



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: May 3, 2010

From: Tom Stewart, ASCT.
Director, Public Works Operations

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Re: Ditch Cleaning Program

Staff Recommendation

1. That the Sidaway Works Yard soil recycling project, in the amount of \$150,000 be approved, and
2. the funding of \$150,000 come from the Drainage Utility Reserve.

Tom Stewart, A.Sc.T.
Director, Public Works Operations
(3301)

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ROUTED TO:		CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Budgets		Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Parks Programs		Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
REVIEWED BY TAG	YES <input type="checkbox"/>	NO <input type="checkbox"/>	REVIEWED BY CAO
			YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Staff Report

Origin

Part of the core services delivered by Public Works is the ditch cleaning program. This program requires removal of organic material from ditches to enable the natural drainage of rain water. Over the past two years disposal of wet organic material has become increasingly time and labour intensive due to more stringent disposal requirements, and as a result more expensive.

In this report, staff present an alternative material processing model for Council's consideration. This opportunity supports Council's Term Goals for Sustainability and the Environment through recycling materials from capital projects.

Council Term Goal #7 reads as follows:

"Sustainability and the Environment -- Demonstrate leadership in and significant advancement of the City's agenda for sustainability through the development and implementation of a comprehensive strategy that includes:

- Initiatives that reduce our carbon foot print and move us towards carbon neutral
- Initiatives to reduce solid and liquid waste

Analysis

Ditch Cleaning Program – Current Service Level

Ditch cleaning is critical to mitigating flooding and ensuring that the City maintains its 5 year storm conveyance, maintenance service level. The City relies on its 620 kms of ditches to convey storm water to the series of 38 drainage pump stations along the City's dykes. The annual ditch cleaning program budget is \$800,000. In 2009, we removed approximately 15,000 cubic metres of saturated material from our ditches.

Over the past few years it has become increasingly challenging to dispose wet sediment that fills ditches over time. Disposal of wet soils is no longer an option as the local disposal site, Ecowaste Industries, requires all soil to be dried. The City's service level of cleaning ditches across the City on a 5 year rotation is being compromised by escalating material disposal costs. While staff has developed a rudimentary method to dry some soils removed from ditches throughout the City at its site located at 6711 Sidaway Road, it has become increasingly onerous and costly to dry all soils. In 2009 it cost approximately \$409,000 to process 14,724 cubic meters of wet soil for disposal. These escalating costs have resulted in fewer ditches being cleaned annually which has compromised our ditch cleaning program. It should be noted soil is removed only where drainage is impeded.

Without changing the City's current approach, either additional funding will be required to maintain the 5 year ditch cleaning service level or the level will be reduced accordingly to approximately a 10 year service level which will result in a notable increase in localized flooding calls.

Proposed Ditch Cleaning Program

The City owned site at 6711 Sidaway Road currently uses some of the soil from ditch cleaning for processing into topsoil. The topsoil is subsequently used in capital projects or for maintenance purposes, and those accounts are then charged on a cost recovery basis. Implementing a soil drying process will enable more soil to be introduced into the topsoil process thereby reducing trucking costs & emissions, and also allowing for soil to be disposed in a more timely manner.

In order to reduce the soil drying process, staff recommend that a wet soil processing facility be constructed, similar to the City of Vancouver’s current operation. See photos below for the Sidaway Works Yard and City of Vancouver’s Vernon Drive Site.



Fig A – Sidaway Works Yard, Richmond



Fig B - Sidaway Works Yard, Richmond



Fig C – Vernon Drive Operation, Vancouver



Fig D - Vernon Drive Operation, Vancouver

The proposed service facility is composed of a loc-block system completed with filter membrane. Upon completion of the service facility, a greater volume of soil can be processed more efficiently. The new facility will greatly lower the wet soil processing time allowing the City to maintain the target ditch service level. The estimated construction costs for the service facility is \$150,000.

Staff is also researching other, innovative technologies to automate the soil drying process for the future. As for now, re-engineering of the current process is crucial to sustain the existing soil operation. No additional staff will be required.

Financial Analysis

To construct this facility, a total of \$150,000 is required. Staff propose the following occur in order to fund the project and comply with the Community Charter;

1. \$150,000 from the 2009 Public Works Minor Capital project be closed and the funds be returned to the original funding source, the Drainage Utility Reserve.
2. Staff will submit a 2010 capital project in the amount of \$150,000 which will include the project scope details and request that it be funded from the Drainage Utility Reserve.

There is no operating budget impact.

Financial Impact

The cost of the project is \$150,000 and there will be savings realized through efficiencies, which will be re-directed towards maintaining the 5-year ditch cleaning service level. Maintenance and processing can be fully funded by the annual ditch cleaning budget. The addition of the wet soil processing facility will stabilize long term soil management costs.

Conclusion

The Sidaway Works Yard Soil Disposal Program has advanced considerably over the past few years. The work done to date has enabled the City to receive benefits through maximizing the use of recycled soil, and thus reducing the generation of solid & liquid waste.

As it is the City's agenda to develop in a sustainable manner, it's vital to have enough funding to keep the Ditch Cleaning Program on 5 year rotation. In order to increase the efficiency of the recycling process, the recommended option has been identified to draw funds from the Public Works Minor Capital Project account to improve the Sidaway Works Yard facility. Should it not be feasible to implement this option, the ditch cleaning service level will be reduced over time resulting in additional, localized flooding concerns.



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