Agenda – Executive Policy Committee – July 9, 2024

Report – Standing Policy Committee on Water, Waste and Environment – June 28, 2024

Item No. 2 Combined Sewer Overflow (CSO) Master Plan, Financial Update Environment Act Licence No. 3042

STANDING COMMITTEE RECOMMENDATION:

On June 28, 2024, the Standing Policy Committee on Water, Waste and Environment concurred in the recommendation of the Winnipeg Public Service and submitted the following to Council:

1. That this report be received as information.

Agenda – Executive Policy Committee – July 9, 2024

Report – Standing Policy Committee on Water, Waste and Environment – June 28, 2024

DECISION MAKING HISTORY:

STANDING COMMITTEE RECOMMENDATION:

On June 28, 2024, 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.

David Grant submitted a communication with respect to the matter.

ADMINISTRATIVE REPORT

Title: Combined Sewer Overflow (CSO) Master Plan, Financial Update
Environment Act Licence No. 3042

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

AUTHORIZATION

Author	Department Head	CFO	CAO
L. McCusker, P. Eng., Acting Manager of Engineering Services	T. W. Shanks, M. Eng. P. Eng. Director, Water and Waste Department	N/A	M. Jack

EXECUTIVE SUMMARY

Winnipeg has combined sewers servicing about one third of the city. These sewers can overflow during wet weather events. If there is an overflow, untreated wastewater can enter into our local waterways.

Our Combined Sewer Overflow (CSO) Master Plan provides a path to reduce the number of overflows over the next few decades. The goal is to capture 85 percent of CSO volume. The provincial deadline for achieving this goal (the control target) is 2045. In 2023, the City achieved a 76 percent capture of CSO volume. This is an improvement from the 74 percent capture estimate for the 2013 baseline year.

In 2023, there were 1,039 CSO events with an estimated sewage discharge of 5,368 mega litres (ML). This represents a decrease from 2022 in both the number of CSO events and CSO volume. This is primarily due to below average rainfall and a late spring.

Since 2013, the City of Winnipeg has invested over $192 million in infrastructure system upgrades. The goal of these investments was to reduce CSOs. Over the next six years, another $242 million will be invested. This amount includes the Council approved (2022) budget increase to $45 million per year (an extra $15 million or 50 percent per year), from 2024-2027.

$26.8 million was committed in 2023. Increasing the cumulative commitment to approximately $109 million since 2019. The uncommitted funds will be accumulated for bigger projects like large land drainage trunk sewer works. Some of this work is planned for 2024.

In 2022 and 2023, Council provided direction to work towards the Provincial deadline of 2045, and prepare a City-only funding plan if no funding from other levels of government is secured. This review was ongoing at the time of writing this report.

RECOMMENDATIONS

1. That this report be received as information.

REASON FOR THE REPORT

On April 29, 2021, Council adopted the motion on Re-costing of the Combined Sewer Overflow (CSO) Master Plan:

> 2. That the Winnipeg Public Service be directed to provide annual financial updates to Council in September, through the Standing Policy Committee on Water and Wastewater, Riverbank Management and the Environment, on the CSO Master Plan, including any potential budget reductions due to projects coming in under budget.

IMPLICATIONS OF THE RECOMMENDATIONS

There are no implications associated with the recommendations of this report.

HISTORY/DISCUSSION

Budget and History

The Combined Sewer Overflow (CSO) Master Plan's estimated capital cost of $1.15 billion, in 2019 dollars, is based on the required infrastructure to meet the 85 percent control target. The attached 2023 CSO Annual Report (Appendix A) provides the full breakdown of capital costs and budget forecasts.

Since 2013, the City has invested over $192 million in infrastructure and system upgrades under the CSO program. The City budgets an average of $30 million per year (with adjustments for inflation) to meet compliance with Environment Act Licence No. 3042. In the 2022 Balanced Budget Update, Council approved additional funds of $15 million per year from 2024 through 2027.

In the past five years, less than the $30 million annual budget was used, primarily due to favourable bid pricing the City received, resulting in increased value for the program. The approximate yearly total committed to contracts from 2019 to 2023 is shown in Table 1.

	Committed to Contracts (in millions)
2019	$23.3
2020	$28.7
2021	$17.5
2022	$12.5
2023	$26.8

Table 1: Yearly Total Committed to Contracts

Uncommitted funds are also being accumulated for large strategic projects that are in excess of the average annual budget. For example, the Class 3 estimate for the proposed 2023 Ferry Road Rutland Trunk is $64 million which is larger than any single year budget. The 2024 budget is $47 million totaling in $110 million of available budget with a $109 million forecast spend.
Individual contracts that exceed the major capital project threshold will be reported to the Standing Policy Committee on Finance and Economic Development with quarterly Financial Status Reports.

In 2021, Council recommended a $60 million increase to the CSO Master Plan budget over four years from 2024 to 2027 ($15 million a year). In 2022 and 2023, Council provided direction to work towards the Provincial deadline of 2045, and prepare a City-only funding plan if no funding from other levels of government is secured. This review was ongoing at the time of writing this report.

Progress to Date

Percent Capture Performance

The goal of the CSO Master Plan is to capture 85 percent of wet weather flows. In 2023, the percent capture increased to 76 percent. The improvements to date are the result of completed combined sewer separation works in the Jefferson East, Cockburn/Calrossie, and Ferry Road/Riverbend districts, as well as ongoing hydraulic modeling and reporting refinements. The percent capture will increase once the final stages of the current district separation construction is completed.

2023 CSO Results

There were 1,039 CSO events in 2023, with an estimated sewage discharge of 5,368 ML. This equates to an average of 14 events per combined sewer outfall (compared to 5,438 ML and 975 events in the representative year and 27,524 ML and 2,046 events in 2022). The 2023 CSO events and discharge values are lower than the 11-year average values. This is attributed to the lower rainfall and later spring rise and fall of river levels during 2023 (see Appendix A, Section 4).

Future Works

Separation Works

The Water and Waste Department will continue work in the Jefferson East, Cockburn/Calrossie, and Ferry Road/Riverbend districts. Additional work includes planning, design, and construction in the Armstrong, St. John's, Hawthorne, and Mager districts.

Real Time Control

Real time control (RTC) will provide sewer system control on a real time basis that can be used to optimize flows to the treatment plants. This will also provide opportunities to enhance the public notification system. RTC will be implemented on a district basis and is being reviewed as part of the Armstrong and Cockburn East district project.

Green Infrastructure

The design of Green Infrastructure (GI) technologies to reduce CSO volumes are incorporated into district design work as required by Environment Act Licence No.3042 Clause 8.

The GI pilot projects undertaken to date include the North East Exchange District Engineering Study (e.g. strata tree cells) and aspects of the Cockburn Sewer Separation Project (e.g. naturalized storm water retention pond). Pre- and post-flow monitoring will continue to take place over time to determine their suitability in Winnipeg's cold climate and heavy clay soils. This will confirm GI's long-term benefits and appropriate applications within the collection system. As part of the Armstrong preliminary design, two GI solutions have been developed; a soil storage solution along Leila Avenue and a bioretention facility off McGregor Street. These solutions will be further developed as part of the detailed design process.

FINANCIAL IMPACT

Financial Impact Statement **Date:** May 30, 2024

Project Name:

COMBINED SEWER OVERFLOW (CSO) MASTER PLAN, FINANCIAL UPDATE ENVIRONMENT ACT LICENCE NO. 3042

COMMENTS:

There is no Financial Impact associated with the recommendation of this report.

Lucy Szkwarek, CPA, CGA

Lucy Szkwarek, CPA, CGA
Manager of Finance and Administration

CONSULTATION

This Report has been prepared in consultation with:

N/A

OURWINNIPEG POLICY ALIGNMENT

This report aligns with OurWinnipeg 2045, Policy 2.17 Regional Water Resource Management,
by protecting local and regional watershed resources from the negative impacts of development,
flooding, and pollution.

Objective: Protect and value ecosystems as essential components to quality of life through municipal activities and urban environment.

WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

Consideration was given as to whether this report connects to the Winnipeg Climate Action Plan (CAP), and it was determined that the CAP is not applicable to this specific report.

WINNIPEG POVERTY REDUCTION STRATEGY ALIGNMENT

Consideration was given as to whether this report connects to the Winnipeg Poverty Reduction Strategy (PRS) and its Goals and Objectives, and it was determined that the PRS is not applicable to this specific report.

SUBMITTED BY

Department: Water and Waste Department
Division: Engineering Services
Prepared by: Patrick Coote, P. Eng., Selina Leung, E.I.T., and Alexa Dreolini, E.I.T.
Date: May 30, 2024
File No.: S-734

ATTACHMENT:

Appendix A: 2023 CSO Annual Report