Agenda – Council – September 29, 2023

Report – Standing Policy Committee on Water, Waste and Environment – September 8, 2023

Item No. 5 Request for Budget Revision for the North End Sewage Treatment Plant (NEWPCC) Upgrade – Biosolids Facilities Project

STANDING COMMITTEE RECOMMENDATION:

On September 21, 2023, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Water, Waste and Environment and submitted the following to Council:

1. That a budget increase of $482,288,000.00 be approved for the NEWPCC Upgrade: Biosolids Facilities Capital Budget. The total Capital Budget increase will be funded from Environmental Projects Reserve, Retained Earnings, and debt as borrowing authority is available under existing by-laws.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

Agenda – Council – September 29, 2023

Report – Standing Policy Committee on Water, Waste and Environment – September 8, 2023

DECISION MAKING HISTORY:

EXECUTIVE POLICY COMMITTEE RECOMMENDATION:

On September 21, 2023, the Executive Policy Committee concurred in the recommendation of the Standing Policy Committee on Water, Waste and Environment and submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On September 8, 2023, the Standing Policy Committee on Water, Waste and Environment concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

ADMINISTRATIVE REPORT

Title: Request for Budget Revision for the North End Sewage Treatment Plant (NEWPCC) Upgrade: Biosolids Facilities Project

Critical Path: Standing Policy Committee on Water, Waste and Environment – Executive Policy Committee – Council

AUTHORIZATION

Author	Department Head	CFO	CAO
C. D. Wiebe, P. Eng., CAMP, Manager of Engineering Services	T. W. Shanks, M. Eng., P. Eng. Director, Water and Waste Department	C. Kloepfer	M. Jack

EXECUTIVE SUMMARY

On February 28, 2019, Council approved a $552.712 million Capital Budget for the NEWPCC Upgrade: Biosolids Facilities project.

On July 21, 2022, Council was informed of an updated Class 3 cost estimate of $911.970 million, an increase of $359.258 million from the current approved Capital Budget. This increase was driven by growth, project delay, project financing, market adjustment, and regulatory/scope increase. A budget increase was referred to the 2024-2027 Multi-Year Budget Process.

Due to rapidly-changing market conditions, an updated Class 3 cost estimate was obtained in 2023; this estimated the total biosolids project cost at $1.035 billion. The increase of $123.030 million above the 2022 estimate is primarily influenced by increased construction costs and interest expenses (debt).

In order to demonstrate the City's commitment to this project and encourage competition in the market, a budget increase of $482.288 million for the Biosolids Facilities is requested ahead of the 2024-2027 Multi-Year Budget Process.

The increase in budget will be funded though the Environmental Project Reserve, Retained Earnings, and debt as borrowing authority is available under existing by-laws.

RECOMMENDATIONS

1. That a budget increase of $482,288,000.00 be approved for the NEWPCC Upgrade: Biosolids Facilities Capital Budget. The total Capital Budget increase will be funded from Environmental Projects Reserve, Retained Earnings, and debt as borrowing authority is available under existing by-laws.

2. That the Proper Officers of the City be authorized to do all things necessary to implement the intent of the foregoing.

REASON FOR THE REPORT

Council approval is required to modify the Capital Budget of a project.

IMPLICATIONS OF THE RECOMMENDATIONS

The purpose of the report recommendation is to increase the current Capital Budget for the NEWPCC Upgrade: Biosolids Facilities by $482.288 million.

Funds in the amount $552.712 million are included in Account Distribution No. 444 181000 200752 203110028B Contractex.

Failure to increase the overall budget for the Biosolids Facilities project will limit growth and development within the City and Winnipeg Metro Region, and result in failure to meet provincial regulatory requirements.

Economic Impact Analysis (EIA)

The estimated direct and indirect economic impact of this expenditure is:

Economic Impact	Manitoba	Rest of Canada
Gross Domestic Product (GDP)	$411.6 million	$121.4 million
Person Years of Employment	3,113	879
Federal Government Tax Revenue	$45.3 million	$13.18 million
Provincial Government Tax Revenue	$44.7 million	N/A

Source: Statistics Canada. Table 36-10-0595-01 Input-output multipliers, detail level.

The evaluated expenditure for this project is $659.5 million. The expenditure and estimated impacts are in 2023 dollars. Contingency, internal staff and interest costs are excluded from the analysis. Some additional elements of the expenditure may be excluded to align with macroeconomic accounting principles.

The 2019 Gross Domestic Product (GDP) at basic prices simple multiplier for other engineering construction [BS23C500] was used to assess this investment. Federal and provincial government tax revenue estimates include GST, MRST, personal income taxes, corporate income taxes and other sources of taxes and fees. These are estimated using the multipliers noted above in conjunction with effective tax rates calculated from the economic accounts produced by Statistics Canada.

HISTORY/DISCUSSION

On February 28, 2019, Council approved $552.712 million for the NEWPCC Upgrade: Biosolids Facilities. The estimate was based on an Advancement of Cost Engineering (AACE) Class 3 cost estimate. The construction estimates were confirmed by an independent cost consultant (Hanscomb) and the budget was audited and approved by Turner & Townsend through the City Auditor.

On May 25, 2021, AECOM was engaged to undertake an enhanced preliminary design (EPD) and provide an updated construction cost estimate. The EPD and cost estimate accounted for changes to the capacity and sizing of the system to reflect current growth projections, new provincial requirements for interim phosphorus control, market condition changes, and escalation due to project delays.

On December 2, 2021, Hanscomb was engaged as an independent cost consultant to provide a third-party Class 3 construction cost estimate for the biosolids facilities based on the EPD.

Following analysis of the two estimates, the 2022 estimated cost for the biosolids project was updated to $911.970 million, an increase of $359.258 million, with an expected accuracy range of -20% to +30% ($729.576 million to $1.186 billion). On July 21, 2022, Council was notified of the revised estimate. Due to ongoing changes in market conditions, an increase to the project budget was referred to the 2024-2027 Multi-Year Budget Process.

On December 20, 2022, written confirmation was received of the Biosolids Facilities inclusion in the Investing in Canada Infrastructure Program (ICIP), based on the current approved budget of $552.7 million. Total funding is $200.9 million from Canada and $167.4 million from Manitoba, with the remaining $184.4 million funded by the City. The terms of the ICIP funding agreement indicate the City is responsible for any further cost incurred by the project.

In 2023, AECOM and Hanscomb were engaged to update their construction cost estimates to reflect current market conditions. Following the same analysis as in 2022, the revised 2023 project cost estimate was determined to be $1.035 billion, with an expected accuracy range of -20% to +30% ($828.000 million to $1.346 billion). The new estimate revises the project funding split as shown in the table below.

	Total Cost (millions)	Federal Share	Provincial Share	City Share
Initial cost estimate	552.7	200.9 36%	167.4 30%	184.4 33.4%
Revised cost estimate	1,035.0	200.9 19%	167.4 16%	666.7 64%

A summary of the cost estimates over time is shown below:

	2018 Approved Capital Budget ($ Millions)	2022 Capital Cost Estimate ($ Millions)	2023 Capital Cost Estimate ($ Millions)
Construction	377.967	628.548	678.688
Consultant & Other	30.967	56.549	69.270
Contingency	100.617	143.130	154.225
Administrative Charges	15.287	24.847	27.065
External Debt Charges	27.874	58.896	105.752
Total	**552.712**	**911.970**	**1,035.000**

COMPARISON BETWEEN 2018 APPROVED BUDGET AND 2022 CAPITAL COST ESTIMATE

The cost increase from 2018 to 2022 was detailed in the July 21, 2022, report to Council; increases were mainly attributed to growth, project delay, project financing, market adjustment, and regulatory/scope increase.

COMPARISON BETWEEN 2022 AND 2023 CAPITAL COST ESTIMATES

Between 2022 and 2023, the Biosolids Facilities project Class 3 cost estimate increased by $123.030 million, or 13 percent. This increase is summarized below:

	Increase from 2022 to 2023	
	$ Millions	%
Construction	50.140	8
Consultant & Other	12.721	22
Contingency	11.095	8
Administrative Charges	2.218	9
External Debt Charges	46.856	80
Total	**123.030**	**13%**

Construction

Construction costs increased by $50.140 million primarily due to:

- Ongoing supply chain issues still occurring in the market. These impacts have resulted in increased equipment, material, and labour prices.

- Escalation rates continue to exceed past trends. Both AECOM and Hanscomb's 2023 estimates assume construction escalation rates that exceed the City's standard of 3 percent per year.

Consultant and Other

Consultant and other costs increased by $12.271 million primarily due to:

Changes in procurement model. The 2022 estimate assumed a Design-Build-Finance (DBF) procurement model which doesn't involve collaboration with the City's team. The 2023 estimate is based on a Progressive Design Build (PDB) procurement model which necessitates additional time early on from the project's internal and external legal team, owner's advisor team, and strategic partner due to the collaborative nature of the design. This upfront cost will return value to the City by reducing overall project risk (cost, schedule, and quality).

Contingency

Contingency costs increased by $11.095 million proportional to the increases in construction and consultant costs.

Administrative Charges

Administrative charges increased by $2.218 million proportional to the increases in construction, consultant, contingency, and other costs.

External Debt Charges

External debt charges increased by $46.856 million due to:

- Changes in how borrowing costs and interest are apportioned to a project.
    - The 2022 estimate was based on a DBF. This means the Financier fronts half the construction costs, which delays borrowing by the City. The 2023 estimate assumes a PDB, requiring the City to borrow funds earlier in the project.

    - The City allocates interest charges to a capital project budget until the project is complete, at which point interest charges are allocated to the operating budget. While the borrowing costs for each procurement model remain similar, the earlier borrowing in a PDB has more interest charged to the capital project.

2023 CAPITAL BUDGET AMENDMENT

The Public Service is requesting a budget increase of $482.288 million for the NEWPCC Upgrade: Biosolids Facilities, for an amended Class 3 capital budget of $1,035.000 million. Failure to amend the budget will impact the Public Service's ability to deliver the critical biosolids upgrade. This would limit growth and development within Winnipeg and the Metro Region, and result in a failure to comply with the NEWPCC Environment Act Licence.

The budget amendment is being requested in advance of the 2024-2027 Multi-Year Budget to align with the procurement of a Design Builder for the project. Ensuring that the approved budget reflects the current project cost estimate prior to posting the RFP is vital to minimize project risk by:

- Demonstrating the City's commitment to complete this project to potential bidders. Showing the market there are sufficient funds to undertake the project will encourage competition, leading to a successful procurement.

- Satisfying the ICIP requirement of securing sufficient funding to complete the project before starting construction.

CUSTOMER IMPACTS

This project, combined with other capital renewal and service level projects, may have a substantial impact on rate payers and affordability for services.

Figure 1, below, demonstrates the estimated customer impact of the Biosolids Facilities project, including current budget estimates.

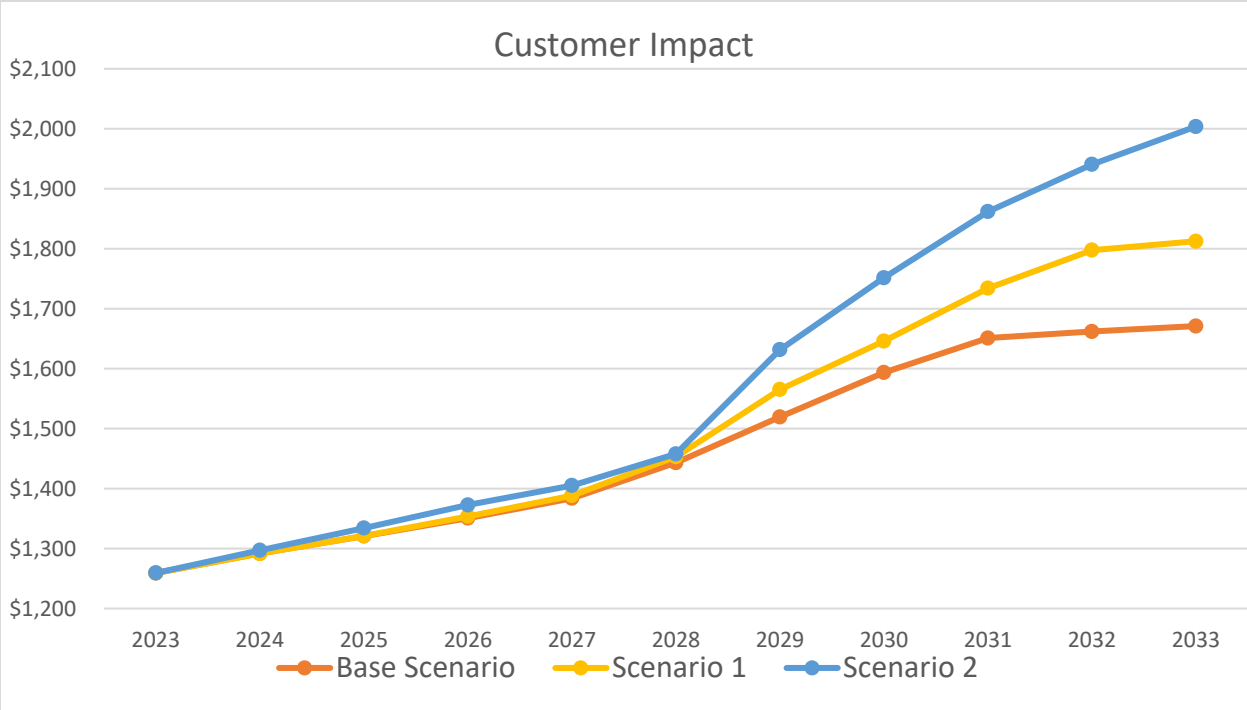

Figure 1: Customer Impacts of Project Budget Increase*

Scenario Description		2033 Annual Bill*
Base Scenario	Water and Sewer Rate Model based on 2018 Approved Capital of $552 million including ICIP funding	$1,671
Scenario 1	Additional $482 million for Biosolids funded by 1/3 Canada, 1/3 Manitoba, 1/3 City	$1,812
Scenario 2	Additional $482 million for Biosolids funded by City	$2,004

*excludes projected Nutrient Removal Project cost. All scenarios are subject to change and are intended for illustrative purposes only.

The amount of federal and/or provincial funding provided will impact rates, borrowing, and/or other projects.

NEXT STEPS

Following approval of the budget amendment, the Public Service will procure the Design Builder and award the Development Phase in early Q2 of 2024. This Phase is expected to take approximately 18 months, and will include development of the Design Build Agreement (DBA) to complete the design and construct the biosolids facilities. Construction is anticipated to take approximately five years after which the new biosolids facility will be turned over to the City to operate and maintain. The Public Service will be presenting a multi-year rate report for Council's consideration in Q4 of 2023.

DEBT STRATEGY

On October 28, 2015, Council adopted a Debt Strategy for Tax Supported, Utilities and total City borrowing. Subject to approval of the recommendations of this report, net additional borrowing of $351.622 million is required, to commence in 2026.

$50 million of Tax Supported and $15 million of Utilities borrowing capacity will remain if Council approves the recommendations in this report (based on 2023 borrowing estimates). The impact of this debt financing falls within the debt limits established in the Council Policy as outlined in the table below:

Tax Supported net debt as a percentage of revenue not to exceed	80%
Forecasted peak rate including proposed debt from this report	57.8%
Utilities net debt as a percentage of revenue not to exceed	220%
Forecasted peak rate including proposed debt from this report	119.9%
Total City net debt as a percentage of revenue not to exceed	90%
Forecasted peak rate including proposed debt from this report	87.5%
Tax Supported debt servicing as a percent of revenue not to exceed	10%
Forecasted peak rate including proposed debt from this report	5.1%
Utilities debt servicing as a percent of revenue not to exceed	20%
Forecasted peak rate including proposed debt from this report	10.2%
Total City debt servicing as a percent of revenue not to exceed	11%
Forecasted peak rate including proposed debt from this report	7.6%
Tax Supported Debt per Capita not to exceed	1,500
Forecasted peak rate including proposed debt from this report	1,142
Utilities Debt per Capita not to exceed	1,500
Forecasted peak rate including proposed debt from this report	1,358
Total City Debt per Capita not to exceed	2,800
Forecasted peak rate including proposed debt from this report	2,415

Requested Changes

At a Reports Briefing on August 29, 2023, an earlier draft of this administrative report was reviewed by members of the Executive Policy Committee and the following revisions were requested:

- Use plain language when referencing dollar amounts throughout the report (don't use $1,035.000 million, use $1.035 billion)
- Include the ICIP funding history for this project.
- Under "Customer Impacts" section remove Nutrient Removal scenarios and add information stating what the cost is if the City does not receive equal funding for this increase from other levels of government.

FINANCIAL IMPACT

Financial Impact Statement

Date: July 18, 2023

Project Name:

First Year of Program **2023**

REQUEST FOR BUDGET REVISION FOR THE NORTH END SEWAGE TREATMENT PLANT (NEWPCC) UPGRADE: BIOSOLIDS FACILITIES PROJECT

	2023	2024	2025	2026	2027
Capital					
Capital Expenditures Required	$ 482,288,000	$ -	$ -	$ -	$ -
Less: Existing Budgeted Costs	482,288,000	-	-	-	-
Additional Capital Budget Required	$ -	$ -	$ -	$ -	$ -
Funding Sources:					
Debt - Internal	$ -	$ -	$ -	$ -	$ -
Debt - External	-	-	-	-	-
Grants (Enter Description Here)	-	-	-	-	-
Reserves, Equity, Surplus	-	-	-	-	-
Other - Enter Description Here	-	-	-	-	-
Total Funding	$ -	$ -	$ -	$ -	$ -
Total Additional Capital Budget Required	$ -				
Total Additional Debt Required	$ -				
Current Expenditures/Revenues					
Direct Costs	$ -	$ -	$ -	$ -	$ -
Less: Incremental Revenue/Recovery	-	-	-	-	-
Net Cost/(Benefit)	$ -	$ -	$ -	$ -	$ -
Less: Existing Budget Amounts	-	-	-	-	-
Net Budget Adjustment Required	$ -	$ -	$ -	$ -	$ -

Additional Comments: Capital Budgets for the NEWPCC Upgrade: Biosolids Facilities are in Account Distribution No. 444 181000 200752 203110028B. A budget amendment increase of $482,288,000.00 is recommended to be approved for the Capital Budget for the NEWPCC Upgrade: Biosolids Facilities project. The total cost of the capital budget increase is to be funded from the Environmental Projects Reserve, Retained Earnings, and debt as borrowing authority is available under existing by-laws.

Lucy Szkwarek, CPA, CGA

Lucy Szkwarek, CPA, CGA
Manager of Finance and Administration

ask
4-Jul-23

CONSULTATION

This Report has been prepared in consultation with:

N/A

OURWINNIPEG POLICY ALIGNMENT

OurWinnipeg Reference: Section 02-2 Environment
This report is in accordance with the OurWinnipeg policies through Section 02-2 Environment, as it will reduce the environmental impact of our citizens on the Red River and the downstream lakes and rivers. It is in collaboration with the Regulatory Licence requirements issued by the Province of Manitoba.

WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

NEWPCC Upgrade: Biosolids Facilities project aligns with the Strategic Opportunity #6 Waste Reduction and Diversion
Key Directions 6.3 - Utilize Biosolids in Agriculture and Landscaping Industries
Key Direction6.4. - Support Integrated Resource Recovery Opportunities (

WINNIPEG POVERTY REDUCTION STRATEGY ALIGNMENT

Goal 1 - Equity and a Culture of Caring are Demonstrated through Strategy Implementation and Systems Change

SUBMITTED BY

Department: Water and Waste
Division: Engineering Services
Prepared by: Lana Obach and Jaimee Sekanjako
Date: July 18, 2023
File No.: S-1192

ATTACHMENTS:

Appendix A: 2023 Capital Budget Detail Sheet for NEWPCC Upgrade: Biosolids Facilities

Appendix A: 2023 Capital Budget Detail Sheet for NEWPCC Upgrade: Biosolids Facilities

WATER & WASTE - SEWAGE DISPOSAL SYSTEM FUND

Project Name: **NEWPCC Upgrade: Biosolids Facilities**

Standing Policy Committee:	Water, Waste and Environment		
Dept ID:	200752	Investment Driver:	Growth
Department:	Water and Waste	Service:	Wastewater
Project:	203110028B	**OurWinnipeg:**	Environment

AUTHORIZATION	Previous Budgets	2023 Estimate	FORECAST 2024	2025	2026	2027	2028	Five-Year Forecast Total	Six-Year Total
Project Costs ($000's)	552,712	482,288	-	-	-	-	-	-	482,288
Financed by:									
Environmental Projects Reserve		54,666							54,666
Retained Earnings		76,000							76,000
External Debt		351,622							351,622

CASH FLOW	2023 Estimate	2024	2025	2026	2027	2028	Beyond 2028	Total
Project Costs ($000's)	7,788	2,733	44,145	59,672	126,537	160,028	81,385	482,288
Financed by:								
Environmental Projects Reserve	7,788	2,733	44,145					54,666
Retained Earnings				3,111	9,546	17,391	45,952	76,000
External Debt				56,561	116,991	142,637	35,433	351,622

NET OPERATING IMPACT ($000's)	2023 Estimate	2024	2025	2026	2027	2028
Operating costs						
Debt and finance charges	-	-	-	-	-	-
Transfer to General Capital Fund						
Total Direct Costs	-	-	-	-	-	-
Less: Incremental Revenue/Recovery						
Net Cost/(Benefit)	-	-	-	-	-	-
Incremental Full Time Equivalent Positions	-	-	-	-	-	-

Class Estimate: 3

The existing sewage sludge treatment facility (Biosolids) at the North End Sewage Treatment Plant treats sludge from all three sewage treatment plants and is nearing its treatment capacity. This work will provide for a new Biosolids treatment facility in order to meet regulatory requirements regarding the recovery of nutrients and maximizing biosolids reuse.

The major benefits of constructing this project include ensuring regulatory compliance and maintaining essential level of service.

Significant risks of not constructing the project or deferring the project include inability to meet new regulations and inability to support growth.

This project includes up to a maximum of five temporary Full Time Equivalent positions for the life of the project.

The expected life of the structure upgrades is 50 years, the expected life of the electrical and mechanical components is 25 years, and the expected life for technology assets is 10 years.