**Agenda – Executive Policy Committee – September 21, 2021**

**Report – Standing Policy Committee on Water and Waste, Riverbank Management and the Environment – September 13, 2021**

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

STANDING COMMITTEE RECOMMENDATION:

On September 13, 2021, the Standing Policy Committee on Water and Waste, Riverbank Management and the 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 – September 21, 2021**

**Report – Standing Policy Committee on Water and Waste, Riverbank Management and the Environment – September 13, 2021**

DECISION MAKING HISTORY:

STANDING COMMITTEE RECOMMENDATION:

On September 13, 2021, the Standing Policy Committee on Water and Waste, Riverbank Management and the Environment concurred in the recommendation of the Winnipeg Public Service and submitted the matter to the Executive Policy Committee and Council.

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:** Standing Policy Committee on Water and Waste, Riverbank Management and the Environment - Executive Policy Committee - Council

## AUTHORIZATION

| Author | Department Head | CFO | CAO |
|---|---|---|---|
| C. W. Wiebe, P. Eng., CAMP, Manager of Engineering Services | M. L. Geer, CPA, CA, Director, Water and Waste Department | N/A | M. Jack |

## EXECUTIVE SUMMARY

The City of Winnipeg Combined Sewer Overflow (CSO) Master Plan is a long-term plan to reduce overflows from the wastewater sewer system to local watercourses. The goal of the CSO Master Plan is to capture 85 percent of CSO volume by 2047. In 2020, the CSO program captured 75 percent of overflow volume, which is an improvement from the 74 percent capture base year.

Since 2013, the City has invested $140.4 million in infrastructure and system upgrades to reduce CSOs, with an additional $240 million forecast for investment over the next six years. This forecast includes a proposed $15 million (50 percent) increase to the budget each year from 2023 to 2026 that Council referred to the 2022 Budget Review Process. The proposed increase would be used to expedite existing sewer separation works and planned work in the Armstrong Combined Sewer Overflow district.

Approximately $23.3 million and $28.7 million was committed in 2019 and 2020, respectively, with the cumulative committed capital spend for 2019 and 2020 being approximately $52 million. Where there are remaining funds from existing work, they are retained within the program for use on other CSO contracts. Funds can also be accumulated for larger contracts, such as a planned land drainage trunk sewer contract currently planned in 2023/2024.

## RECOMMENDATIONS

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 receiving this report as information.

## HISTORY/DISCUSSION

### ***Budget and History***

A conceptual level Class 5 estimate was developed for the CSO Master Plan. A Class 5 estimate is defined by the *American Association of Cost Engineers International,* (AACE) *Cost Estimate Classification System - As Applied in Engineering, Procurement, and Construction for the Process Industries* (AACE, 1997) as having a project definition of zero to 2% to be used in a conceptual study with an expected accuracy range of -50% to +100%.

The total capital cost to implement the CSO Master Plan, including the 10 percent Green Infrastructure allowance, is estimated at $1,150,400,000 in 2019 dollars. Applying the maximum Class 5 estimating range, the total capital cost for budgeting purposes is estimated to be $2,300,800,000. The capital cost summary is shown in Table 1.

**Table 1 - CSO Master Plan Capital Cost Estimate (2019 dollars)**

| Item | 2019 Capital Cost Estimate |
|---|---|
| Class 5 Estimated Capital Costs | $1,045,800,000.00 |
| Green Infrastructure Allowance (10%) | $ 104,600,000.00 |
| Subtotal – Capital Cost Estimate | $1,150,400,000.00 |
| Class 5 Estimate Range of Accuracy: -50% to +100% | $575,200,000.00 to<br>$ 2,300,800,000.00 |
| Total Capital Cost for Budgeting Purposes | $2,300,800,000.00 |

Since 2013, the City has invested over $140.4 million in infrastructure and system upgrades. The City plans to spend $30 million per year (with adjustments for inflation) to meet compliance with the CSO licence. On April 29, 2021, Council referred a 50 percent increase for the CSO budget to the 2022 Budget Review Process which, if approved, would result in a $240 million forecast over the next six years.

Approximately $23.3 million was committed in 2019 and $28.7 million in 2020. While this is less than the target commitment of $30 million annually, the City is receiving competitive bid pricing on contracts which allows funds to accumulate for a large land drainage trunk sewer contract planned in 2023/2024. The cost of this sewer work is expected to exceed $30 million.

The CSO budget is a rolling capital program. If a project has funds remaining after it is completed, the funds retained within the program for use on other CSO projects. As is the case in 2019 and 2020, sometimes funds are reserved for contracts larger than the average annual $30 million budget. Any contract which exceeds the major capital project threshold ($24 million in 2021) will be reported at the Finance Committee with quarterly Financial Status Reports.

## ***Progress to Date***

There was a 3 percent reduction in CSO volume in the 2020 sewer network compared to the 1992 Representative Year. This results in an overall 75 percent CSO volume capture. The improvements 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.

## ***Future Works***

### Separation Works

The Water and Waste Department will continue work in the Jefferson East, Cockburn/Calrossie, and Ferry Road/Riverbend districts. A preliminary design contract for sewer separation works in Armstrong, the next district planned for separation, is in the procurement phase.

### Real Time Control

Real time control will provide sewer system control on a real time basis, and can be used to optimize flows to the treatment plants. This will also provide opportunities to enhance the public notification system. A feasibility and pilot study will be initiated in 2021/2022 for a combined sewer district in the West End Sewage Treatment Plant catchment.

### Green Infrastructure

The design of Green infrastructure (GI) technologies to reduce CSO volumes are incorporated into district preliminary design work. An additional allowance of 10 percent

of the 2019 capital cost estimate was included in the CSO Master Plan budget for GI implementation.

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 the suitability and performance of GI in Winnipeg's cold climate and heavy clay soils to confirm its long-term benefits and application within the collections system.

**FINANCIAL IMPACT**

## Financial Impact Statement Date: June 22, 2021

## Project Name:

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

**COMMENTS:**

There are no Financial impacts associated with the recommendations of this report

L Szkwarek

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 is in accordance with the OurWinnipeg policies through sustainable water and waste practices.

OurWinnipeg Reference: Environment

## WINNIPEG CLIMATE ACTION PLAN ALIGNMENT

N/A

## SUBMITTED BY

Department: Water and Waste Department
Division: Engineering Services
Prepared by: Michelle Paetkau, P. Eng.
Date: June 25, 2021
File No.: S-734

ATTACHMENTS:

Appendix A: 2020 CSO Annual Report