

Minutes - Standing Policy Committee on Finance - April 9, 2015

REPORTS

**Item No. 5 South End Sewage Treatment Plant (SEWPCC) Upgrading and
Expansion Financial Status Report No. 5 for the Period from
November 1, 2014 to January 31, 2015**

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 - April 9, 2015

DECISION MAKING HISTORY:

Moved by Councillor Gillingham,

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

Carried

David Sanders submitted a communication dated April 9, 2015, with respect to South End Sewage Treatment Plant (SEWPCC) Upgrading and Expansion Financial Status Report No. 5 for the Period from November 1, 2014 to January 31, 2015

ADMINISTRATIVE REPORT

Title: SOUTH END SEWAGE TREATMENT PLANT (SEWPCC)
UPGRADING AND EXPANSION FINANCIAL STATUS REPORT
NO. 5 FOR THE PERIOD FROM NOVEMBER 1, 2014 TO
JANUARY 31, 2015

Critical Path: THE STANDING POLICY COMMITTEE ON FINANCE

AUTHORIZATION

Author	Department Head	CFO	CAO
G. K. Patton, P. Eng. Manager of Engineering Services	T. Shanks, P. Eng. Acting Director, Water and Waste Department	M. Ruta	M. Jack A/CAO

RECOMMENDATIONS

That this report be received as information.

REASON FOR THE REPORT

At its meeting held on December 16, 1999, City Council adopted a policy whereby all capital projects with a total estimated cost of \$10 million or more be submitted by the associated Civic Department to the Standing Committee on Fiscal Issues (now the Standing Policy Committee on Finance) for review and recommendation prior to any bid solicitation being issued.

Administrative Directive No. FM-004 requires quarterly reporting to the Standing Committee on Fiscal Issues (now the Standing Policy Committee on Finance).

IMPLICATIONS OF THE RECOMMENDATIONS

The Project schedule is under review.

HISTORY

DISCUSSION:

1. **MAJOR CAPITAL PROJECT STEERING COMMITTEE**

Administrative policy for projects with capital cost exceeding \$10 million requires formation of Major Capital Project Steering Committee. The Committee has been formed and its members are:

Michael Jack, Acting Chief Administrative Officer
Michael Ruta, Chief Financial Officer
Diane Sacher, Director of Water and Waste
Moira Geer, 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.

2. **RISKS AND RISK MITIGATION STRATEGIES**

An ongoing risk management strategy has been implemented for the project encompassing a proactive process of identifying and assessing project risk, defining appropriate risk handling strategies and plans, and monitoring those actions to completion.

Formal risk and opportunity analyses of the project are scheduled to be performed by the Winnipeg Sewage Treatment Program, the design consultant and key City stakeholders at the following project milestones:

- End of Project Definition design stage – this analysis has been completed
- End of Preliminary Design phase – this analysis has been completed
- At 60% and 90% completion of Detailed Design – analysis has been completed for Contract 1
- Prior to the start of construction and quarterly during construction – first construction analysis has been completed
- Prior to the start of and at the end of commissioning

A project risk register is being kept throughout the project and will be updated by the formal analyses.

3. **CHANGES FROM LAST REPORT**

- CH2M Hill has provided additional design information relative to; a) fermenter efficiency, b) upgraded plant hydraulic profiles.
 - Upon review the program team accepts the fermenter design as presented by CH2M Hill in the Preliminary Design.
 - After further review of the plant hydraulic profiles, CH2M Hill has determined that due to the configuration of the existing headworks infrastructure (existence of

existing screen bypass openings and screening channel level limitations) the headworks screen design as originally presented in the Preliminary Design cannot pass the maximum hour design flow. To improve the hydraulics and associated screening capacity CH2M Hill have recommended that a fourth screen be installed along with modifications to adjust the elevation of the existing bypass weirs and downstream grit tank effluent weir.

- CH2M Hill is continuing with the detailed design for the High Rate Clarification area of the plant.
- An over expenditure in the amount of \$17,670.00 was approved for CH2M Hill Change Notice 8 for the provision of engineering services to perform additional testing and code compliance investigation for two existing transformers located at the SEWPCC but currently owned by Manitoba Hydro. These transformers are under consideration for purchase by the City.
- An award has been made to Veolia Water Solutions & Technologies Canada Inc. for RFP 871-2013 Supply and Delivery of Free-Moving Media, Screens, Aeration System, and Associated Appurtenances for the IFAS Bioreactors for the SEWPCC Upgrading/Expansion Project in the amount of \$7,750,588.00 MRST and GST extra. The awarded cost was 22% lower than the pre-tender estimate.
- The cost consultant engaged under RFP 353-2014 For Construction Cost Consulting Services for SEWPCC Upgrading/Expansion Project has issued their draft costing analysis. It is currently under review by the program team.
- Manitoba Hydro continues to undertake the Load Interconnection Facilities Study.
- The construction works associated with Bid Opportunity 333-2014 Contract 1 – Site Preparation Works continues on schedule and budget at the site. The project team is working to minimize the contract shoring costs which would also benefit shoring removals costs in subsequent contracts.
- The work associated with provision of trailers for site office under Bid Opportunity 572-2014 continues on budget. Delivery is expected before March 1, 2015 which is later than originally scheduled but does not impact the ongoing site works.

4. ISSUES/RISKS REQUIRING FURTHER ATTENTION

Cost Risk

The total project cost is currently estimated to be \$335.60 Million. The estimate is based on the preliminary design level documents and is an AACE Class 3 estimate with an expected accuracy range of -20% to +30%. Required changes in the project budget have been included in the 2015 Budget process.

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

Schedule

The SEWPCC Environment Act Licence No. 2716 RR received on April 18, 2012 requires the plant to meet more stringent discharge effluent requirements on and after December 31, 2015. On May 2, 2012, in a letter to the Regulator, the Department advised that as per the plan it

submitted to the Regulator, the December 31, 2015 date was not achievable and requested that the construction completion date of October 31, 2016 be reflected in the licence, consistent with the submitted and approved plan. The project schedule is under discussion with the Regulator. Project updates are provided every six (6) months to the Regulator as per the Environment Act Licence.

As part of the submitted draft Preliminary Design Report, the project consultant, CH2M Hill, has developed the Project Implementation Plan and associated schedule. The key target of the plan is noted to accomplish licence compliance as soon as feasible with an interim Biological Nutrient Removal (BNR) configuration (i.e. without sludge thickening, biological phosphorus removal and odor control). The interim configuration is applicable as the project design incorporates repurposing the existing SEWPCC high purity oxygen reactors and pressure-swing absorption facility. These existing assets cannot be taken out of service and modified until the interim configuration is operable. Indications are that the October 31, 2016 timeframe is not achievable but will be reviewed further as the project progresses.

From the August 2014 value engineering workshop there are a number of value engineering proposals for which resolution by the Winnipeg Sewage Treatment Program remains outstanding. The WSTP is working to obtain resolution.

Current key schedule milestones are:

Milestone Description	Timeline	
	Previous Report	This Report
Complete Project Definition Report	May 2014	May 2014 ⁽¹⁾
Complete Preliminary Design Report	August 2014	November 2014
Start Detailed Design	March 2014	March 2014
Start Construction of Site Preparation and Piling	October 2014	October 2014
Start Construction of BNR Bioreactor	November 2015	under review
Complete Commissioning interim BNR configuration	under review	under review
Complete Commissioning of all project components	under review	under review
⁽¹⁾ Substantial completion		

Sewage Treatment Program Funding

The Province of Manitoba and the Government of Canada have committed \$287.8 million towards the sewage treatment plant upgrades:

The Province has committed;

- Fund program \$25 million from the Canada Strategic Infrastructure
- program \$11 million from the Green Infrastructure Fund
- Allocation \$3.8 million from the 2004 Urban Capital Projects
- \$195 million in its 2007 Throne Speech.

The Government of Canada has committed;

- Fund program \$42 million from the Canada Strategic Infrastructure
- program \$11 million from the Green Infrastructure Fund

Of the total \$287.8 million committed to sewage treatment plant upgrades, the City projects federal and provincial funding of \$59.41 million towards the south end sewage treatment plant upgrade.

Funding for the SEWPCC and the WSTP is outlined in Appendix 1.

5. WINNPEG SEWAGE TREATMENT PROGRAM (WSTP)

Under the WSTP Veolia is to provide advice to the City of Winnipeg in the design and construction of the SEWPCC project. As indicated in the latest WSTP Annual Report (tabled at City Council on June 25, 2014), Veolia is delivering value to the City of Winnipeg. In this project, the City of Winnipeg is benefitting from:

- Savings from reduced rates in consulting services
- Provision of expert advice on BNR upgrade and expansion
- Share in the risks of the capital project delivery.

6. 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)	Total Approved Over-Expenditures
682-2012	Professional Consulting Services for SEWPCC Upgrading/Expansion Project	Awarded	\$25,350,419.00	\$460,097.13 ¹
871-2013	Procurement of Free-Floating Media and Associated Appurtenances	Awarded	\$7,750,588.00	
873-2013	Procurement of High Rate Clarification Equipment	Awarded	\$2,052,500.00	
333-2014	Contract 1- Site Preparation Works	Awarded	\$22,646,510.00	
353-2014	For Construction Cost Consulting Services for SEWPCC Upgrading/Expansion Project	Awarded	\$50,700.00	
572-2014	Provision for the Purchase or Lease of a Trailer for Office Space	Awarded	\$184,000.00	

¹ Approved over-expenditures include, as majority of the identified cost, for the consultant to develop construction cost estimates at the end of both the project definition and preliminary design phases and for the consultant's initial review and determinations of thirty seven value engineering proposals issued by the WSTP.

Future major Bid Opportunities anticipated are :

- Contract 2 - Major Concrete Works
- Contract 3 – For the remaining works including mechanical, electrical and automation

Project funding

The approved capital and 2015 projected budget are as follows:

YEAR	CAPITAL PROGRAM	ACTUAL + PROJECTED CASH FLOWS	CUMULATIVE CAPITAL BUDGET REMAINING
Up to 2014	247,250,000 ¹		
2015	88,350,000 ²	57,689,866	277,910,134
2016		67,867,246	210,042,88
2017		113,455,708	96,587,180
2018		96,459,491	127,689
2019		127,689	0
Total	335,600,000	335,600,000	

¹Capital Budget approved by Council

²Capital Program requirements included in the 2015 - 2020 Capital Budget Estimates

A summary of the budget to forecast comparison is contained in Appendix 2.

Project funding sources are as follows:

This project will receive \$31.34 million in Canadian Strategic Infrastructure funding. The balance of the project cost will be funded using a combination of cash, Environmental Projects reserve and debt funding. Each of these sources are internally funded by rates as forecast in the Council approved rate report.

FINANCIAL IMPACT

Financial Impact Statement

Date: **February 23, 2015**

Project Name:

SOUTH END WATER POLLUTION CONTROL CENTRE (SEWPCC) UPGRADING AND EXPANSION FINANCIAL STATUS REPORT NO. 5 FOR THE PERIOD FROM NOVEMBER 1, 2014 TO January 31, 2015

COMMENTS:

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

"Original signed by M. L. Geer, CA"

Moira L. Geer, C. A.

Manager of Finance and Administration

CONSULTATION

In preparing this report there was consultation with:

SUBMITTED BY

Water and Waste Department
Engineering Services Division
Prepared by: N. A. Harrington, P. Eng.
Date: March 3, 2015
File No. 020-17-08-25-01, S-926

Funding: South End Water Processing Pollution Control Centre (SEWPCC) and Winnipeg Sewage Treatment Program (WSTP)

APPENDIX 1

1) Funding for the SEWPCC is as follows:

SEWPCC Nutrient Removal/Upgrade (in \$millions)	Total Cost	Funded to Date		Funding Pending		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba	Canada	Manitoba	
Environment Act Licence Driven Funding								
CSIF BNR	\$ 147.00	\$ 0.29	\$ 6.07	\$ 31.05		\$ 31.34	\$ 6.07	\$ 109.59
GIF Wet Weather Flow	60.00			11.00	11.00	11.00	11.00	38.00
Other	66.00							66.00
Estimated Program Costs	\$ 273.00¹	\$ 0.29	\$ 6.07	\$ 42.05	\$ 11.00	\$ 42.34	\$ 17.07	\$ 213.59

2) Funding for the Winnipeg Sewage Treatment Program is as follows:

WSTP All Projects (in \$millions)	Total Cost	Funded to Date		Funding Pending		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba	Canada	Manitoba	
WEWPCC Biological Nutrient Removal	\$ 33.00	\$ 5.07	\$ 8.19			\$ 5.07	\$ 8.19	\$ 19.74
NEWPCC Centrate and UV Disinfection	52.00	5.59	14.54			5.59	14.54	31.87
SEWPCC Nutrient Removal/Expansion	273.00 ¹	0.29	6.07	42.05	11.00	42.34	17.07	213.59
NEWPCC Nutrient Removal/Upgrade	547.45		20.34		174.66		195.00	352.45
Estimated Program Costs	\$ 905.45	\$ 10.95	\$ 49.14	\$ 42.05	\$ 185.66	\$ 53.00	\$ 234.80	\$ 617.65

Notes:

- WEWPCC Biological Nutrient Removal and NEWPCC Centrate and UV Disinfection have been completed.

¹ This value does not include the 2015 Budget submission. The table will be updated following the 2015 Budget process.

**SEWPCC UPGRADING/EXPANSION PROJECT
WATER AND WASTE DEPARTMENT - ENGINEERING DIVISION
APPENDIX 2
As at January 31, 2015**

Components	COSTS				PROJECTED COSTS TO COMPLETE				TOTAL	VARIANCE	NOTE	
	Approved Budget To Date ¹	Costs Incurred up to last report	Costs submitted this report	Total Costs Incurred to Date (per G/L)	2015	2016	2017	2018	Total Costs Remaining to Complete	Total Project Cost	Variance from Budget (Unfavourable)	
A PROFESSIONAL SERVICES	42,789,250	12,677,348	1,371,137	14,048,485	8,929,352	10,172,656	5,664,512	3,846,555	127,690	42,789,250	0	2
B CONSTRUCTION	292,810,750	5,086,029	5,242,884	10,328,913	24,383,116	57,694,590	107,791,196	92,612,935	0	292,810,750	0	
TOTALS	335,600,000	17,763,377	6,614,021	24,377,398	33,312,468	67,867,246	113,455,708	96,459,490	127,690	335,600,000	0	

Percentage Complete

7%

¹ Total budget of \$335.6 Million includes 2015 Budget requirements for the SEWPCC Upgrade/Expansion Project; Distribution of costs to Components A) and B) was done by the Water and Waste Department.

² Professional Services include Professional Engineering Services, other expert design and cost review, CSIF Funding Audits, Municipal Corporate Utility Model review, overhead and administration charges