



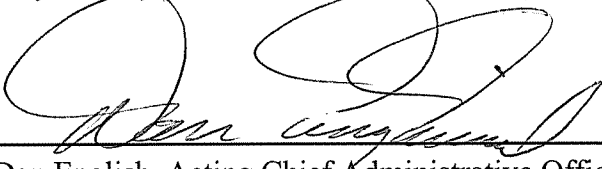
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10.6.12

Halifax Regional Council
May 13, 2003

TO: Mayor Kelly and Members of Halifax Regional Council

SUBMITTED BY:



Dan English, Acting Chief Administrative Officer

DATE: May 6, 2003

SUBJECT: Otter Lake RDF, Closure of Cell #1 and Related Works

ORIGIN

Cell #1 in the Residuals Disposal Facility (RDF) at the Otter Lake Waste Resource Management Facility is reaching its ultimate capacity, and plans have been developed to close the Cell during this construction season. Council approval is required to withdraw the funds from the Otter Lake Landfill Closure Reserve for this project.

RECOMMENDATION

It is recommended that:

Council approve an increase to the 2003/04 Capital Budget, not to exceed \$4 million including net HST, for the Closure of Cell #1 and Related Works at the Otter Lake Waste Resource Management Facility, as outlined in this report. Further, that Council authorize a withdrawal, not to exceed \$4 million including net HST, from the Otter Lake Landfill Closure Reserve Account Q-120 to fund this project.

BACKGROUND

HRM, as the owner of the Otter Lake Residuals Disposal Facility, is required to undertake a landfill closure process for each cell of the landfill. In February, MIRROR Nova Scotia notified the municipality that Cell #1 had approximately 70,000 cubic metres of air space remaining and that the cell is expected to be at capacity in mid summer. HRM has established a Landfill Closure Reserve, and this will be used as a source of funds for undertaking the cell closure works.

DISCUSSION

MIRROR and our staff have agreed to stop loading solid waste into Cell #1 in late summer, with closure construction to commence by June 15, 2003. Due to concerns about landfill gas generation, and the availability of specialized landfill gas drilling equipment, a portion of the closure work has been initiated already. To improve the capture of landfill gas from the temporary system installed in January, MIRROR has installed a network of vertical gas wells at the site. These wells extend into Cell #2 and form part of the “related works” referred to in the Recommendation. Figure 2 (attached) provides a general sketch of the typical final cover details and Figure 3 (attached) shows the typical landfill gas well. These wells are functioning now, and landfill gas is being flared through several gas flaring stacks connected to the new wells.

The larger component of the closure work is “final cover”, which consists of several layers of soil, drainage and geotextile material, topped off with topsoil and vegetation. This will encapsulate the processed waste, direct landfill gas to the well system, and reduce leachate generation within the cell. Under the terms of the contract with MIRROR Nova Scotia for the design, construction, and operation of the facilities at Otter Lake, HRM is required to respond to the notice from MIRROR for cell closure within a specific time frame, and to negotiate the terms of the work to be completed.

As with all major capital projects at the Otter Lake site, HRM will undertake a review of costs (i.e., quantities and prices) and review some design elements by engaging CBCL Ltd. as owner’s engineer for this project. Any resulting project cost changes resulting from this review, and subsequent negotiations with MIRROR, would be reported back to Council. Project approval, based on the estimated cost of \$4 million, is required at this time to establish the budget and commence the work on a timely basis. Our staff and CBCL will also monitor the construction process itself.

Capping of Cell #1 should be undertaken during the 2003 construction season, rather than leave the cell without the final closure until the following year. Closure now will provide improved gas capture, which should reduce the potential for odours leaving the site. HRM holds the NSDEL Operating Approval for the Otter Lake facilities, and it is in our interest to reduce potential odours to the extent possible. Final capping of Cell #1 will also provide improved shedding of storm water from the cell, and reduce the total area contributing to leachate production due to surface infiltration by approximately 80%, reducing HRM’s cost to transport and process leachate resulting from rain events.

BUDGET IMPLICATIONS

Funding for this Capital Project (not to exceed \$4 million including net HST) is available in the Otter Lake Landfill Closure Reserve Q-120, which was formally established in 2001. Financial Services staff has confirmed the availability of funds in Q-120 for this use, upon Council approval. The Closure Reserve is intended to provide funds to responsibly close the cells of the Otter Lake Landfill site and monitor it thereafter for environmental impact, as required by the NS Department of Environment and Labour. Enclosed as Figure 1 to this report is a table showing the current and forecast activity for Reserve Q-120, identifying the proposed Cell #1 Closure project that is the subject of this report.

FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

HRM has two major capital reserves that support the new integrated solid waste resources system. This project will be funded from the Landfill Closure Account. The other major reserve is Solid Waste Resources Reserve Q-123, which funds the construction of new landfill cells, the replacement of mobile and stationary equipment at the Otter Lake facilities, and the acquisition of green carts for new HRM residents.

ALTERNATIVES

Council could ask staff to negotiate with MIRROR NS to delay the closure of Cell #1. This is not recommended, as the opportunity to complete the works within the 2003 construction season will be missed. A delay to the next year for capping Cell #1 would eliminate the opportunity to improve landfill gas capture and reduce the volume of leachate generated (and the resulting leachate processing costs).

ATTACHMENTS

- Figure 1 - Continuity Schedule for Otter Lake Landfill Closure Account Q-120
- Figure 2 - Typical Landfill Cover Details
- Figure 3 - Typical Landfill Gas Well

Additional copies of this report, and information on its status, can be obtained by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

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Report Approved by:


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Figure 1

May 2/03

Otter Lake Landfill Closure
 Q-120

Capital Reserve Account Continuity Schedule

	98/99	99/00	00/01	01/02	02/03
Opening Balance of Fund	\$0	\$240,400	\$1,376,172	\$2,417,773	\$3,715,276
Annual Accrual from Operating	\$240,400	\$1,135,772	\$951,985	\$1,180,000	\$1,100,004
Cost of Cell Closure					
Clay Plug Project (CW100442)					
Interest earned-appropriated from Operating	\$0	\$0	\$89,616	\$117,503	\$104,211
Closing Balance of Fund	\$240,400	\$1,376,172	\$2,417,773	\$3,715,276	\$4,919,491

	03/04	04/05	05/06	06/07
Opening Balance of Fund	\$4,919,491	\$1,757,639	\$3,114,867	\$4,511,192
Annual Accrual from Operating	\$1,038,923	\$1,270,000	\$1,270,000	\$1,270,000
Cost of Cell Closure	-\$4,000,000 (Cell #1)			-\$3,750,000 (Cell #2)
Clay Plug Project (CW100442)	-\$250,000			
Interest earned-appropriated from Operating	\$49,225	\$87,228	\$126,325	\$58,524
Closing Balance of Fund	\$1,757,639	\$3,114,867	\$4,511,192	\$2,089,716

Figure 2

TYPICAL FINAL COVER SYSTEM

