Agenda – Executive Policy Committee – October 17, 2023

Report – Standing Policy Committee on Water, Waste and Environment – October 12, 2023

Moved by Councillor

That Rule 10(3) of The Procedure By-law No. 50/2007 be suspended in order that the following item, which was received less than four business days preceding the committee meeting, be considered by Committee.

Item No. 1 Annual Report on the Combined Sewer Overflow (CSO) Master Plan

STANDING COMMITTEE RECOMMENDATION:

On October 12, 2023, the Standing Policy Committee on Water, Waste and Environment did not concur in the recommendation of the Winnipeg Public Service and recommended the following to Council:

1. That the Winnipeg Public Service be directed to prepare costing for the completion of the $1.15 billion Combined Sewer Overflow project by 2045, and report back to the Standing Policy Committee on Water, Waste and Environment at its November 24, 2023 meeting.

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

Agenda – Executive Policy Committee – October 17, 2023

Report – Standing Policy Committee on Water, Waste and Environment – October 12, 2023

DECISION MAKING HISTORY:

STANDING COMMITTEE RECOMMENDATION:

On October 12, 2023, the Standing Policy Committee on Water, Waste and Environment did not concur in the recommendation of the Winnipeg Public Service and submitted the following to the Executive Policy Committee and Council:

1. That the Winnipeg Public Service be directed to prepare costing for the completion of the $1.15 billion Combined Sewer Overflow project by 2045, and report back to the Standing Policy Committee on Water, Waste and Environment at its November 24, 2023 meeting.

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

COUNCIL DECISION:

On September 29, 2023, Council granted an extension of time of 30 days for the Winnipeg Public Service to report back on the matter.

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 submitted the matter to Council.

STANDING COMMITTEE RECOMMENDATION:

On September 8, 2023, the Standing Policy Committee on Water, Waste and Environment submitted the following to the Executive Policy Committee and Council:

1. That an extension of time of 30 days be granted for the Winnipeg Public Service to provide the annual financial update on the CSO Master Plan, including any potential budget reductions due to projects coming in under budget.

Report – Standing Policy Committee on Water, Waste and Environment – October 12, 2023

DECISION MAKING HISTORY (continued):

STANDING COMMITTEE RECOMMENDATION (continued):

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

David Grant submitted a communication with respect to the matter.

COUNCIL DECISION:

On April 29, 2021, Council concurred in the Notice of Motion, as amended, and adopted the following:

1. That an increase of 50% to the Combined Sewer Overflow budget between 2023-2026, to expedite the Armstrong Combined Sewer Overflow district work, be referred to the 2022 Budget Review Process.

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

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

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
C. D. Wiebe, P. Eng., CAMP	T. W. Shanks, M. Eng., P. Eng.	N/A	M. Jack

EXECUTIVE SUMMARY

The City of Winnipeg Combined Sewer Overflow (CSO) Master Plan is a long-term plan to reduce the number of overflows into local waterways with a goal to capture 85 percent of CSO volume by 2047. In 2022, Council directed the Public Service to work towards a completion date of 2045, in accordance with the deadline mandated by the Province of Manitoba. In addition, as part of the 2022 Capital Budget process, Council increased the Combined Sewer Overflow and Basement Flood Management Strategy budget by $15 million per year from 2024 to 2027 to advance sewer separation works.

In 2022, the CSO program reported 75 percent capture of CSO volume, an improvement from the 74 percent capture in the 2013 base year.

There were also 2,046 CSO events with an estimated sewage discharge of 27,524 megalitres (ML) as a result of extreme rainfall and high river levels. This represents an overall increase from 2021 in both the number of CSO events and CSO volume.

From 2013 to 2022, the City committed over $170 million in infrastructure investment and system upgrades to reduce CSOs. An additional $240 million is forecasted over the next six years, which includes a $15 million (50 percent) annual increase from 2024 to 2027 that was approved by Council in 2022. This increase will expedite existing sewer separation works and planned work in the Armstrong combined sewer district.

Approximately $12.5 million was committed in 2022; resulting in a cumulative commitment of approximately $71 million since 2019. Uncommitted funds are accumulated in the program for larger contracts, such as large land drainage trunk sewer contracts currently planned in 2023/2024.

RECOMMENDATIONS

That this report be received as information.

REASON FOR THE REPORT

On April 29, 2021, Council concurred in the Notice of Motion, as amended, and adopted the following:

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 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 2022 CSO Annual Report (Appendix A) provides the full breakdown of capital costs and budget forecasts.

Since 2013, the City has invested over $157.9 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 to advance critical sewer separation works. This allowed the City to begin work on the Armstrong Combined Sewer District and will also advance the Mission Combined Sewer District (see Appendix B for schedule updates).

Approximately $23.3 million was committed to contracts in 2019, $28.7 million in 2020, $17.5 million in 2021, and $12.5 million in 2022. This is less than the $30 million annual budget primarily because of favorable bid pricing the City received that resulted in increased value for the program. Uncommitted funds are also being accumulated for large strategic projects that are in excess of the average annual budget. For example, the Class 5 estimate for the proposed 2023/2024 Ferry Road Rutland Trunk is $60 million.

Individual contracts that exceed the major capital project threshold will be reported on to the Finance and Economic Development Standing Policy Committee with quarterly Financial Status Reports.

Progress to Date

The goal of the CSO Master Plan is to capture 85 percent of wet weather flows. In 2022, the percent capture remains at 75 percent (an overall improvement from the 74 percent capture in the 2013 base year). The improvements to date are the result of completed combined sewer separation works in the Ferry Road/Riverbend and Cockburn/Calrossie districts as well as ongoing modeling and reporting refinements. The percent capture will increase once the final stages of current district separation works are brought online.

2022 CSO Results

There were 2,046 CSO events in 2022, with an estimated sewage discharge of 27,524 megalitres (ML). This averages to 27 events per Combined Sewer (CS) outfall (compared to 5,438 ML and 975 events in the 1992 representative year[1] and 10,601 ML and 910 events in 2021). These results reflect the high river levels and precipitation received in 2022, which saw approximately 74 percent more precipitation compared to the 1992 representative year (see Appendix A, section 5).

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 and Hawthorne 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 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 that have been 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, GI opportunities within the study area will be identified and evaluated. Examples of GI currently being evaluated include bioswales, permeable paved roadways, and a bioretention facility.

[1] 1992 was chosen as it demonstrated typical rainfall patterns.

FINANCIAL IMPACT

Financial Impact Statement **Date:** July 14, 2023

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

COMMENTS:
There are no financial implications arising from the recommendations 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

N/A

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., Florence Lee, P. Eng. and Selina Leung, E.I.T.
Date: July 14, 2023
File No.: S-734

ATTACHMENTS:

Appendix A: 2022 CSO Annual Report

Appendix B: CSO Master Plan Program Scenario 1 Schedule, Updated