

**Minutes – Standing Policy Committee on Finance – May 4, 2017**

**REPORTS**

**Item No. 5                    Biosolids – Alternative Disposal Delivery and Management System  
Financial Status Report No. 6 for the Period from October 1, 2016 to  
February 28, 2017**

**STANDING COMMITTEE DECISION:**

The Standing Policy Committee on Finance concurred in the recommendation of the Winnipeg Public Service and received the report as information.

**Minutes – Standing Policy Committee on Finance – May 4, 2017**

DECISION MAKING HISTORY:

Moved by Councillor Lukes,

That the recommendation of the Winnipeg Public Service be concurred in.

Carried

# ADMINISTRATIVE REPORT

**Title:** BIOSOLIDS – ALTERNATIVE DISPOSAL DELIVERY AND MANAGEMENT SYSTEM FINANCIAL STATUS REPORT NO. 6 FOR THE PERIOD FROM OCTOBER 1, 2016 TO FEBRUARY 28, 2017

**Critical Path:** The Standing Policy Committee on Finance

## AUTHORIZATION

Author	Department Head	CFO	CAO/COO
G. K. Patton, P. Eng. Manager of Engineering Services	M. L. Geer, CPA, CA Acting Director, Water and Waste Department	M. Ruta	D. McNeil

## EXECUTIVE SUMMARY

This report identifies the financial status and significant events for the Biosolids Alternative Disposal Delivery and Management System. This capital project is financed from the approved 2016 Capital Budget for Biosolids – Alternative Disposal Delivery and Management System.

The Project is currently on schedule and within budget.

## RECOMMENDATIONS

That this report be received as information.

## REASON FOR THE REPORT

Administrative Directive No. FM-004 requires quarterly reporting to the Standing Policy Committee on Finance.

## IMPLICATIONS OF THE RECOMMENDATIONS

The Biosolids Master Plan (BMP) was approved by the Manitoba Sustainable Development Department (formerly known as Manitoba Conservation and Water Stewardship) on March 10, 2016.

The Water and Waste Department intends to implement the BMP according to the schedule approved by Manitoba Sustainable Development.

## HISTORY / DISCUSSION

### 1. THE PROJECT

Biosolids are the treated sludge and solid residuals leftover from wastewater treatment. On June 16, 2011, the Water Protection Act (Act) was amended to include the following for the City's biosolids, which are generated at the North End Water Pollution Control Centre (NEWPCC):

- Nutrients must be recovered and recycled to the maximum extent possible through application of the best available technologies.
- Biosolids and wastewater sludge remaining after the treatment process must be reused.

On October 2, 2012, Manitoba Conservation and Water Stewardship sent a letter to the City requiring that a Biosolids Master Plan that considered opportunities to recycle nutrients and beneficially reuse biosolids, be submitted by October 2, 2014. The City's current practice, landfilling, is not considered beneficial reuse.

On September 30, 2014, the Winnipeg Sewage Treatment Program (WSTP) submitted the City of Winnipeg Biosolids Master Plan. The plan focuses on nutrient recovery and reuse by focusing on disposal options that utilize nitrogen and phosphorous contained within the biosolids. These options include land application, soil manufacturing, and land reclamation. A new sludge digestion facility with nutrient recovery will produce a low-pathogen biosolids product. Construction of the new facility is part of the NEWPCC Biological Nutrient Removal Upgrade.

The plan also proposed interim strategies for beneficial biosolids reuse before the new digestion facility is completed. The interim strategies are a biosolids composting pilot with landfill reclamation and seasonal land application.

The Biosolids Master Plan was approved by the Regulator on March 10, 2016.

The Adopted Budget to date for the Biosolids – Alternative Disposal Delivery and Management System includes the following Project Identification:

Project ID	Project Year	Adopted Budget
2031000400 <sup>1</sup>	2000	\$600,000
2031000403 <sup>1</sup>	2003	\$200,000
2031000404 <sup>1</sup>	2004	\$994,031
2031000407 <sup>1</sup>	2007	\$146,714
2031000411	2011	\$3,000,000
203210002B	2012 - 2016	\$11,963,286
Total project budget approved to date		\$16,904,031
Forecast capital budget		\$22,050,000
Total approved and forecast		\$38,954,031

<sup>1</sup> Does not appear in the Capital Expenditures Monthly Report as the funds have been expended and it is designated as a closed Project ID.

The Executive Project Sponsor is the Director of Water and Waste. The Project Manager is Michelle Paetkau, M. Sc., P.Eng.

## 2. MAJOR CAPITAL PROJECT STEERING COMMITTEE

Administrative policy for projects with capital cost exceeding \$20 Million requires formation of Major Capital Project Steering Committee. This threshold was approved by Council on October 28, 2015. Also included in that Council Approval was that the threshold be adjusted for construction inflation on an annual basis. Per Appendix 6 in the 2017 Capital Budget Book, the threshold for 2017 is \$21 million. Any project reporting to Standing Policy Committee on Finance under the previous \$10 Million threshold will continue to report. The Committee has been formed and its members are:

Doug McNeil, Chief Administrative Officer  
 Georges Chartier, Chief Asset and Project Management Officer  
 Dave Wardrop, Chief Transportation and Utilities Officer (a new addition to the committee)  
 Moira Geer, Acting Director, Water and Waste  
 Lucy Szkwarek, Acting Manager of Finance and Administration, Water and Waste  
 Jackie Veilleux, Project Director Winnipeg Sewage Treatment Program, Water and Waste

The Committee has reviewed this report and recommended that the report be sent to the Standing Policy Committee on Finance.

## 3. RISKS AND RISK MITIGATION STRATEGIES

An ongoing risk management strategy has been implemented for the Biosolids Composting Pilot. It includes a proactive process of identifying, performing qualitative and quantitative risk analyses, response plan strategies and risk control.

A project risk register is being kept for the final biosolids treatment option(s) throughout the Biosolids Alternative Disposal Delivery and Management Program and will be updated by formal analyses.

Critical risks associated with the BMP include:

<b>Biosolids Risk Matrix<sup>1</sup></b>	
<b>Risk Statement and Explanation</b>	<b>Mitigation</b>
The phases of the BMP are linked to other large infrastructure projects, such as the North End Sewage Treatment Plant upgrade and the South End Sewage Treatment Plant upgrade. Delays in their schedule may impact the BMP implementation	The BMP is being implemented in phases for flexibility and adaptability. There is regular coordination and communication between project managers. Manitoba Sustainable Development will be notified if there are impacts to the implementation schedule
There may be high public interest in biosolids, their products, and their disposal options.	A public engagement program was implemented as part of the BMP development. Future components of the BMP (e.g. land application) will have public engagement as part of their scope of work for communication and feedback

<sup>1</sup>Risk Matrix is arranged vertically from higher to lower assessed risk

#### **4. CHANGES FROM LAST REPORT**

##### Land Application Program

Request for proposal (RFP) No. 619-2016 was awarded to MMM Group Limited with Assiniboine Injections as a subcontractor, for \$221,863. The scope of work includes public engagement and an application for a new Environmental Act Licence. The capital funds are provided for public engagement and a licence application. These funds are included in this financial status report (FSR). The operating budget for Wastewater Services includes \$212,000 for a land application pilot.

Manitoba Sustainable Development has requested that the land application plan be developed for implementation in 2017. The Land Application Program is an operating program.

##### Biosolids Compost Pilot

The compost pilot has a goal of composting 20% biosolids. Due to operating issues the facility was inoperable from January to May 2016. In the 2015 operating period the facility composted approximately 10% of the City's biosolids.

Due to the operating issues Manitoba Sustainable Development has granted a one-year extension to the compost pilot. It will run until May 2018 and be operated within existing funds.

The finished compost is being used as cover material within Brady Road Resource Recovery Centre, reducing top soil requirements for the landfill.

##### Sludge Dewatering for the South End Water Pollution Control Centre (SEWPCC)

The SEWPCC will have a facility to thicken the sludge from 6% thickness to 15-20% thickness to reduce hauling costs to the NEWPCC. This project will be initiated after the SEWPCC Upgrading and Expansion Project and the NEWPCC – Nutrient Removal/Upgrade project have been completed. To align with the SEWPCC schedule this project will not proceed until after the SEWPCC Upgrade is complete in 2021. Funding requests in the capital budget associated with this project will align with the SEWPCC Upgrade project, and be delayed to 2022 and increased for inflation.

#### **5. ISSUES/RISKS REQUIRING FURTHER ATTENTION COST**

The estimates for this work, as described within the Biosolids Master Plan are based on a Class 5 cost estimate with an expected accuracy range of between -50% and + 100%, as defined by the Association for the Advancement of Cost Engineering (AACE) International.

Cost estimates will be refined further after the Regulator has issued a biosolids licence.

It is AACE International accepted practice that cost estimates are adjusted as design progresses.

## 6. SCHEDULE

Updates on the BMP are reported annually to Manitoba Sustainable Development. The timeframe for the BMP components are as follows:

- The digestion and nutrient recovery facility as part of the NEWPCC – Nutrient Removal/Upgrade project
- A land application pilot program is proposed to start in the fall of 2017
- A biosolids compost report by the end of 2018
- SEWPCC sludge dewatering is dependent on the completion of the SEWPCC upgrades

## 7. FINANCIAL ANALYSIS

The status of current Requests for Proposal and Bid Opportunities are as follows:

Request for Proposal or Bid Opportunity	Description	Current Status	Contract Value (GST and MRST extra as applicable)
153-2012	RFP for Professional Consulting Services for a Leaf and Yard Waste Composting Facility and a Pilot Biosolids Composting Facility at BRRMF	Awarded	\$478,781 <sup>1</sup>
839-2012	Construction of the BRRMF Leaf and Yard Waste and Pilot Biosolids Composting Facility	Awarded	\$6,584,769 <sup>1</sup>
89-2014	Professional Consulting Services for RFP Development and Recommendation for a Struvite Vendor	Completed	\$79,840
92-2014	Award of Contract for Supply and Delivery of Wood Chips for the Biosolids Compost Facility	Awarded	\$367,200
92-2014 ext 1 <sup>2</sup>	Award of Contract for Supply and Delivery of Wood Chips for the Biosolids Compost Facility	Awarded	\$367,200
92-2014 ext 2 <sup>2</sup>	Award of Contract for Supply and Delivery of Wood Chips for the Biosolids Compost Facility	Awarded	\$367,200
473-2015	A & L Canada Laboratories	Awarded	\$23,730
619-2016	Biosolids Land Application	Awarded	\$221,863

<sup>1</sup>Represents portion of contract funded from the Biosolids – Alternative Disposal Delivery and Management System Account  
Future Major Bid Opportunities: N/A

<sup>2</sup>Extention 1 and 2 for BO 92-2014 are annual renewals as part of a multi-year contract for the supply of woodchips for the biosolids pilot composting operation.

## Project funding

The approved capital budget of \$16,904,031 and projected budget of \$22,050,000 total \$38,954,031 are as follows:

YEAR	CAPITAL PROGRAM	ACTUAL + PROJECTED CASH FLOWS	CUMULATIVE CAPITAL BUDGET REMAINING
As of February 2017	16,904,031	11,551,836	5,352,195
2017		992,363	4,359,832
2018	22,050,000	599,206	25,810,626
2019		3,100,000	22,710,626
2020		6,600,000	16,110,626
2021		5,550,000	10,560,626
2022		10,560,626	-
Total	38,954,031	38,954,031	

The project will be funded using a combination of cash, and environmental projects reserve. Each of these sources are internally funded by rates as forecasted in the Council approved rate report.

A summary of the budget to forecast comparison is contained in Appendix 1.

## 8. OTHER

### Winnipeg Sewage Treatment Program (WSTP)

Under the WSTP, Veolia is to provide advice to the City of Winnipeg in the development of the Biosolids – Alternative Delivery and Management System. As indicated in the latest WSTP Annual Report (tabled at Standing Policy Committee on Water and Waste, Riverbank Management and the Environment meeting September 8, 2016) Veolia is delivering value to the City of Winnipeg. In this project, the City of Winnipeg is benefitting from:

- Provision of expert advice on sludge and biosolids treatment technologies
- Share in the risks of the capital project delivery



## FINANCIAL IMPACT

### **Financial Impact Statement**

**Date: March 15, 2017**

#### **Project Name:**

**BIOSOLIDS – ALTERNATIVE DISPOSAL DELIVERY AND MANAGEMENT SYSTEM  
FINANCIAL STATUS REPORT NO. 6 FOR THE PERIOD FROM OCTOBER 1, 2016 TO  
FEBRUARY 28, 2017**

#### **COMMENTS:**

As this report is submitted for informational purposes only, there is no financial impact associated with this recommendation.

*"Original signed by L. Szkwarek, CPA, CGA"*  
Lucy Szkwarek, CPA, CGA  
Acting Manager of Finance and Administration

## CONSULTATION

In preparing this report there was consultation with:

N/A

## OURWINNIPEG POLICY ALIGNMENT

This report is in accordance with the OurWinnipeg policies through compliance

OurWinnipeg Reference: Environment

## SUBMITTED BY

Department: Water and Waste  
Division: Engineering Services  
Prepared by: M. Paetkau, P. Eng.  
Date: April 26, 2017  
File No.: S-928

c: Major Capital Project Steering Committee (email)

#### **ATTACHMENTS:**

Appendix 1: Costs for Biosolids - Alternative Disposal Delivery and Management System

**Biosolids - Alternative Disposal Delivery and Management System**  
**WATER AND WASTE DEPARTMENT - ENGINEERING DIVISION**  
**APPENDIX 1**  
**As of February 28, 2017**

Components	COSTS				PROJECTED COSTS TO COMPLETE						TOTAL	VARIANCE	NOTE	
	Approved Budget To Date <sup>1</sup>	Costs Incurred up to last report	Costs submitted this report	Total Costs Incurred to Date	2017	2018	2019	2020	2021	2022	Total Costs Remaining to Complete	Total Project Cost	Variance from Budget (Unfavourable)	
<b>A PROFESSIONAL SERVICES</b>	7,167,808	3,965,808		3,965,808	221,863	380,137	880,000	880,000	440,000	400,000	-	7,167,808	-	2
<b>B CONSTRUCTION</b>	24,471,233	6,391,232	121,000	6,512,232	110,500		1,600,000	4,400,000	3,800,000	8,048,501	-	24,471,233	-	
<b>C Pilot Composting Operational Costs</b>	1,952,865	510,749	563,047	1,073,796	660,000	219,069					-	1,952,865	-	
<b>D Contingencies</b>	5,362,125						620,000	1,320,000	1,310,000	2,112,125	-	5,362,125	-	3
<b>TOTALS</b>	<b>38,954,031</b>	<b>10,867,789</b>	<b>684,047</b>	<b>11,551,836</b>	<b>992,363</b>	<b>599,206</b>	<b>3,100,000</b>	<b>6,600,000</b>	<b>5,550,000</b>	<b>10,560,626</b>	<b>-</b>	<b>38,954,031</b>	<b>-</b>	

**Percentage Complete**                      **30%**

<sup>1</sup> Total budget of \$38,954,031 includes 2017 Budget of \$16,904,031 plus 5-year forecast of \$22,050,000 requirements for the Biosolids Alternative Disposal Delivery Program; Distribution of costs to Components A) and B) was done by the Water and Waste Department.

<sup>2</sup> Professional Services include Professional Engineering Services, other expert design and cost review, overhead and administration charges.

<sup>3</sup> Contingency allocated for the second stage dewatering is 20% of the total project cost.