

# Water, Wastewater and Storm Water Utilities 2021 Annual Report

## ISSUE

The 2021 Annual Reports for the Water, Wastewater and Storm Water Utilities highlight performance and activities, and provide accountability for the funding that citizens entrust to the City of Saskatoon (City). The Water and Wastewater Utilities 2021 Annual Report is provided in Appendix 1, and the Storm Water Utility 2021 Annual Report is provided in Appendix 2.

## BACKGROUND

The Water and Wastewater Utilities and Storm Water Utility 2021 Annual Reports highlight the operations of the Utilities including our people, customers, infrastructure, work, environment, finances, and challenges.

## CURRENT STATUS

The Water and Wastewater Utilities deliver safe, reliable, and cost-effective water and wastewater services that meet and exceed health and environmental regulatory standards. The Storm Water Utility minimizes impacts of rain and snowmelt through operating an effective drainage network. The Saskatoon Water (SW) Department operates and delivers capital projects at the Water and Wastewater Treatment Plants. The Water and Waste Operations (WWO) Department maintains the linear infrastructure, and the Technical Services (TS) Department provides asset preservation services. Several other departments including Roadways, Fleet and Support, Construction and Design, Finance, Information Technology, Communications and Public Engagement, Human Resources, and others, support the Utilities.

## DISCUSSION/ANALYSIS

*Our People:* As of December 2021, SW had 185 employees, WWO (Water and Sewer Section) had 119, and TS had 25 employees working on water-related services. Safety is a core value and is integrated into the work performed by Utility staff through a Health and Safety Management System (HSMS). In 2021, SW, WWO (Water and Sewer Section), and TS had eight lost-time incidents, up from five in 2020. The HSMS is continuously improved through the establishment and completion of annual projects and initiatives. In 2021, that included a HSMS documentation audit, safety leadership training for supervisors, wellness activities, risk tolerance presentations, and critical task reviews.

*Our Customers:* Water is treated and distributed to approximately 320,900 Saskatchewan residents including about 282,900 in Saskatoon and 38,000 customers outside of Saskatoon through SaskWater. Wastewater collection and treatment services are provided to water customers within the city. Storm water services are provided to almost 71,000 properties. Less than 4,000 industrial and commercial customers account for half of the Water and Wastewater revenues and 35% of Storm Water Management Charge revenues.

Although the city's population has grown by approximately 19% since 2012, treated water demand has not increased in a similar manner over the past ten years. This is influenced by a generally declining trend in consumption per capita due, in part, to the water rate (pricing) structure and increased water conservation awareness. The 43 million cubic meters of treated water pumped into the distribution system in 2021 was lower than the annual volumes in 2015 through 2018. Drier and warmer than average temperatures in the summer of 2021 contributed to higher water usage when compared to 2019 and 2020.

Wastewater treatment effluent continued to reduce in volume and was at its lowest level in the last decade at 28.3 million cubic meters. Volumes have decreased significantly over the last five years.

Similar to the last Performance, Priorities and Preferences Civic Survey, which was conducted in 2018, quality of drinking water and speed of water main break repairs ranked in the top three highest rated civic services in the 2021 version of the Survey.

*Our Infrastructure:* The Utilities have assets with a replacement value of over \$10 billion which includes nearly \$4 billion for the Water Treatment Plant, water intakes, three reservoirs and water distribution infrastructure, \$3.8 billion for the Wastewater Treatment Plant and wastewater collection infrastructure, and \$2.6 billion for storm water assets including 31 wet ponds, nine dry ponds, 957 km of linear storm sewer pipes, and other drainage infrastructure.

The Long-Term Capital Development Plan for the Wastewater Treatment Plant was completed in 2021, outlining a thirty-year capital expenditure schedule, aligning with expected capacity, redundancy, and regulatory treatment objectives. Work on the Water Treatment Plant Long Term Capital Strategy continued through 2021 and is scheduled for completion in 2022. Long term planning for the distribution and collection systems progressed in 2021 as part of the Blairmore Sector Plan Amendment. A functional servicing plan has also been developed for the South East Concept Plan regional growth area. The Storm Water Utility provided an asset management plan update to City Council in 2021. Approximately 31% of the storm infrastructure network has been inspected to-date including 171 km of storm sewer pipes. The storm pond network was also inspected in 2021, with most of the storm ponds rated in average condition. Work will continue on long-term capital and asset management plans in 2022, to ensure the City is well positioned to provide high quality, reliable, and cost-effective future water services.

*Our Work:* Exposure control plans for the COVID-19 pandemic continued to be revised throughout 2021, in accordance with public health measures and *The Occupational Health & Safety Regulations* of Saskatchewan. The Wastewater Treatment Plant continued its partnership with the University of Saskatchewan (USask) and the Saskatchewan Health Authority to test for the COVID-19 virus in wastewater samples. The wastewater test results provided an early warning of trends in positive cases

identified at COVID testing centers and were provided to health officials for consideration in their planning decisions.

The City of Saskatoon launched SAP as its Enterprise Resource Planning software, replacing roughly 280 systems which were previously in place across the organization. Modules for Finance, Supply Chain Management, and select areas of Human Capital Management were made available to the entire Corporation, while Saskatoon Water also piloted the Enterprise Asset Management module in 2021. SAP will allow the City to fuse its many diverse processes and integrate them, creating a new energy and a unified approach to managing resources.

Maintenance crews repaired 1,666 water main locations in 2021, of which 269 (16%) were water main breaks. This is slightly higher than the ten-year average of 245. Approximately 155 km of sanitary sewer mains were cleaned using flushing and 3.9 km were brushed.

Saskatoon experienced three localized intense rainfall events throughout 2021. Two of these events had an estimated return period of 2 to 5 years, while the third event had a return period of 5 to 25 years. No localized flooding causing property damage was reported during the three events. Operations work included sweeping 112 km of streets collecting 1,320 tonnes of debris, and 1,462 inspections of catch basins and manholes with 369 repairs or replacements completed.

Significant 2021 capital project highlights include the following:

#### Water

- Water Treatment Plant transfer pumping and electrical upgrade construction continued to progress (2024 completion expected);
- McOrmond Drive Reservoir and Pump Station construction contract was awarded (2023 completion expected);
- Acadia reservoir and Pump Station pump replacement project was completed, with the third (and final) pump installed and commissioned;
- Installation of over 7,800 Advanced Metering Infrastructure (AMI) communication modules for real time water usage readings, bringing the total to approximately 84% of water meters updated since 2016 (installation will continue in 2022); and
- 6.5 km of water mains were replaced to support capacity increases and asset preservation activities.

#### Wastewater

- Wastewater Treatment Plant installation of a sixth Primary Effluent Pump and related ancillary works (2022 completion expected);
- Marquis Liquid Waste Haulers Station commissioning continued (2022 completion expected);
- Wastewater Treatment Plant fourth digester and heating system upgrades were completed;
- New Spadina Lift Station and force main construction contract awarded (2023 completion expected); and

- 15.2 km of sanitary and storm sewer mains were rehabilitated via lining.

#### Storm Water

- Flood Control Strategy Project 1 (W.W. Ashley Park Dry Pond) was substantially complete with final completion expected in 2022;
- Flood Control Strategy Project 2 (Churchill Park Dry Pond) design and tender was complete. Construction is occurring in 2022;
- Montgomery Place Drainage Improvement Project Phase I (Caen Street, Dundonald Avenue, and Lancaster Boulevard) was tendered, awarded, and construction commenced. Construction completion is expected in 2022;
- Montgomery Place Drainage Improvement Project Phase II (southeast area of the neighbourhood) design was initiated; and
- East Riverbank spring reconnaissance and instrumentation monitoring for slope stability risk sites continued.

*Our Environment:* Protecting the river and its surrounding watershed is vital to the long-term sustainability of our water supply. The Wastewater Treatment Plant consistently met or exceeded all regulatory limits for effluent discharged to the river under the Water Security Agency's Permit to Operate a Sewage Works.

Achieving a balance between efficiency, renewable energy, and water conservation is part of an integrated approach to reducing emissions in the water system. In 2021, Saskatoon Water established an Energy Management Policy, baselines, benchmarks, and set energy goals for water and wastewater operations. The Wastewater Treatment Plant's new heating system upgrades will greatly increase the Plant's ability to utilize biogas for heating, and therefore, lowering the amount of natural gas consumed. A Water Conservation Strategy was under development in 2021 for Saskatoon.

The Storm Water Utility continued partnerships with USask to research storm water quality. A two-year research project assessing storm water quality at outfalls along the South Saskatchewan River concluded in 2021. In late 2021, USask and SW were successful in receiving funding for a research project to install trash trap nets at two outfalls along the South Saskatchewan River with further water quality monitoring. This project is expected to occur between 2022 and 2023.

*Our Finances:* Average monthly residential water-related utility bills of \$145.27 in 2021 (for ¾ inch meter) remain below average when compared to other major prairie cities. The Water and Wastewater Utilities are fully funded through user-pay fees based on fixed meter charges and volumetric water usage. The Storm Water Utility is funded through the Storm Water Management Charge based on property size and surface imperviousness to approximate run-off generated. The temporary Flood Protection Program fee continued to fund the Flood Control Strategy in 2021 and was phased out on December 31, 2021.

In 2021, the Utilities collected \$195.4 million in revenues and incurred \$190.4 million in expenses resulting in a net surplus of \$5.0 million. The Water Utility accounted for over

half, 52.3%, Wastewater accounted for 41.0%, and Storm Water accounted for 6.7% of total revenues. Compared to 2020, total water-related revenues in 2021 increased by 7.8% due to rate increases, population growth, and volumes sold due to hot dry weather, which contributed to the surplus.

Compared to 2020, the Utilities' total expenses increased by 8.9%, with increases in infrastructure levies, the Return on Investment paid to the City, and provisions for capital as well as Water and Wastewater Operations costs. In 2021, the Utilities contributed \$25 million to the City for Return on Investment and grants-in-lieu of taxes, which was a 7.1% increase from 2020.

In 2021, 51.1% (\$99.8 million) of total revenues was allocated to capital and infrastructure reserves to fund long-term Water (\$47.1 million), Wastewater (\$43.9 million), and Storm Water (\$8.8 million) asset replacements, expansions, and enhancements needed to meet future expected service levels and regulatory requirements.

The Utilities' operating surpluses of \$5.0 million for Water (\$2.1 million), Wastewater (\$2.6 million) and Storm Water (\$0.3 million) were allocated to stabilization reserves to pay for future revenue shortfalls or unexpected expenses, as well as capital reserves to fund long term capital. At the end of 2021, the Water and Wastewater Revenue Stabilization Reserve balance was \$8.7 million (the maximum cap). The Storm Water Stabilization Reserve balance was at \$1.4 million (85% of the maximum cap).

As of December 31, 2021, approximately \$215.1 million was allocated but not yet spent on active capital projects for Water (\$108.2 million), Wastewater (\$58.9 million), Water and Sewer Asset Preservation (\$28.9 million), and Storm Water (\$19.1 million). End-of-year Capital and Replacement Reserve balances totalled \$23.2 million for Water (\$7.9 million), Wastewater (\$5.4 million), Water and Sewer Infrastructure (\$3.4 million), and Storm Water (\$6.4 million).

*Our Challenges:* Some ongoing challenges that the Utilities continued to address include the following:

- Minimizing risks to reliable water services throughout the COVID-19 pandemic by optimizing occupational health and safety exposure control plans;
- Continuously improving operations to utilize resources as efficiently and effectively as possible to deliver the water, wastewater, and storm water service levels that citizens expect;
- Refining long-term strategies with funding plans to keep up with growth and to maintain and replace aging infrastructure based on lowest life cycle costs; and
- Adapting to climate change impacts and optimizing energy usage to reduce greenhouse gases.

## **OTHER IMPLICATIONS**

There are no other implications directly resulting from this information report.

## **NEXT STEPS**

The Water and Wastewater Utility and Storm Water Utility 2021 Annual Reports will be posted on the City's website and shared with applicable staff.

## **APPENDICES**

1. Water and Wastewater Utilities 2021 Annual Report
2. Storm Water Utility 2021 Annual Report

### **Report Approval**

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