater Vancouver Sewerage and Drainage District and received a favourable reply for our request to use the trunk sewer for disposal of the dredged material providing that the Corporation makes all the arrangements for approval from other agencies and indemnifies the District from any claims or costs resulting from the operation. We were also told that the outfall would be cut off and sewerage diverted to the Annacis Treatment Plant in late April or early May 1975. Once this has been done it will be possible to divert the sewage back to the Fraser River, but it was doubtful whether it would be allowed because there was no way of separating sewage from dredge material at the Fraser River outfall.

The Engineer wrote Golder Brawner & Associates and obtained an estimate of \$2,500 as the cost of doing a sounding survey of the Canada Games Rowing Course.

The last inquiry the Engineer has made on our behalf is a specific request to the Pollution Control Board to allow us to discharge the dredged material into the Fraser River either now or in the future because of the fact that the sewer outfall is to be directed to Annacis Island this spring. To date, we have not had a reply to this inquiry.

The Municipal Staff C.I.P. Committee has recommended that the sum of \$10,000 be inserted in the budget for the sounding survey and for investigation of the aquatic plant situation. Formal approval from the Pollution Control Board is not very hopeful, so that it is doubtful that we will be able to meet the April or May deadline when the G.V.R.D. Sewer to the Fraser River will be closed and directed to Iona Island. After that date, depending upon the decision of the Pollution Control Board, it may be necessary to find some completely different method of dredging the lake.

From the foregoing, it would appear that permission could not be obtained to use the existing trunk sewer prior to the April deadline; that it would be advantageous to take an extra set of soundings at this time, but that action in retaining an aquatic plant specialist and implementing any planting recommendations should be held pending results of the soundings and further staff investigation into the costs of dredge material disposal.

#### RECOMMENDATION

1. That the Consultants' Report be received.
2. That \$10,000 be placed in the 1975 C.I.P. to cover costs of further investigation work.
3. That Council be requested to approve the expenditure of these funds in advance of the annual budget.
4. That Golder Associates be retained to carry out soundings at an estimated cost of \$2,500.

P. Stockstad,  
SUPERVISOR OF DESIGN.

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MANAGER'S REPORT NO. 9

COUNCIL MEETING Feb. 10/75

F. R. BUNNELL, B.A.Sc., M.A.M.Soc.C.E., P.Eng. (B.C.)  
COMMISSIONER

G. W. CARLISLE, C.A., F.C.I.S.  
SECRETARY-TREASURER

**GREATER VANCOUVER SEWERAGE  
AND DRAINAGE DISTRICT**

PHONE 731-1155

PLEASE REFER TO  
OUR FILE NO.

RECEIVED IN  
ENGINEERING DEPT.

2294 WEST 10TH AVENUE  
VANCOUVER 9, B.C.

February 5th, 1975

FEB 10 1975

REFER TO	
VK	
EEG	

District of Burnaby,  
Municipal Hall,  
4949 Canada Way,  
Burnaby 2, B. C.

Attention: Mr. V. Kennedy  
Deputy Municipal Engineer

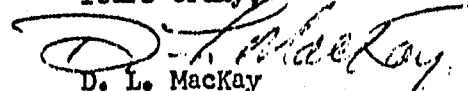
Dear Sir:

Re: Brunette Interceptor - Braid St. Outfall

In reply to your letter of January 29th, we advise that the Sewerage District would make an application to the Pollution Control Branch for disposal of dredgings through the Braid Street Outfall if Burnaby requested us to do so. However, since our correspondence about this matter in December we have reviewed in detail our programme for diversions to Annacis Island and advise that Braid Street will be diverted by April 30th this year. I would hold no hope that a permit application would be processed by that time and as stated in my previous letter, doubt very much if a permit would be granted to re-direct the Brunette Interceptor to the Braid Street Outfall after its diversion to Annacis because it would in fact be permitting a raw sewage discharge to the Fraser River.

The District's programme, established in 1969 was to have the Annacis plant completed and Braid Street diverted to Annacis by January 1, 1975. This was to comply with the Pollution Control Board's policy regarding discharges to the Fraser River. Because of strikes and some material shortages the Annacis plant has been delayed 4 or 5 months. The Pollution Control Branch has been advised of these delays and the Sewerage District is committed to put the plant in operation and divert all of our existing Fraser River discharges as soon as possible. The Braid Street diversion cannot be delayed beyond April 30th.

Yours truly,

  
D. L. MacKay  
Chief Engineer

DLM/saf

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MANAGER'S REPORT NO. 9

COUNCIL MEETING Feb. 10/75

## THE CORPORATION OF THE DISTRICT OF BURNABY

## INTER-OFFICE COMMUNICATION

TO: Municipal Manager	DEPARTMENT:	DATE: 6 Feb./75
FROM: Municipal Engineer	DEPARTMENT:	OUR FILE #
SUBJECT: Remedial Treatment - Infilling of <u>Canada Games Rowing Course</u>		YOUR FILE #

You have recently received copies of several letters regarding the rowing course written by us to various agencies, and their replies. We have received another letter (copy attached) from the G.V.S. & D.D. indicating that the time for decision has now arrived.

The situation to date is as follows:

1. Golder & Associates have recommended that if the rowing course is to be dredged within existing parameters of ecological requirements and economic feasibility, the only method is by discharging the dredged material through the Burnaby Lake Interceptor to the Fraser River. Other alternatives explored and rejected are:
  - (a) Disposal to land - rejected because of the difficulty of separating solids from water and it kills trees in the surrounding area.
  - (b) Disposal to littoral areas of the lake - rejected because of ecological impact.
  - (c) Reclaim spoil for agricultural uses - rejected because the spoil material is not suitable for agricultural purposes. Cost of treating the spoil would make the resultant product commercially uneconomic.
  - (d) Disposal through the Brunette river system - rejected because of ecological impact, particularly as related to the Fisheries Branch interest in Brunette River.
  - (e) Disposal by independant pipeline down Brunette River to the Fraser River - rejected because of cost. The pipeline alone would cost something in the order of the entire first cost of the rowing course.
2. The G.V.S. & D.D. agree to the use of their trunk sewer if Burnaby will accept all responsibility for any problems that may arise and if Burnaby will acquire all necessary permits.
3. The Pollution Control Board have advised that the G.V.S. & D.D. must get the permit and that it normally takes several months to get a permit. They also state that the sewer outfall at the river will be eliminated in April or May 1975 by connection of the sewer to the Annacis Island treatment plant.
4. The G.V.S. & D.D. have now said they will apply for the permit but the dredging must be completed by 30 April, 1975. This is the new deadline for abandoning the Braid Street outfall and diverting the trunk sewer to Annacis Island treatment plant. The G.V.S. & D.D. doubt very much if permission would ever be granted to redirect the sewerage and dredged

(cont'd)

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COUNCIL MEETING Feb. 10/75

THE CORPORATION OF THE DISTRICT OF BURLINGHAM

INTER-OFFICE COMMUNICATION

TO: Municipal Manager DEPARTMENT: DATE: 6 Feb./75  
FROM: Municipal Engineer DEPARTMENT: OUR FILE #  
SUBJECT: YOUR FILE #

- 2 -

matter back into the river once the treatment plant is put into operation. Golder and Associates advise that by pumping 24 hours a day the dredging would take 2½ months. To be completed by 30 April the work would have to commence mid-February (in about one week).

5. Golder & Associates have provided an estimate of \$2,500 to carry out another set of soundings of the course to confirm whether or not the rate of infilling is decreasing. Earlier indications were that it is decreasing.
6. The Water Investigations Branch of the Department of Lands, Forests and Water Resources have declined to assist us in the aquatic vegetation study (Their letter 29 Jan./75 is attached). We have asked Envirocon Ltd. to give us a proposal to do a vegetation study in association with Dr. Stockner, an expert on rooted aquatic plants.

After careful consideration of all the foregoing, the Corporation would appear to have two alternatives open to follow:

1. If the rowing course is to be dredged to original levels it must be accomplished by 30 April, 1975. To do so it will be necessary to pull all stops and cut across all red tape and bypass normal procedures. Immediate highest possible level representation would have to be made to Victoria. We would not have time for normal specification and tendering procedures. A form of turnkey operation would have to be considered to start work within two weeks. Based on such a "crash program" approach we would suggest that Golder Associates estimate for dredging should be increased to approximately \$150,000 and put back in the 1975 budget.
2. Accept the rowing course as it is (not to International Rowing Standards), have the soundings taken, get a report from an expert on rooted aquatic plants to recommend a planting program in the littoral areas of the lake and hope that these steps will meet the rowing and canoeing needs of the community for many years to come.

Because of the high cost (at a time when budget cuts are essential), and the near impossible time limit which would make undesirable short cuts necessary, alternative #2 is recommended, which would leave the course "as is" for now and provide time to study the problem, including vegetation planting, and possibly minor maintenance dredging to move material from the higher spots in the course to the lower levels. This would be more of a levelling operation and would not return the depth of the course to the required International rowing standard of two meters."

  
MUNICIPAL ENGINEER

VK:cmg

c.c. ( ) Parks and Recreation  
Administrator  
( ) Municipal Treasurer

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MANAGER'S REPORT NO. 9  
COUNCIL MEETING Feb. 10/75

ADDRESS ALL COMMUNICATIONS TO:  
DIRECTOR



PLEASE REFER TO FILE NO. 0316533  
YOUR REF.:

DEPARTMENT OF LANDS, FORESTS, AND WATER RESOURCES  
WATER RESOURCES SERVICE  
WATER INVESTIGATIONS BRANCH  
OFFICE OF DIRECTOR  
PARLIAMENT BUILDINGS, VICTORIA, B.C.  
V8V 1X8

January 29, 1975

RECEIVED IN  
ENGINEERING DEPT.

JAN 1975	
FILED	DATE
VIC	
BY	B.F. DAY

*23000 from  
Phillips Lane  
Area*

Mr. E.E. Olson, P.Eng.  
Municipal Engineer  
The Corporation of the  
District of Burnaby  
Municipal Hall  
4949 Canada Way  
Burnaby, British Columbia

Dear Sir:

Re: Canada Games Rowing Course - Burnaby Lake

Reference is to your letter of December 24, 1974, and the enquiry pertaining to Dr. Newroth's participation in studies of remedial measures for erosion problems at Burnaby Lake.

Dr. Newroth will be fully committed for some time and therefore unable to participate in your studies.

At this time, it would appear we could not get involved in the implementation of remedial measures, however, it would be appreciated if you could advise on your plans when they are finalized.

Yours very truly

*P.M. Brady*  
P.M. Brady  
Director

PMB/lb

*Vegetation expert*