

2019 ANNUAL REPORT

SANITARY SERVICING STRATEGY FUND

CITY PLANNING | JULY 2020

Message from the Chair

This is the 21st annual report of the Sanitary Servicing Strategy Fund (SSSF) program. Since the program's inception, the strategy has successfully encouraged growth and development in the city of Edmonton with its approach to financing the sanitary drainage network.

Here are some of the highlights you will find in this report:

- Details on completed and in-progress projects related to the North Edmonton Sanitary Trunk (NEST) and South Edmonton Sanitary Sewer (SESS) systems, and the commissioning and transfer of assets to EPCOR Drainage Operations
- Ongoing efforts to put a new governance structure in place for the management of the SSSF program, and working further to address a motion from the Executive Committee to fine tune the decision making process, provide opportunity for public input, and enhance Council oversight.
- An update on decisions related to revenue rates, corrosion protection, construction progress, and planning for upcoming projects
- The updated revenue and expenditure reporting to the end of 2019.

The closing balance of the fund at the end of 2019 was \$66.3 million as compared to the 2018 year-end balance of \$68.7 million. Considering the current balance and revenue forecast, we anticipate that the SSSF will be able to meet the short-term development needs within the city. Due to accelerated projected spending, the cash flow model shows a downward trend in the cash reserve in the medium term. Continued analysis and adjustments to the program will validate project timelines and we will always seek to optimize cash flow.

The focus in 2020 is completion of SESS Stage SW4 to support growth in Heritage Valley and Windermere neighborhoods. Work also continued on NC2/NC3 and SA10a tunneling projects, and the SW1 pump station upgrades. In addition to the construction projects, a second phase of the governance review will determine the appropriate governance structure to ensure oversight related to strategic decision making. Furthermore, a study will be commissioned to evaluate financing options to mitigate medium to long term potential risks that would result in a cash flow deficit.

It is a busy and exciting time for the SSSF program, and we look forward to the year ahead with all of its opportunities to evaluate and enhance our strategic approach to providing this essential city service.

Lindsey Butterfield, RPP, MCIP.
Director
Urban Growth & Open Space Strategy

Table of Contents

Message from the Chair	1
1.0 Planning & Construction Activities in 2019	3
2.0 SSSF Oversight Committee & Sub-Committees	10
3.0 Five Year Construction Plan	12
4.0 Fund Balance	14
4.1 Statement of Fund Activities & Balance	14
4.2 Five-year Cash Flow Projection	19

List of Tables

Table 1 – Statement of Fund Activities and Balance	15
Table 2 – Five-year Revenue and Expenditures Projection	20

List of Figures

Figure 1 – SSSF Major Sanitary Trunks Map	4
Figure 2a – NEST NC2/NC3, Phase 2 Tunneling	5
Figure 2b - NEST NC2/NC3, Working Shaft and Tunnel	5
Figure 2c – SESS SW4, Completed Tunnel	6
Figure 2d –SESS SA10a, Working Pit and Installation of Tunnel Boring Machine	7
Figure 2e – SESS SA10a, Construction of Pump Station	8
Figure 3 – 2019 SSSF Revenue Breakdown	16
Figure 4 – SSSF Historical Revenue Breakdown	17
Figure 5 – SSSF Historical Expenditures	18

1.0 Projects and Initiatives

The following are the highlights of planning and construction activities completed in 2019. Locations of these projects are depicted in Figure 1, SSSF Major Sanitary Trunks Map.

NEST - Stage N1 RTC Gate

The NEST N1 RTC gate will optimize downstream flows through utilization of storage in the upstream trunk.

The NEST N1 RTC Gate project involves the design and construction of a Real Time Control (RTC) gate at 153rd Avenue and Manning Drive. This gate will be used to regulate flows in the Clareview Sanitary Trunk (CST) through storage utilization in the upstream NEST segments.

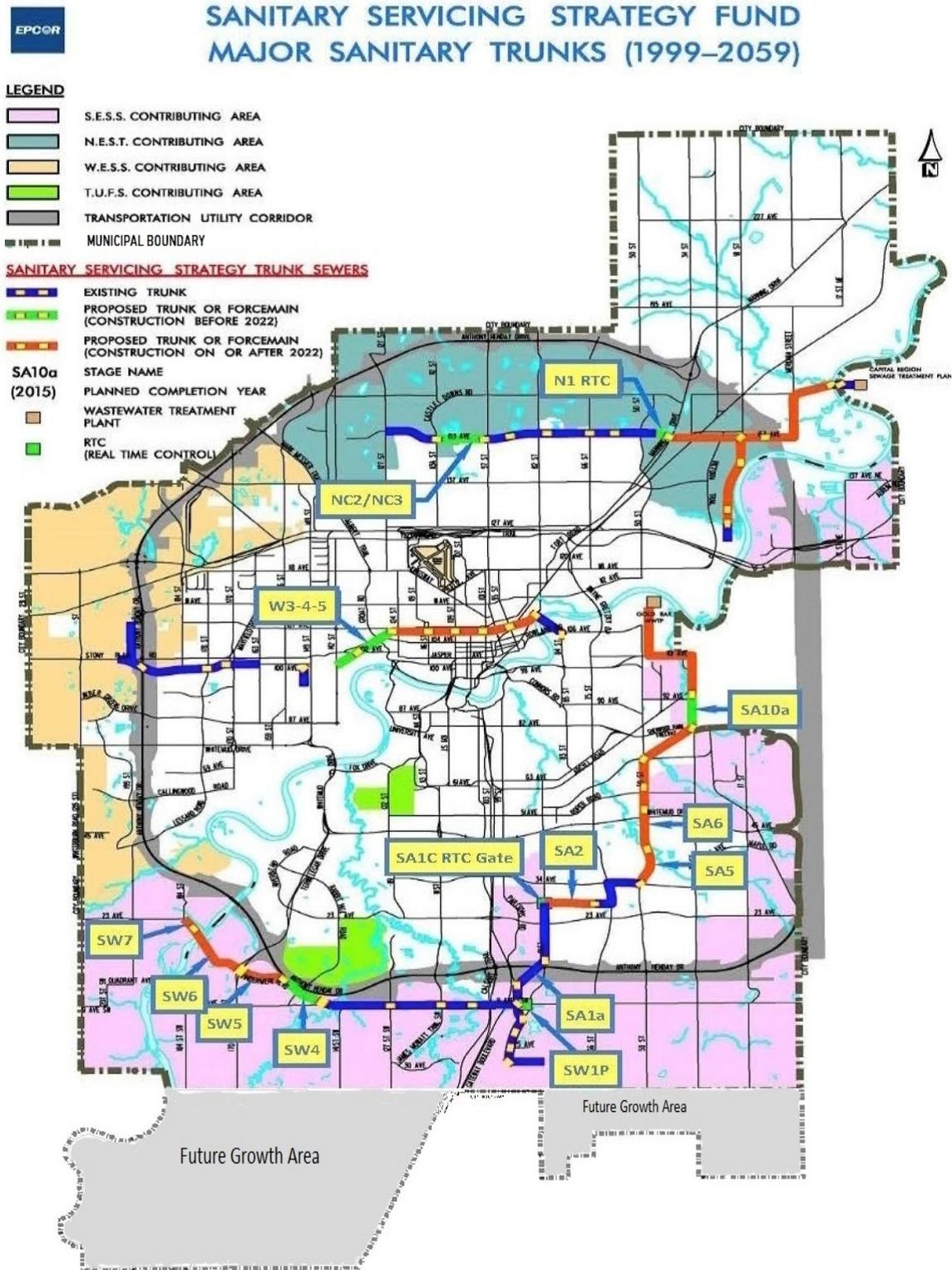
The SSSF Oversight Committee approved an additional budget of \$360,000 to meet the requirements of enhanced safety standards. The project was commissioned and the assets were transferred to EPCOR Drainage Operations in June 2019.

NEST - Stage NC2/NC3

NEST NC2/NC3 will connect the existing NC1 and NL1 trunk sections.

The NEST NC2/NC3 tunnel is part of the overall NEST system developed to facilitate growth in north Edmonton and to improve the existing system. The NC2 & NC3 segments will connect the existing NC1 section, which terminates at the NC1 Pump Station (153 Ave and Castledowns Road), with the NL1 tunnel (153 Avenue and 88 Street). Once completed, these segments will provide additional storage, improve conveyance and regulate the flows in the existing system.

Phase 1 was completed in 2019 and tunneling for phase 2 is ongoing. At the end of 2019, 1,820 metres of tunnel was installed for phase 2 out of a total planned length of 2,400 metres. The SSSF Oversight Committee approved a change order in the amount of \$693,000 to include the decommissioning of the NL1 pump station into the project's scope.



* Map shows the potential destination of the SESS system based on current information.

Figure 1 – SSSF Major Sanitary Trunks Map



Figure 2a – NEST NC2/NC3, Phase 2 Tunneling

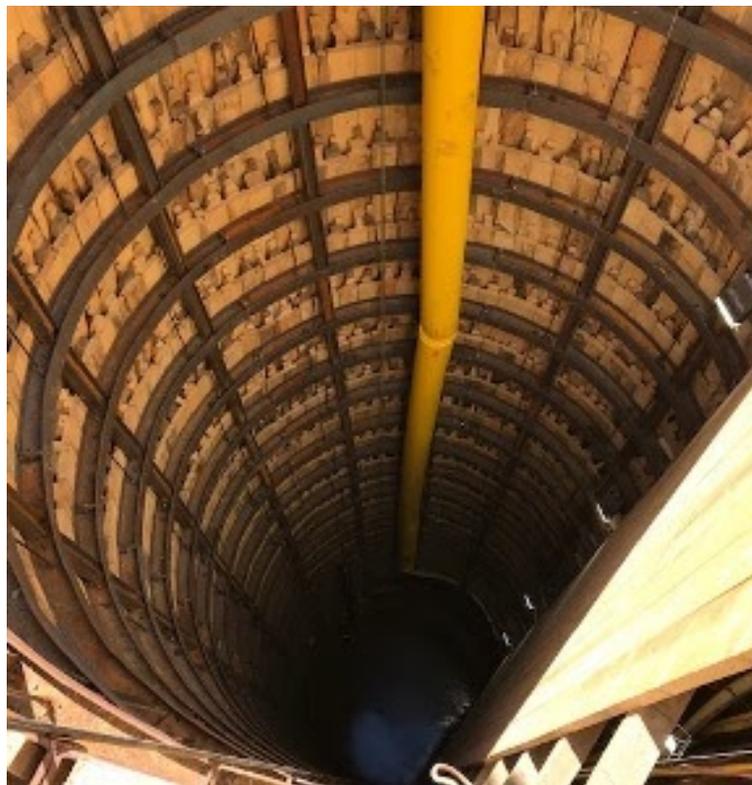


Figure 2b - NEST NC2/NC3, Working Shaft and Tunnel

SESS SW4 will convey flows and provide wet weather storage for new development areas in south Edmonton.

SESS – Stage SW4

South Edmonton Sanitary Sewer (SESS) Stage SW4 involves construction of a 1,550m long, 2940mm diameter tunnel. It starts upstream of the existing SW3 segment at Ellerslie Road (southwest at Whitemud Creek) and extends west toward Windermere Boulevard, (west of the Anthony Henday/Rabbit Hill Road interchange). This stage will improve conveyance and increase wet weather storage to support growth in south Edmonton.

The tunneling component of the project has been completed. However, the SSSF Oversight Committee has approved an additional \$5.6 million for slip lining to provide corrosion protection before the commissioning of this segment. EPCOR is in the process of procuring the slip lining material.



Figure 2c – SESS SW4, Completed Tunnel

SESS - Stage SA10a with Pump Station & Force Main

SESS SA10a is located in southeast Edmonton along 34 Street between 68 Avenue to 76 Avenue. The scope includes a 745m long,

SESS SA10a will provide sanitary storage and conveyance for south-eastern industrial areas.

3050mm diameter sanitary trunk, a pump station and a sanitary force main. In the short term, the SA10a segment will provide sanitary storage and conveyance to support new development for the Maple Ridge, Pylypow and South East Industrial Areas. However, this will eventually become the part of SA sanitary trunk system and will convey the flow from the SESS system to the wastewater treatment plant.

A working pit to launch the tunnel boring machine (TBM) has been constructed but tunneling was delayed because of excessive groundwater which created geotechnical safety concerns. Tunneling will be initiated in early 2020. Procurement for the force main and pump station contractor was completed in June 2019.

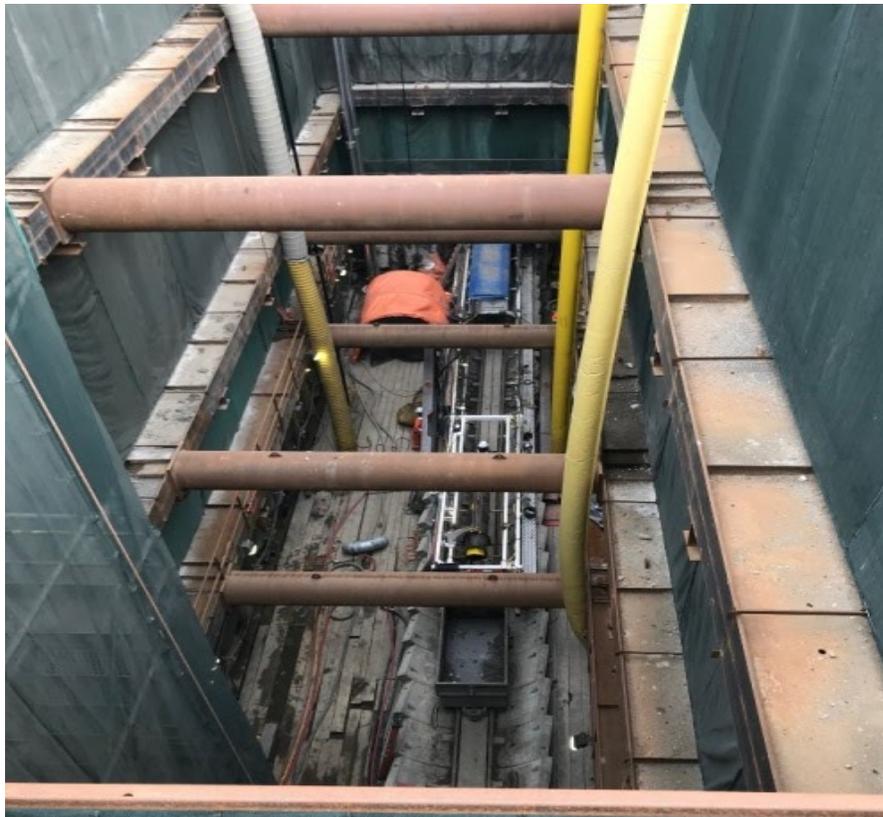


Figure 2d – SESS SA10a, Working Pit and Installation of Tunnel Boring Machine



Figure 2e – SESS SA10a, Construction of Pump Station

WESS W3-4- 5 Functional Planning Study

The WESS W3-4-5 Functional Planning Study was initiated to refine the alignment.

This study finalized the critical functional aspects and identified the preferred alignment of the W3-4-5 sanitary trunk segments. The knowledge will be used to coordinate construction and avoid alignment conflict with the 99 Avenue Sanitary Trunk Rehabilitation and Valley Line LRT Projects.

The study was completed in March 2019 and a report was presented to stakeholders.

SESS - SW1 Pump Station Upgrade

The SESS SW1 Pump Station Upgrade will support the needs of a growing population for the next 5-10 years.

This pump station discharges the flow from SW trunk to SA trunk and needs to be upgraded to address the increased flow. A study was completed in 2019 to develop the conceptual design for the expansion of the SESS SW1 Pump Station (PS). The expansion supports the next five to 10 years of population growth and will be limited to the capacity of the existing drywell. The SSSF oversight committee approved \$3.72 million to upgrade the SW1 PS. EPCOR is procuring a contractor for the design and construction.

SW5 will serve the Riverview and Windermere areas.

SESS – Stage SW5 Design

SESS Stage SW5 will be a 1,810m long, 2920mm diameter trunk along Windermere Boulevard from Terwillegar Drive to the west of the Anthony Henday/Rabbit Hill Road interchange. The segment will serve developments in the south, more specifically the Riverview and Windermere areas.

The SSSF Oversight Committee has approved \$650,000 to complete the preliminary design of the SW5 segment.

SSSF Financing study will help to identify different options to deal with potential cash flow problems.

SSSF Financing Options

A financing study was initiated at the end of 2019 to identify potential funding and financing options to mitigate future risks of a cash flow deficit in the SSSF reserve. A consultant was retained to conduct this study and a report will be presented to the Oversight Committee in the second half of 2020.

Governance Review Phase II assessed the options to improve Council oversight on SSSF decisions.

Governance Review Phase II and Public Engagement

As a second phase of SSSF governance review, a consultant was retained to determine the options to enhance City Council oversight over SSSF related decisions. A draft public engagement charter was also developed that will define the engagement opportunities for the SSSF Oversight Committee and which decisions require public input prior to advancing. Ultimately, the Public Engagement Charter will guide the circumstances when engagement will occur.

A report was presented to the Council in September 2019 with the recommendation of the preferred option of status quo with enhanced oversight along with a public engagement plan. Council asked the Administration to refine the preferred option and public engagement plan, and seek public input to inform the recommendation. A revised report will be presented to the Council once public engagement can commence and Council meetings resume.

SSSF Reserve Policy is at the development stage and will formalize the principles of the Fund.

SSSF Reserve Policy

In order to formalize the fiscal management and operating principles for the SSSF reserve, a consultant was retained to support the City in drafting a SSSF reserve policy. The policy is currently under development and expected to be finalized by early 2021.

2.0 SSSF Oversight & Sub-Committees

An updated governance structure for the SSSF program was implemented in the beginning of 2019. The new governance structure consisted of a SSSF Oversight Committee and two sub-committees, the Planning & Management committee and Finance & Audit committee.

The **SSSF Oversight Committee** acts as a strategic decision-making body and ensures the appropriate management of the fund. The Oversight Committee in 2019 consisted of the following six members:

Chair:

Lindsey Butterfield	Director, Urban Growth & Open Space Strategy, COE
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Members:

Mike Kohl	UDI Representative
David Kinders	UDI Representative
Wade Zwicker	UDI Representative
Richard Brown	Director, Drainage Planning & Engineering, EPCOR
Angella Vertzaya	General Supervisor, Growth Coordination, COE
Khalid Aziz	SSSF Program Manager, COE (Secretary & Non-Voting Member)

Major accomplishments of the Oversight Committees in 2019 include the approval of rate for 2020 and corrosion protection budgets for SW4, NC2/NC3.

The SSSF Oversight Committee met quarterly in 2019. The following are the major decisions approved by the Oversight Committee:

- Revenue rate increase of 3% for 2020.
- Provide corrosion protection for SW4 with a total budget of \$9.75 million.
- Design and construction of SW1 pump station (PS) with a total budget of \$3.72 million.
- Preliminary design of SW5 segment with the total budget of \$650,000.
- Decommissioning of NL1 pump station with a total cost of \$ 693,000.
- Completion of the SSSF 2018 Annual Report.

The purpose of the **SSSF Planning & Management Committee** is to manage the technical requirements of system planning and project management for the SSSF program. In 2019, the Planning & Management Committee was composed of following members:

Chair:

Angella Vertzaya / General Supervisor, Growth Coordination, COE
Khalid Aziz

Members:

Steve Jensen Manager, Drainage Planning, EPCOR
Neal Upshall General Supervisor, Development Coordination, COE
Leo Levasseur UDI Representative
Dylan Hunchak UDI Representative
Khalid Aziz SSSF Program Manager, COE
(Secretary & Non-Voting Member)

The **SSSF Finance & Audit Committee** acts in an advisory capacity and provides oversight and transparency to the financial management of the SSSF program. In 2019, the Finance & Audit Committee was composed of following members:

Chair:

Mike Kohl UDI Representative

Members:

Oliver Zakoc Director, Financial & Corporate Services, COE
Richard Brown Director, Drainage Planning & Engineering, EPCOR
Khalid Aziz SSSF Program Manager, COE
(Secretary & Non-Voting Member)

3.0 Five-Year Construction Plan

The following section outlines the proposed major SSSF construction projects for the next five years (2020-2024). The proposed program supports orderly development throughout the city of Edmonton in a cost effective manner using available population and employment projections, as well as input from the development industry. It also strives to meet the important objective of maintaining a positive balance for the SSSF. The locations of the construction projects are shown in Figure 2. All timings are estimated and subject to change based on funding availability and further technical analysis.

The SW1 pump station is planned for an upgrade to 400 L/s capacity in 2021.

SESS SW1 Pump Station (PS) Upgrade

A concept planning study was completed in 2019. The proposed upgrades are expected to increase the PS's capacity to 400 L/s. The project is expected to be completed by 2021.

SESS SW4 is expected to be completed by mid 2021.

SESS Stage SW4

The tunneling component was completed in 2018 and patching, cleaning, and dismantling works were completed in 2019. Corrosion protection works are expected to start in mid 2020. The project is expected to be complete by mid 2021.

SA10a is currently under construction with completion scheduled for late 2021.

SESS Stage SA10a with Pump Station & Force Main

Excavation of a working pit was completed in 2019 but commencement of tunneling was delayed because of a safety incident. Tunneling is expected to start in early 2020. Construction of the pump station and forcemain was started in 2019 and will continue in 2020. The project is expected to be complete by September 2021.

NEST NC2/NC3 Phase 2 tunneling is ongoing.

NEST Stage NC2 & NC3 - Phase 2

Tunneling for NEST NC2/NC3 Phase 2 is on-going. So far 1,820m out of 2,400m has been completed. The project is expected to be completed by June 2022.

SW5 will serve the Riverview and Windermere areas. Construction is expected to finish in 2024.

SESS Stage SW5

Preliminary design budget for SW5 was approved in 2019. Procurement of consulting services to complete the design is underway.

Construction is expected to start in 2021 with anticipated completion by the end of 2024.

SW6 & SW7 will serve the Riverview area.

SESS Stage SW6

SESS Stage SW6 will be a 1,300m long, 2920mm diameter trunk starting from Terwillegar Drive and Windermere Boulevard to the west end of the Windermere area. The segment will serve the Riverview area. Construction timing is subject to further assessment.

SESS Stage SW7

SESS Stage SW7 will be a 1,600m long, 2920mm diameter trunk planned to travel underneath the North Saskatchewan River and connect the Riverview area to the SESS system. Construction timing is subject to further assessment.

The SSSF is currently in good financial health and anticipated to fulfill its long term objectives. The Oversight Committee is continuously evaluating the potential risks to ensure the balance remains in the required range.

4.0 Fund Balance

Based on the current projections, the SSSF program is anticipated to be completed by 2059 with a fund balance of zero. The fund is currently in good health and expected to achieve its long term goals. However, there is a potential risk for the fund to go into a small deficit for a limited period between 10 to 15 years.

In 2017, the City conducted an SSSF Integrated Planning study. One of the main objectives was to refine the timelines of future segments based on recent growth forecasts. The analysis indicated that various segments need to be expedited in the short to medium term. Moreover, inspections of some recently built SSSF segments have revealed a significantly higher level of corrosion than initially anticipated. This triggered a need for corrosion treatment for the segments currently under construction and to explore other alternatives for future segments. This has the potential to considerably increase the overall program costs.

Based on the facts mentioned above, the trend analysis indicates there is a risk for the cash flow to enter a negative balance in the next 10 to 15 years. However, any potential deficit will be for a limited time and the fund will eventually recover and stay in good health in the long term. The SSSF management committees are exploring different options to overcome the risk of a potential deficit, including the innovative and efficient ways to fund the infrastructure. The program team, in coordination with EPCOR, is actively assessing development needs to optimize the construction timelines and accordingly the fund balance.

4.1 Statement of Fund Activities & Balance

The Statement of Fund Activities and Balance for 2019 is shown in Table 1. Figure 3 shows each revenue component as a percentage of the total 2019 revenues. Furthermore, Figure 4 depicts the historical SSSF revenue breakdown, whereas Figure 5 shows the historical SSSF budgeted and real expenditures.

Sanitary Servicing Strategy Fund Statement of Fund Activities and Balance For the Period Ending December 31, 2019				
	2018 Actual	2019 Actual	2019 Budget	2019 Variance
REVENUES				
Sanitary Sewer Trunk Charge- Single / Duplex Revenue	7,510,256	7,920,298	8,379,774	(459,476)
Sanitary Sewer Trunk Charge- Multi family Revenue	3,424,991	4,775,427	4,788,442	(13,015)
Sanitary Sewer Trunk Charge- Commercial / Industrial Revenue	697,001	1,472,354	1,197,111	275,243
Expansion Assessment	7,755,495	2,914,660	9,576,885	(6,662,225)
Sanitary Utility Contribution	1,300,000	1,300,000	1,300,000	0
Interest Earned	1,197,684	1,347,147		1,347,147
Total Revenues	21,885,427	19,729,885	25,242,212	(5,512,327)
EXPENDITURES				
NEST NC2/NC3	8,773,368	9,077,982	14,611,004	(5,533,022)
N1 RTC Gate	970,407	562,443	-	562,443
SESS SA1a	159,077	16,880	-	16,880
SESS SA1c RTC Gate	56,154	(2,930)	-	(2,930)
SESS SA10a	4,445,387	8,784,096	11,970,000	(3,185,904)
SESS SW4	8,693,797	3,474,217	5,620,939	(2,146,722)
WESS W1	-	384	-	384
Preliminary Studies	112,856	0	-	0
SW1 PS Upgrade Concept		15,084	660,582	(645,498)
W3-4-5 Functional Planning		94,033	909,251	(815,218)
Other COE (Note 1)	59,000	48,739	-	48,739
Total Expenditures	23,270,046	22,070,929	33,771,776	(11,700,848)
Opening Balance	\$ 70,045,884	\$ 68,661,265	\$ 68,661,265	\$ -
Excess of Revenues over Expenditures	\$ (1,384,619)	\$ (2,341,044)	\$ (8,529,564)	\$ 6,188,521
Ending Balance	\$ 68,661,265	\$ 66,320,221	\$ 60,131,701	\$ 6,188,521

Note1: This amount comprises cost for SSSF Governance Study and SSSF Financial Model Upgrade

Table 1 – Statement of Fund Activities and Balance

REVENUES:

Total revenues for 2019 were \$19,729,885 which is lower than the \$21,885,427 collected in 2018.

- **Sanitary Sewer Trunk Charge (SSTC)** – For 2019, SSTC revenues totaled \$14,168,078 which is higher by \$2.5 million than the \$11.6 million collected in 2018. Single-family/duplex developments contributed \$7.9 million in 2019 which was near the same as 2018. For the multi-family residential, total collection this year was \$4.8 million, which is \$1.4 million higher than 2018. The remaining SSTC revenues, \$1.5 million, was collected from commercial, industrial, and institutional development, double what was earned in 2018.
- **Expansion Assessment (EA)** - For 2019, the total EA collected was \$2.9 million compared to the \$7.8 million collected in 2018. The significant drop in EA revenue was partially due to delayed payment disbursement and also reflective of reduced development activities as a result of the economic slowdown.
- **Utility Contribution** – Total Utility contribution in 2019 was \$1.3 million, the same as recent years.

Total Revenue- \$19.7 million

SSTC Revenue- \$14.2 million

EA Revenue- \$2.9 million

Utility Revenue- \$1.3 million

Interest Earned- \$1.3 million

- **Interest Earned** – Total interest earned during 2019 was \$1.3 million, the rate of return remained at the same level.

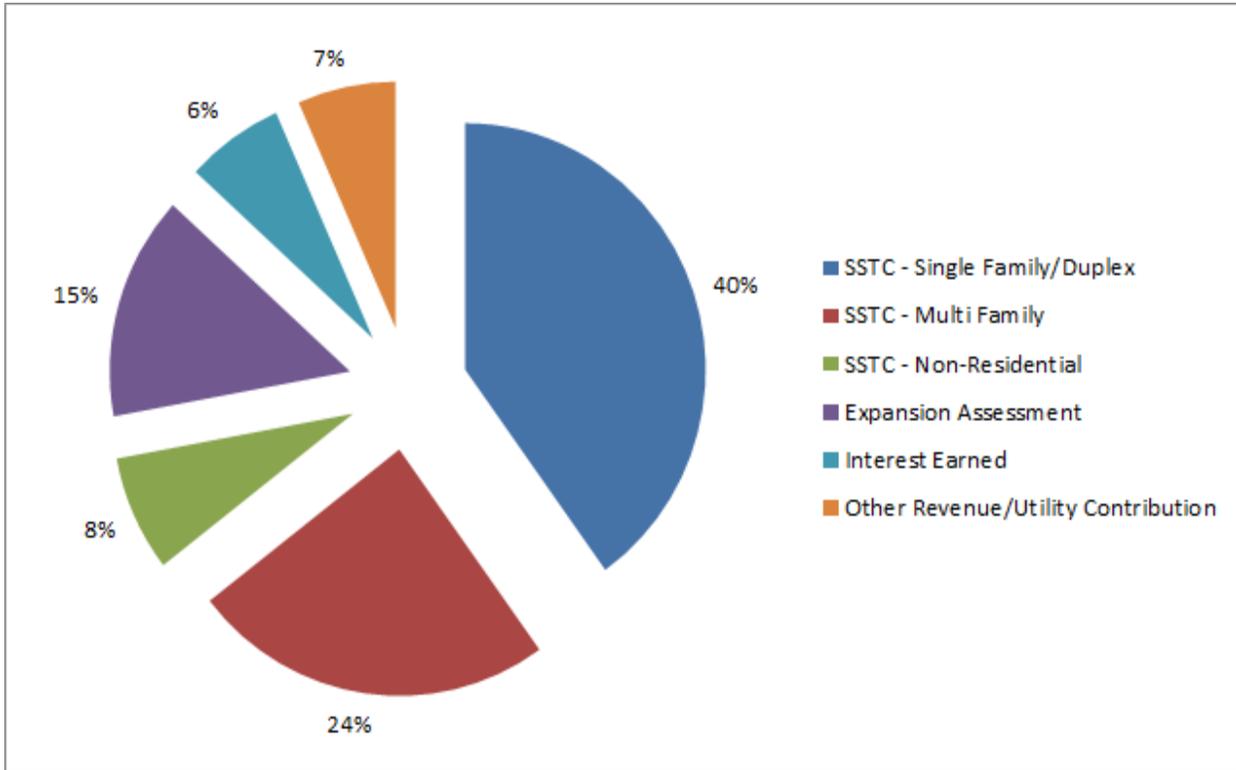


Figure 3 – 2019 SSSF Revenue Breakdown

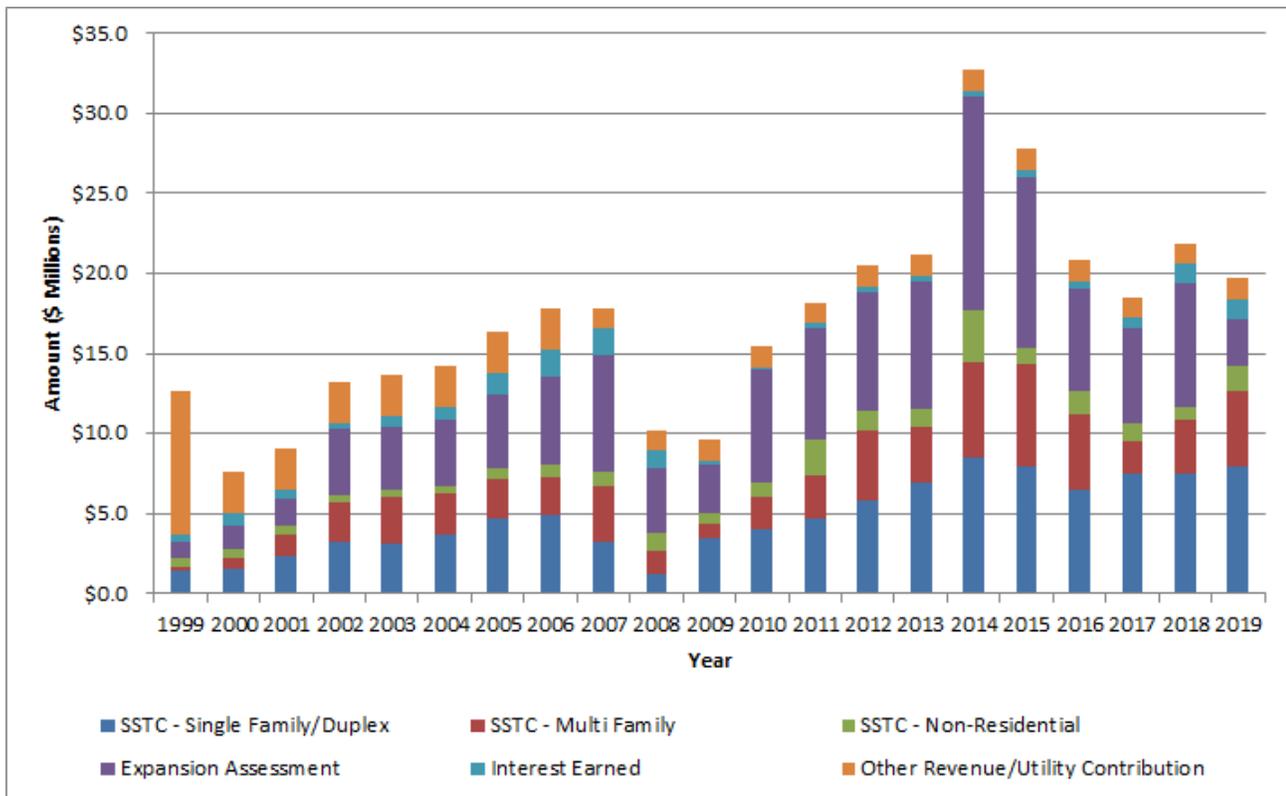


Figure 4 – SSSF Historical Revenue Breakdown

EXPENDITURES:

The largest expenditure item in 2019 was \$9.1 million for the construction of NEST Stages NC2 and NC3. In addition, \$8.8 million was spent on the construction of SESS Stage SA10A, while the remainder was mainly spent on SESS Stage SW4 and NEST Stage N1 RTC Gate, as well as planning studies including SW1 PS Upgrade concept study and the W3, 4, 5 Functional Planning Study.

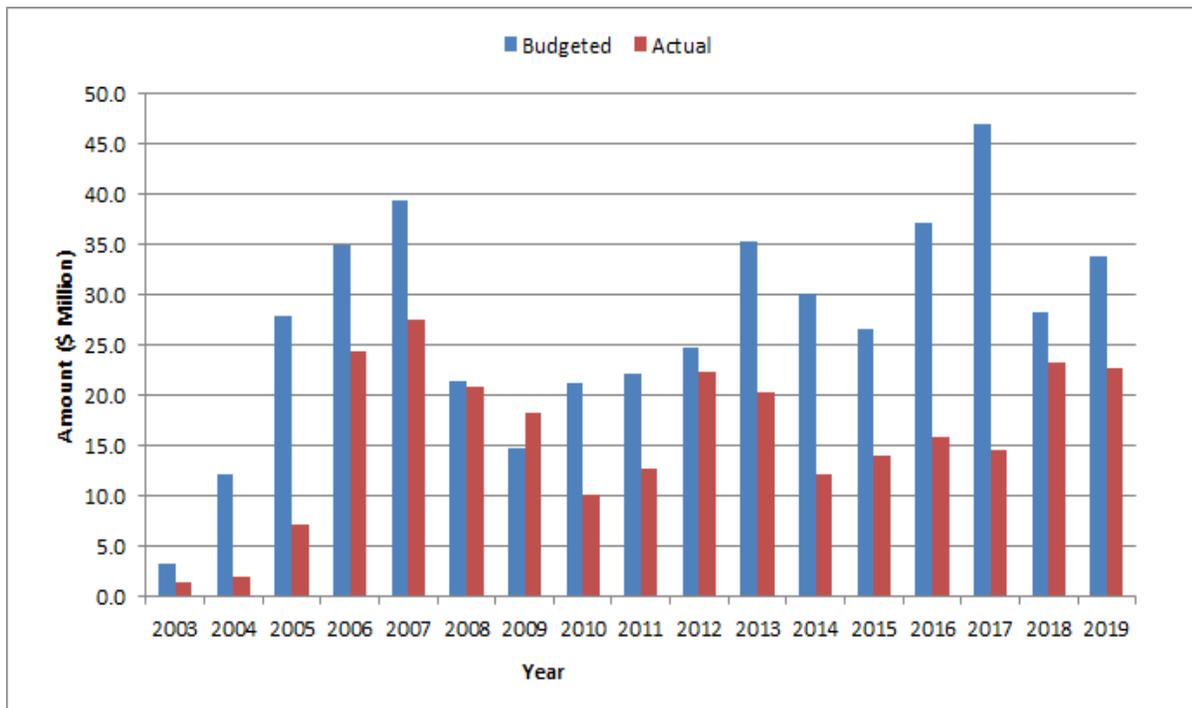


Figure 5 – SSSF Historical Expenditures

As of December 2019, the fund is committed to completing five projects that are currently under construction. The remaining cost for these five projects is \$58.4 million which is to be spent over the next four years. The committed cost of \$58.4 million is below the current fund balance of \$66.3 million. The complete expenditure projection can be seen in Table 2.

4.2 Five-Year Cash Flow Projection

Table 2 shows the five-year revenues and expenditures (2020-2024) projections for the SSSF based on the current cash flow model.

Revenues

Opening Balance for 2020 - The SSSF closing reserve balance as of December 31, 2019 was \$66.3 million.

Revenues and Expenditures for 2019 – These are based on actual values recorded.

Interest (2020 – 2024) – The interest rate was assumed at one percent per annum.

Utility Contribution – This amount represents contributions from the utilities for diversion of sanitary flows from the existing areas to the new trunk system constructed under the SSSF. These lands are located in Mill Woods and Castle Downs. The amount is calculated based on an estimate of the SSTC these lands would have to pay. Based on the results of the lot counts conducted in 2000, the Sanitary Utility (i.e. EPCOR) would make annual contributions of \$2.6 million to the SSSF until 2014. In March 2006, City Council approved the recommendation to change the Utility Contribution amount to \$1.3 million commencing on January 1, 2007. The contributions will be in place until 2023 per the current assessment.

Sanitary Sewer Trunk Charge – The SSTC is collected when an application is made for a development permit or sanitary service connection. This charge applies to all new development and redevelopment in the city.

The following are the SSTC rates for 2019 and 2020:

<u>Type of Development</u>	<u>2019</u>	<u>2020</u>
Single-family/Duplex Residential	\$1,662/dwelling	\$1,712/dwelling
Secondary, garage & garden suite	\$735/dwelling	\$758/dwelling
Multi-family residential	\$1,186/dwelling	\$1,222/dwelling
Commercial, Industrial & Institutional	\$8,311/ha	\$8,560/ha

Estimated SSTC revenues from 2020 to 2024 were based on the City's current development growth projections.

Expansion Assessment - The EA is an area-based assessment that is collected at the time of subdivision. The EA applies to those areas of the city that did not have an approved Neighborhood Structure Plan (NSP) before January 1, 1999.

There was a three per cent increase in 2020 revenue rates for both SSTC and EA. The 2019 and 2020 rates are as follows:

Contributing Area	2019	2020
North Edmonton Sanitary Trunk (NEST)	\$23,735/ha	\$24,447/ha
South Edmonton Sanitary Trunk (SESS)	\$23,735/ha	\$24,447/ha
West Edmonton Sanitary Sewer (WESS)	\$29,673/ha	\$30,563/ha

Expenditures

Estimated Construction Costs – Construction cost estimates for 2020 to 2024 were based on the updated segment costs provided as a result of recent planning studies.

SANITARY SERVICING STRATEGY FUND - 5 YEAR PROJECTION						
All values are in millions of dollars						
	2019 (Actual)	2020	2021	2022	2023	2024
Opening Balance	68.7	66.3	58.3	45.9	46.5	47.9
Total Revenues	19.7	16.1	15.6	16.6	18.9	20.4
Total Expenditures	22.1	24.1	28.0	16.0	17.5	15.9
Closing Reserve Balance	\$ 66.3	\$ 58.3	\$ 45.9	\$ 46.5	\$ 47.9	\$ 52.4
Construction Costs						
	Total 2020 - 2024	2020	2021	2022	2023	2024
SA10a Including PS & FM*	21.6	11.2	10.4	-	-	-
SW4*	10.2	5.3	4.9	-	-	-
SW1 PS*	3.7	1.2	2.5	-	-	-
NC2/NC3*	23.0	5.8	4.7	6.5	6.0	-
SW5	36.1	0.3	5.2	9.4	11.4	9.8
SW6	6.0					6.0
Preliminary Studies	0.8	0.3	0.3	0.1	0.1	0.1
Total	\$ 101.4	\$ 24.1	\$ 28.0	\$ 16.0	\$ 17.5	\$ 15.9

Table 2 – Five-Year Revenue and Expenditures Projection

For more information, visit our website:

www.edmonton.ca

Inquiries may also be directed to:

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