

Minutes – Standing Policy Committee on Finance – June 19, 2014

REPORTS

Minute No. 85 South End Water Pollution Control Centre (SEWPCC) Upgrading and Expansion Financial Status Report No. 2 for the period from December 1, 2013 to April 30, 2014

STANDING COMMITTEE DECISION:

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

STANDING POLICY COMMITTEE RECOMMENDATION:

The Standing Policy Committee on Finance recommended that the Mayor send a letter to the Minister of Conservation and Water Stewardship, Province of Manitoba, following up on the staff-to-staff letter sent on May 2, 2012, requesting that the construction completion date for the South End Water Pollution Control Centre (SEWPCC) be changed on the license to reflect a construction completion date of October 31, 2016.

Minutes – Standing Policy Committee on Finance – June 19, 2014

DECISION MAKING HISTORY:

The Chairperson called Councillor Havixbeck to the Chair in order to move the following motion:

Moved by Councillor Wyatt,

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

Carried

Moved by Councillor Wyatt,

That the Mayor be requested to send a letter to the Minister of Conservation and Water Stewardship, Province of Manitoba, following up on the staff-to-staff letter sent on May 2, 2012, requesting that the construction completion date for the South End Water Pollution Control Centre (SEWPCC) be changed on the license to reflect a construction completion date of October 31, 2016.

Carried

Councillor Wyatt resumed the Chair.

David M. Sanders submitted a communication dated June 19, 2014, with respect to the South End Water Pollution Control Centre (SEWPCC) Upgrading and Expansion Financial Status Report No. 2 for the period from December 1, 2013 to April 30, 2014

ADMINISTRATIVE REPORT – FOR DISCUSSION

Title: SOUTH END WATER POLLUTION CONTROL CENTRE (SEWPCC)
UPGRADING AND EXPANSION FINANCIAL STATUS REPORT NO. 2
FOR THE PERIOD FROM DECEMBER 1, 2013 TO APRIL 30, 2014

Critical Path: THE STANDING POLICY COMMITTEE ON FINANCE

AUTHORIZATION

Author	Department Head	CFO	CAO
G. K. Patton, P. Eng. Manager of Engineering Services	Diane P. Sacher, P. Eng., Director of Water and Waste	M. Ruta	D. Joshi 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

- Previous project cost estimates were based on different regulatory requirements than those of the current licence. Current Capital budget forecasting has provided for cost increases but will not be finalized until detailed design is completed.
- The recent increase in the Manitoba Retail Sales Tax rate from 7% to 8% together with Manitoba Retail Sales Tax Act clarifications affecting Engineering Design Services is anticipated to have an additional cost impact to the project in excess of \$2.2 Million.
- The current licence requires the plant to meet more stringent discharge effluent requirements by December 31, 2015 despite the fact that the province approved the City's submitted plan which included a completion date of October 31, 2016. The Department has notified the Province of this discrepancy. The Department has also notified the Regulator that this is not achievable and requested a revised estimated construction completion date of October 31, 2016 consistent with the City's submitted and approved engineering plan.

HISTORY

As a result of the 2003 Clean Environment Commission Hearings on the City's wastewater collection and treatment systems, Manitoba Conservation and Water Stewardship (the Regulator) notified the City that it intended to issue a licence for the South End Water Pollution Control Centre (SEWPCC) that would require control of nutrients discharged to the Red River.

Between 2001 and 2010, Council has approved \$203,250,000.00 for the Nutrient Removal Upgrade/Expansion at the SEWPCC.

On January 9, 2006, the Chief Financial Officer concurred with the recommendation to authorize an assignment to Stantec Consulting Ltd. for preliminary and conceptual engineering services related to the South End Water Pollution Control Centre upgrading and expansion at an estimated cost of \$3,250,000.00.

On May 16, 2007, Council authorized the Chief Administrative Officer to finalize the terms and conditions of a contribution agreement with the Government of Canada and the Province of Manitoba for funding of wastewater treatment plant upgrades under the Canada Strategic Infrastructure Fund.

In late 2007, the Winnipeg Public Service was directed to initiate an assessment of alternate project delivery methods for the SEWPCC upgrade and expansion. Consequently, the assignment to Stantec was suspended after the conclusion of the conceptual and preliminary engineering work.

On November 19, 2008, City Council authorized the Winnipeg Public Service to:

- begin the procurement of a strategic partner that could bring private sector experience to the design, construction, finance and potentially the operation of the North and South End Sewage Treatment Plants as well as potential operation of the West End Water Sewage Treatment Plant, and;
- authorize the Chief Administrative Officer to approve and issue the Request for Expressions of Interest followed by a Request for Qualifications and the Request for Proposals.

On June 19, 2009 the Regulator issued a revised Environment Act Licence No. 2716 R for the SEWPCC.

On November 25, 2009, the Chief Financial Officer approved an award to Taillieu Construction Ltd. for SEWPCC Installation of Outfall Pipe, Effluent Sampling Facility and Associated Works, Contract No. 2 at an estimated cost of \$4,884,450.00.

On May 19, 2010 Council:

- directed the Chief Administrative Officer to approve and issue a Letter of Notification to Veolia in order to immediately begin design and construction of the South and North End sewage treatment plant upgrades and expansion and biosolids handling facility.
- delegated the authority to the Chief Administrative Officer to "approve contract awards for upcoming South and North End sewage treatment plant capital projects where the value of each contract does not exceed \$30 million and there are sufficient funds in a budget approved by Council.

On September 6, 2011, the City submitted to the Regulator, an engineering plan for the upgrading and expansion of the SEWPCC in accordance with Environment Act Licence No 2716 R.

On April 18, 2012, the Regulator issued a revised Environment Act Licence No. 2716 RR for the SEWPCC effective May 1, 2012.

On October 5, 2012, the City submitted to the Regulator a revision to the engineering plan wherein the main treatment process was revised from Biological Aerated Filter to a Fixed-film Activated Sludge process.

On April 25, 2013, the Chief Administrative Officer approved a recommendation to award a contract to CH2M Hill Canada Ltd. to provide Professional Consulting Services for SEWPCC Upgrading/Expansion Project at an estimated cost of \$25,350,419.00.

On March 13, 2014, the Standing Policy Committee on Finance recommended that the South End Water Pollution Control Centre Financial Status reports and future reports pertaining to the North End, South End or West End Water Pollution Control Centre, include:

- The total amount of federal and provincial funding received to date as well as the balance of outstanding for Winnipeg ratepayers;
- Clarification of the cost estimates as a result of the regulatory requirements that have changed and the potential impact on the final budget and;
- A summary of the entire program in terms of funding from all levels of government.

DISCUSSION:

1. PROJECT EVOLUTION

The SEWPCC expansion and nutrient removal project is being undertaken to address growth in the catchment and effluent nutrient removal as mandated by the Province of Manitoba. The first project financial status report was submitted to Standing Policy Committee on Finance at the November 8, 2005 meeting and financial status reporting continued until report #9 which was tabled on January 15, 2009. In those first three years, the project undertook plant capacity evaluation work, expansion of the plant outfall capacity and enhanced flood protection for the SEWPCC.

In November, 2008 when City Council's directed the Public Service to secure a strategic partner, the work on the SEWPCC project was held in abeyance, pending the outcome of the complex procurement process, which culminated in the signing of a consulting services agreement with Veolia in April 2011.

Throughout 2012 the City was engaged in project definition, process selection, and development of terms of reference and the competitive process for professional detailed engineering services. On May 2, 2013, as an outcome of City of Winnipeg Request for Proposal 682-2012, CH2M Hill Canada Ltd. was awarded the assignment to perform the required Professional Consulting Services for SEWPCC Upgrading/Expansion Project. The scope of the services includes project definition design, preliminary design, detailed design, contract administration and additional services.

The SEWPCC project, since its inception, has changed considerably. The project had to be redefined as a result of changing Environment Act License requirements, expanding population in the south end of the City, technological advances and implementation of the consulting services contract with Veolia.

2. 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:

Deepak Joshi, Acting Chief Administrative Officer
Michael Ruta, Chief Financial Officer
Diane Sacher, Director of Water & Waste

Moira Geer, Manager of Finance and Administration, Water & Waste
Jackie Veilleux, Project Director Winnipeg Sewage Treatment Program, Water & Waste

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

3. DESCRIPTION OF PROJECT

The Project objective is to upgrade and expand the SEWPCC to meet Manitoba Regulatory Licence 2716 RR while accommodating year 2031 forecasted influent flows and loads. The expansion of the SEWPCC treatment capacity is required to accommodate population growth in the service area of the SEWPCC. The current plant is operating close to its average dry weather flow capacity of 60 ML/d and needs to be expanded to 75.4 ML/d to meet the 2031 design year population and flow projections. The Project design will also consider future regulatory trends and long term planning to year 2061 to facilitate effective process or facility modifications should they be required.

During performance of the Project works, impact to the current facility treatment capability is to be minimized to the greatest extent possible. The expanded and upgraded facility is to have an economical whole life cost and be an efficient and safe workplace for operational personnel.

Biological nutrient removal (BNR) with integrated fixed film activated sludge (IFAS) has been selected as the principal treatment process to be employed.

The delivery method for the project is design, bid, build (DBB) with construction management. It is planned that the Winnipeg Sewage Treatment Program partnership (City of Winnipeg and Veolia) will act as the construction manager and undertake lead contract administration duties.

4. 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
- At 60% and 90% completion of Detailed Design
- Prior to the start of construction and quarterly during construction
- Prior to the start of and at the end of commissioning

A project risk register will be kept throughout the project and will be updated by the formal analyses. The project will also incorporate structured Hazard and Operability Analysis and Value Engineering Analysis.

5. CURRENT PROJECT STATUS

The Project Definition design phase, which defined the required major project components and validated that the selected treatment processes can meet the project objectives, is substantially complete.

The major project components identified as required to meet the project objectives are:

- Increase Raw Sewage Pumping – to peak hourly flow of 420 ML/D
- Upgrades to screening and grit removal – to peak hourly flow of 420 ML/D
- New Biological Nutrient Removal treatment – capacity 225 ML/D.
- Addition of two Secondary Clarifiers – secondary treatment capacity to 225 ML/D
- Addition of High Rate Clarification/Disinfection for wet weather flows – capacity 270 ML/D
- Upgrade and expansion of Ultraviolet Disinfection – capacity to 225 ML/D
- Repurpose portion of existing High Pressure Oxygen Reactor to Sludge Fermenter
- Repurpose existing oxygen generation PSA area to sludge thickening
- Associated odour control, chemical feed, electrical power, standby power, electrical distribution and automation/control upgrades

CH2M Hill presented their key findings and recommendations for Project Definition to Senior Management of the Water and Waste Department in early April, 2014.

Outstanding are the consultant's award recommendations for Request for Proposal (RFP) 871-2013 and 873-2013. RFP 873-2013, for the High Rate Clarification Equipment, has been tendered through Materials Management and has closed. Evaluation of the received proposals is ongoing with the consultant's award recommendation to the Department expected in May. The timeline to select a High Rate Clarification vendor has affected the Preliminary Design schedule. RFP 871-2013 for the IFAS media and associated components is currently out for tender through Materials Management with a closing date of May 9, 2014. The timeline of vendor selection for this RFP is not critical to the preliminary design.

Preliminary design, which commenced in November of last year, is continuing. The design is progressing well for the majority of the upgrade components. There are however some areas that have schedule and cost risk:

- Preliminary design for the High Rate Clarification area cannot commence until the equipment vendor has been selected through completion of the RFP process.
- The design of the screening and grit handling area has been impacted by the complexity of maintaining operational functionality while constructing the required upgrades.
- Manitoba Hydro has recently advised during the preliminary design phase that due to the power demand level of the upgraded SEWPCC their supply would be provided as 66 kV as opposed to the current 12.47 kV. This issue is currently under review.

The following construction contract approach has been agreed to by the Program Team for development of the detailed design and associated tendering through Materials Management Bid Opportunities:

- Construction Contract 1 for site preparation, major piling and excavations
- Construction Contract 2 for major concrete works
- Construction Contract 3 for the remaining works including mechanical, electrical and automation

The Preliminary Design is scheduled to be completed in July, 2014.

To advance the overall project schedule, detailed design was commenced on Construction Contract 1 and is currently nearing 90% completion.

The associated construction bid opportunity is scheduled to be issued through Materials Management in June of this year with anticipated start of site construction in October, 2014. Detailed design of the remaining contract packages will commence in July 2014 upon completion of the preliminary design.

6. ISSUES/RISKS REQUIRING FURTHER ATTENTION

Cost Risk

CH2M Hill was directed to provide a cost estimate based on the design completed during Project Definition. This initial design phase is highly conceptual and represents only a two percent complete overall design level. Analysis of the provided cost estimate indicates that the regulatory changes have likely increased the cost of the project by between \$30,000,000 to \$45,000,000 and that recent growth in Winnipeg’s population, particularly in the SEWPCC catchment area is also seen to have impacted the project cost due to increased flows. A more refined cost estimate is currently being prepared by CH2M Hill based on the Preliminary Design level work. This estimate is expected to be received in June 2014. It is intended that this more refined costing will be used by the Department to assess the need for any project budget adjustment which will be done as part of the 2015 budget process.

As per the Program Agreement between the City and Veolia, the preliminary design documents will also be submitted to an independent third party cost consultant for costing of the project construction. This cost will form part of the Capital Project Target Cost identified in the Program Agreement and be used for gainshare/painshare allocation between the Program partners.

Schedule

As previously noted the SEWPCC 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.

Current Planned key schedule milestones are:

Milestone Description	Timeline	
	Previous Report	This Report
Complete Project Definition Report	December 2013	May 2014
Complete Preliminary Design Report	April 2014	July 2014
Start Detailed Design	April 2014	March 2014
Start Construction of Site Preparation and Piling	October 2014	October 2014
Start Construction of BNR Bioreactor	May 2015	May 2015
Complete Commissioning of essential components	October 2016	October 2016

The overall project schedule will be refined and updated during development of the Project Implementation Plan which forms part of the Preliminary Design.

Sewage Treatment Program Funding

The sewage treatment plant upgrades, including the SEWPCC received and will receive funding from the provincial and federal governments. Funds flow from an existing agreement under the Canadian Strategic Infrastructure Fund (CSIF), as well as an agreement to be developed under the Green Infrastructure Fund (GIF). The Province has also made a funding commitment in the 2007 Throne Speech.

Canadian Strategic Infrastructure Funding (CSIF)

This Agreement stipulates that Canada and Manitoba agree to pay a contribution to the City of Winnipeg towards the total Eligible Costs of the defined Project at the three wastewater treatment facilities. The Project components consist of the NEWPCC Centrate treatment facility, the WEWPCC biological nutrient reduction facility, and the SEWPCC biological nutrient reduction facility. Costs incurred prior to November 28th, 2005, which was the date of federal ministerial approval, are ineligible for cost sharing. The maximum contributions under the agreement are \$42 million from Canada and \$25 million from Manitoba.

The NEWPCC Centrate treatment facility and WEWPCC biological nutrient reduction facility projects are now complete. As a result Manitoba has fulfilled its total commitment of \$25 million and Canada has fulfilled \$10 million of the \$42 million committed for these projects.

SEWPCC biological nutrient reduction facility is the only component remaining eligible for funding and is eligible for the remaining Canada commitment of \$31.34 million.

Green Infrastructure Fund (GIF)

The federal and provincial governments have confirmed their funding commitments of \$11 million each towards the Wet Weather Flow components of the SEWPCC project. The City of Winnipeg will work with each level of government to finalize the contribution agreements in a timely manner.

Provincial Funding Commitment from the 2007 Throne Speech

In 2007 the Province of Manitoba committed funds to the sewage treatment program in the amount of \$206 million, beyond the \$25 million under the CSIF program and \$3.8 million under the 2004 UCPA program, bringing the total commitment to \$234.8 million.

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

7. 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 WSTP Annual Report (tabled at City Council on June 26, 2013), 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.

8. FINANCIAL ANALYSIS

Financial analysis of tenders is not yet applicable. The status of current Requests For Proposal and Bid Opportunities are as follows:

RFP or Bid Opportunity	Description	Current Status
871-2013	Procurement of Free-Floating Media and Associated Appurtenances	Issued for Tender
873-2013	Procurement of High Rate Clarification Equipment	Proposals received, under evaluation
333-2014	Contract 1- Site preparation works –SEWPCC Upgrading/Expansion Project	In design development

Future major Bid Opportunities are:

- Major Concrete Works
- Remaining works including mechanical, electrical and automation

Project funding

The approved capital and current projected budget are as follows:

YEAR	CAPITAL PROGRAM	ACTUAL + PROJECTED CASH FLOWS	CUMULATIVE CAPITAL BUDGET REMAINING
Up to 2014	247,250,000 ¹	29,102,089	218,147,911
2015	13,000,000 ²	92,473,436	138,674,476
2016	12,500,000 ²	105,213,006	45,961,470
2017		45,961,470	0
Total	272,750,000	272,750,000	

¹Capital Budget approved by Council

²Capital Program requirements currently included in the 2014 - 2019 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 \$241.41 million will be funded using a combination of cash, Environmental Projects reserve and debt funding. Each these sources are internally funded by rates as forecast in the Council approved rate report.

FINANCIAL IMPACT

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

Original Signed by
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
Division; Engineering
Prepared by: N. A. Harrington, P. Eng.
Date: May 23, 2014
File No. 020-17-08-25-01, S-926

APPENDIX 1

1) Funding for the SEWPCC is as follows:

SEWPCC BNR AND EXPANSION (in \$millions)	Total Cost	Funding Received		Funding Receivable		Total Funding		City Share of Costs
		Canada	Manitoba	Canada	Manitoba	Canada	Manitoba	
Funding Agreement								\$ 110.00
CSIF		\$ 0.29	\$ 6.07	\$ 31.05		\$ 31.34	\$ 6.07	\$ 92.59
GIF				\$ 11.00	\$ 11.00	\$ 11.00	\$ 11.00	\$ 11.00
Estimated Program Costs	\$ 273.00	\$ 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	Funding Received		Funding Receivable		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 BNR and Expansion	\$ 273.00	\$ 0.29	\$ 6.07	\$ 42.05	\$ 11.00	\$ 42.34	\$ 17.07	\$ 213.59
NEWPCC Upgrade and Expansion	\$ 466.00		\$ 13.70		\$ 181.30		\$ 195.00	\$ 271.00
Estimated Program Costs	\$ 824.00	\$ 10.95	\$ 42.50	\$ 42.05	\$ 192.30	\$ 53.00	\$ 234.80	\$ 536.20

Notes:

- WEWPCC Biological Nutrient Removal and NEWPCC Centrate and UV Disinfection have been completed.
- NEWPCC Upgrade and Expansion cost is only for the biological nutrient removal and expansion components.

**SEWPCC UPGRADING/EXPANSION PROJECT
WATER AND WASTE DEPARTMENT - ENGINEERING DIVISION
APPENDIX 2
As at April 30 , 2014**

Components	Total Budgeted To Date 1	Costs Incurred up to last report	COSTS		Total Costs Incurred to Date (per G/L) 30-Apr-14	PROJECTED COSTS TO COMPLETE				Total Costs Remaining to Complete	TOTAL Total Project Cost	VARIANCE Variance from Budget (Unfavourable)	NC
			Costs submitted this report	2014		2015	2016	2017					
A PROFESSIONAL SERVICES	42,013,399	8,547,653	2,912,430	10,480,327	7,300,190	11,553,436	8,528,006	4,151,442	0	42,013,399	0		
B CONSTRUCTION	230,736,600	5,082,572	0	5,082,572	6,239,000	80,920,000	96,685,000	41,810,028	0	230,736,600	0		
TOTALS	272,750,000	13,630,226	2,912,430	15,562,899	13,539,190	92,473,436	105,213,006	45,961,470	0	272,750,000	0		

Percentage Complete 6%

1 Total budget of \$272.75 Million 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