

**3. TRAIL ROAD LANDFILL SITE - LEACHATE PRE-TREATMENT RESEARCH PROGRAM**

**COMMITTEE RECOMMENDATION**

**That Council receive this report for information.**

**DOCUMENTATION**

1. Director, Solid Waste Division, Environment and Transportation Department report dated 23 June 2000 is immediately attached.
2. An Extract of Draft Minute, 11 July 2000, immediately follows the report and includes a record of the vote.

REGION OF OTTAWA-CARLETON  
RÉGION D'OTTAWA-CARLETON

REPORT  
RAPPORT

Our File/N/Réf. Your File/V/Réf.	<b>50 17-98-0005-H</b>
DATE	23 June 2000
TO/DEST.	Coordinator, Planning and Environment Committee
FROM/EXP.	Director, Solid Waste Division Environment and Transportation Department
SUBJECT/OBJET	<b>TRAIL ROAD LANDFILL SITE - LEACHATE PRE-TREATMENT RESEARCH PROGRAM</b>

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### DEPARTMENTAL RECOMMENDATION

**That the Planning and Environment Committee and Council receive this report for information.**

### BACKGROUND

On 08 September 1999, Council approved the creation of a program to investigate new and emerging technologies for the on-site treatment of leachate from the Trail Road Landfill Site and leachate contaminated groundwater from the Nepean Landfill Site. Council also directed that \$500,000 be put in the 2000 Capital Budget to fund this research.

In February 2000, Regional staff developed a Terms of Reference for a technical advisory committee for the Research Program. On 18 February and 25 February 2000, an advertisement was placed in the daily newspapers requesting volunteers to participate on an advisory committee. An Open House was held on 26 February 2000 at the Trail Road Waste Facility. The Research Program was discussed at this Open House and volunteers were again encouraged to participate on an advisory committee. The Technical Advisory Committee (TAC) was formed and all the individuals who requested to participate were accepted on the TAC. There are 12 non-Region members on the TAC. Please refer to Annex A for a list of TAC participants.

### DISCUSSION

The TAC has met on three occasions. Listed below are the Committee's accomplishments to date.

### 1. Allocation of Funds

The Committee has determined how the money will be allocated (i.e., private sector versus academic sector). The TAC wanted to acknowledge that universities are unique in the research world and should have different requirements and abilities than the private sector. In addition, universities, through their grant programs, have access to matching funding. The TAC, therefore, decided to develop a separate Request for Proposals for University grants on the condition that the work be carried out by graduate students and matching funding be provided. The TAC allotted \$125,000 towards the University grant portion of the research program. The remaining \$375,000 will be available for general submissions.

### 2. Parameters

It was determined which parameters should be targeted and to what treatment level. The TAC decided that the focus of the research program should be on the Trail Road Landfill leachate and not the contaminated groundwater from the Nepean Landfill Site since the contaminated groundwater would be relatively diluted in comparison. The TAC decided to target parameters identified in the leachate that exceed, or closely approach the sewer-use by-law (unless there was a surcharge provision) or discharge agreement. Consequently, the emphasis of this research program is directed at reducing the leachate concentrations of hydrogen sulfide, boron, chloride, m/p xylene, toluene and barium by approximately 50% of the sewer-use by-law or discharge agreement limits. Credit will be given to processes that also bring total Kjeldahl nitrogen, total suspended solids, and carbonaceous biochemical oxygen demand into compliance or closer to compliance.

### 3. Requests for Proposals

Two requests for proposals were developed (one for general submissions and the other for universities using a grant format). The two requests for proposals are available upon request.

Originally, it was the intention to have the requests for proposals closed and a preliminary selection of preferred technologies presented in this committee report to coincide with the leachate pipeline report. Due to unforeseen delays resulting from extensive input from the TAC however, the requests for proposals were released on 14 June 2000 and close on 18 July 2000. Proposals will be evaluated by regional staff and several members of the TAC over the summer. It is anticipated that preferred technologies will be selected by the end of August.

Bench scale and pilot scale testing of the various technologies should start in the fall 2000. This testing is expected to last one to two years depending on the technology. Testing of promising technologies could be scaled up after this time and would likely take another one to two years of evaluation. It is anticipated that a full scale implementation is three to five years away.

### CONSULTATION

An advertisement advising the public of the research program was issued on 18 February and 25 February 2000. An Open House was held at the Trail Road Landfill Site on 26 February 2000 providing details on the research program. In addition, the TAC is composed of members of the public and reflects their points of view. All members of the public who expressed interest in participating on this project have been included on the TAC.

### FINANCIAL IMPLICATIONS

There are no financial implications to date. Funding for the research program is accommodated in Capital Budget item 900455.

### CONCLUSION

Work is proceeding on the research project. The partnership with interested members of the public has proved to be very successful in combining public interest and expertise to address environmental issues. Staff will continue to update Committee and Council as required.

*Approved by  
P. McNally, P.Eng.*

MH

Attach. (1)

## LEACHATE PRE-TREATMENT RESEARCH PROGRAM

Members of the Technical Advisory Committee (TAC)

Marilyn Harrold, Region of Ottawa-Carleton  
Keith Watson, Region of Ottawa-Carleton  
Ted Woytowich, Region of Ottawa-Carleton  
Scott Hall, Region of Ottawa-Carleton  
Steve Black, CH2M Gore and Storrie\*  
Wayne Parker  
Kevin Kennedy  
Bruce Anderson  
Wallace Brown  
Anita Miettunen  
Terry McIntyre  
Allan Aizenman  
Bill Wong  
Guy Felio  
Sat Debidin  
Chris Kinsley  
Paul Laughton

\*Provides technical input to the Region as required.

Extract of Draft Minute  
Planning and Environment Committee  
11 July 2000

TRAIL ROAD LANDFILL SITE -  
LEACHATE PRE-TREATMENT RESEARCH PROGRAM

- Director, Solid Waste Division, Environment and  
Transportation Department report dated 23 June 2000

Lois K. Smith stated as much pre-treatment as possible should be used, on not only the leachate but the landfill itself. She said she was aware that a dedicated wetland to receive organic waste could not operate well in the winter. However, she suggested a course of indoor, temperature-regulated year-round treatment using continuous-flow tubes containing algae with the desired properties for removing unwanted elements such as heavy metals. This would leave essentially clean water once the algae were filtered out.

Miss Smith advised that one of the problems of putting leachate into the regular biosolid waste stream was the increased opportunity of building up heavy metals when disposing of biosolids. She cited reports of European studies which said biosolid usage on farmland had ceased because of a 25 year buildup in heavy metals. She said this would lead to a loss in the value of biosolids which could otherwise be retained, provided there was adequate pre-treatment to remove the heavy metals to begin with. Miss Smith said she was willing to do further research to provide staff with the names of the appropriate strains of algae.

Chair Hunter informed Miss Smith she was speaking to a level of detail that Committee was not dealing with at the moment. He informed her of a technical advisory committee that would be considering proposals, experiments, etc. The report indicated "*The technical advisory committee is composed of members of the public, and reflects their points of view. All members of the public who expressed interest in participating in this project have been included on the technical advisory committee.*" He found it regrettable Miss Smith had not applied for membership on the technical advisory committee.

Miss Smith said she had not done so due to prior commitments, and cited a lack of transportation, which would be a detriment to her ability to participate.

Chair Hunter assured Miss Smith her comments had been recorded and would be forwarded to the technical advisory committee for consideration. He said he would further discuss the possibility of her participation on the committee.

**That the Planning and Environment Committee and Council receive this report for information.**

RECEIVED