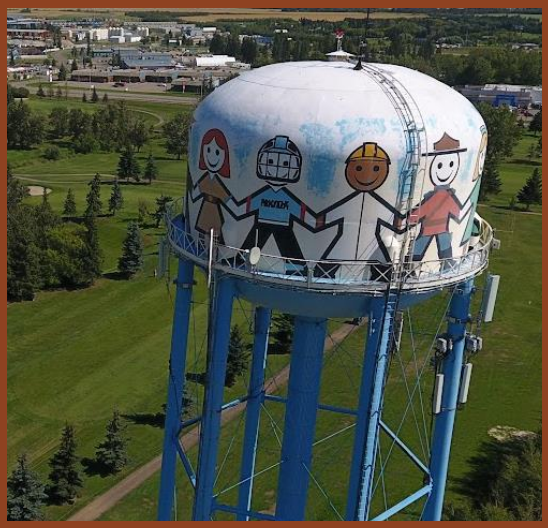

Utilities Growth Plan

2025-2029

City of Fort Saskatchewan Utilities & Sustainability

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Utilities Growth Plan 2025-2029

Executive Summary

The Utilities Growth Plan is a multi-year approach to bringing Utility staff and equipment for water and sewer operations to levels that meet growth demands. Consideration for additional resources was given to areas where pressure points need to be addressed. These pressure points include the meter installation and replacement programs, locate requests, preventative maintenance flushing and inspection programs, emergent issue response, and proactive asset repair and maintenance.

According to the City of Fort Saskatchewan Growth Plan, population growth is projected to reach 35,046 by 2033. Dow Chemical Canada recently announced the Path2Zero project which could result in an influx of 7,000 to 8,000 workers in the city over the next five to six years, potentially resulting in an above average amount of housing starts, and subsequent utility accounts.

To keep up with growth, the Utilities Growth Plan considers the following adjustments over the next five years:

- Improving functionality and reducing security risks by upgrading the SCADA system and establishing on-going support for the system (2025).
- Creating resilience within the Utilities team by incorporating a step progression program (2025).
- Addressing growing demand for inspections, repairs, and maintenance through additional funding for the contracted services and parts budgets (2025).
- Adding more resources for preventative maintenance programs and emergent work through the creation of new positions (2025 and 2026).
- Ensuring preventative maintenance programs capture newly developed areas through updates to network modelling (2026 and 2029).
- Adding more resources for seasonal maintenance programs through additional temporary hours (2028).
- Increase resources for the meter replacement program through the creation of a new position and procurement of a dedicated meter appointment van (2029).

The Utilities Growth Plan also recommends the following capital adjustments:

- Two new ½ ton trucks (2025 and 2026).
- Backhoe attachments (2027).
- Dedicated meter appointment van (2029).

The total operating costs of the 5-year plan is $454,454. This amount includes staffing, contracted services and operating impacts from capital program purchasing.

The total capital program investment is $417,853.

Introduction

The Utilities Growth Plan is a multi-year approach to bringing Utility staff and equipment for water and sewer operations to levels that meet growth demands. In 2024, Utility Operations reviewed growth and associated resources and created this Growth Plan to strategically meet service levels and operational requirements over the next five years.

Consideration for additional resources was given to areas where pressure points will need to be addressed. These include the meter installation and replacement programs, Alberta One-Call locate requests, preventative maintenance flushing and inspection programs, and proactive asset repair and maintenance.

This Plan focuses on growth needs within the water and sewer program areas and does not capture changes to the City's waste or Transfer and Eco Station programs.

Challenge/Community Need

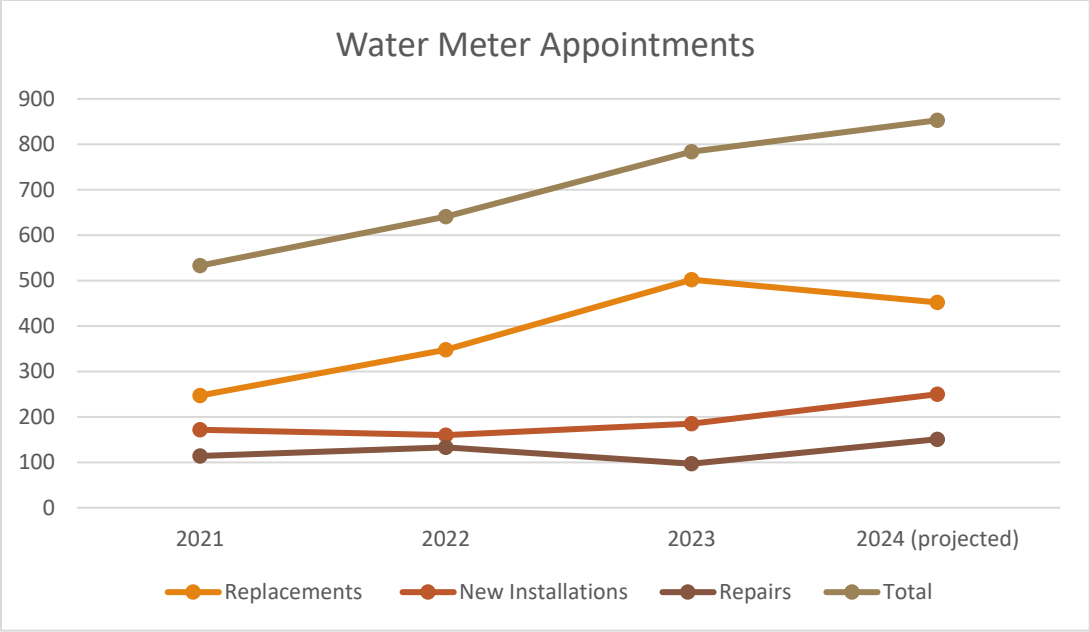
Population Growth

The vast majority of Fort Saskatchewan private parcels are connected to the water and sewer network. Each property increases the kilometres of pipe, number of hydrants, block valves, manholes, and water meters which the City maintains.

Over the last 10 years, from 2013 to 2023, Fort Saskatchewan's number of utility accounts increased from 7,380 to 9,818, an increase of 33%. With strong economic opportunities unfolding in the region, a similar growth trend is expected over the next 10 years.

Growth results in an increase in the inventory of items that Utilities installs and maintains. The following outlines the historical growth of some Utilities' assets and service requests since 2013.

Growth in Utility Accounts and Assets			
Area of Growth	**2013**	**2023**	**Change**
Utility Accounts	7,380	9,818	33%
Water + Sewer Main Lines (km)	252	272	8%
Hydrants	514	701	36%
Block Valves	1,043	1,420	36%
Sewer Manholes	1,202	1,508	25%
Buildings (Reservoirs & Lift Stations)	5	6	20%



Between 2024 and 2026, it is projected that Utilities will acquire new assets for installation or maintenance from development:

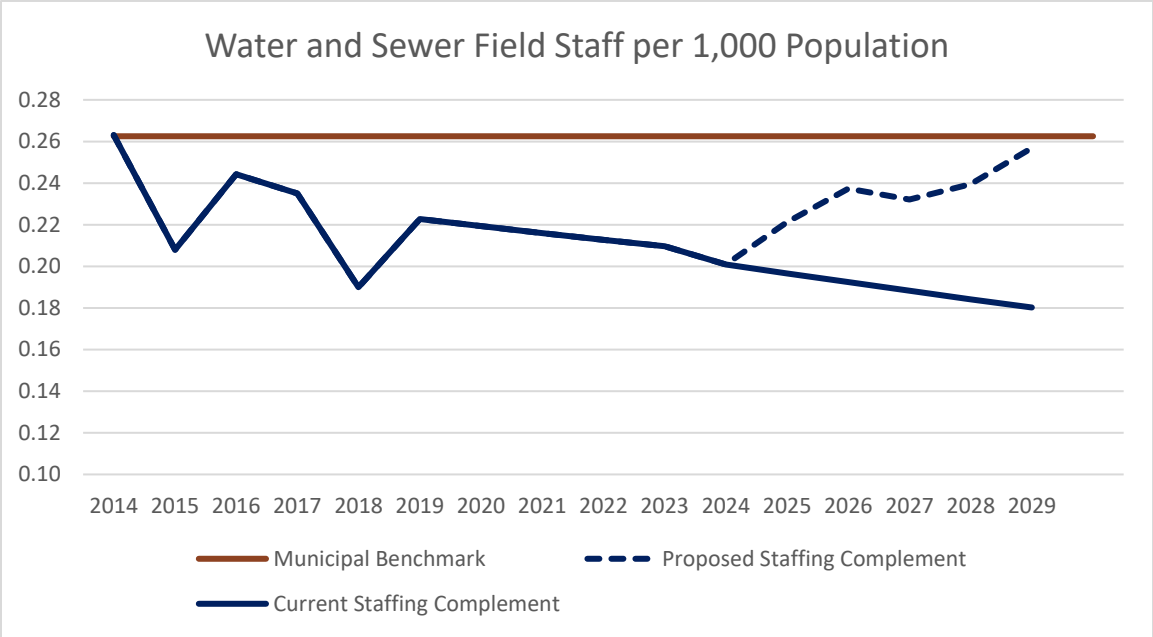
- Water meters – An additional 1,060 new meters are expected to be installed.
- Block valves – Approximately 110 additional block valves are expected to be incorporated into new developments.
- Hydrants – Approximately 26 additional hydrants are expected to be incorporated into new developments.
- Reservoirs & Lift Stations - Windsor Pointe lift station was added to Utility assets in 2024. Expansion of pumps within existing lift stations will be required to accommodate capacity for growing industry and development needs.

Staffing Resources

Administration reviewed municipal comparators to determine the average number of field staff per 1,000 population. Municipalities adjust to the needs of the community, and therefore Administration was selective in what municipalities were used for comparables. Four municipalities were identified that provide similar services and have comparable networks and infrastructure. The average among the municipal comparators was 0.26 staff per 1,000 people.

Municipality	Field Staff per 1,000 population
City of Beaumont	0.24
City of Leduc	0.25
City of St. Albert	0.28
Town of Stony Plain	0.28
Average	0.26

Fort Saskatchewan currently has 0.20 staff per 1,000 people (30% below the municipal benchmark). Assuming a 2.2% population increase, this number will decline to 0.18 staff per 1,000 people in 2029 (44% below municipal benchmark). The Utility Growth Plan introduces additional staff resources to address capacity constraints as population and utility infrastructure grow. The staff levels considered in the Utility Growth Plan will keep Fort Saskatchewan's staff to population ratio on par with regional comparators.



Program Focus- Overview

Over the next five years, several operational functions will require attention:

1. Capacity to address unplanned requests, repairs, and maintenance of utility assets and infrastructure.
2. Ability to sustain preventative maintenance service levels and improve future planning.
3. System-wide SCADA upgrades and intentional support.

Overall Demand and Resource Analysis

Utility Operators are accountable for a wide range of programs and share responsibilities on a rotating basis. This structure provides resiliency within the team and ensures the system functions smoothly.

The utilities network provides critical services that contribute to overall public health. Increasing capacity within the utilities team ensures resources are available to address immediate needs, while also ensuring assets are properly maintained. Below are some of the tasks, programs, and service levels for which the team is responsible:

Buildings

- The City's three reservoirs (including the water tower) are inspected five times per week, resulting in approximately 780 inspections annually.
- The three lift stations are inspected three times per week, resulting in approximately 468 inspections annually. Operators are also responsible for monitoring the pumps, valves, and controls within the lift stations.
- Water quality samples are taken eight time per week, resulting in 416 samples annually.

Water Meters

- The City's water meters have a lifecycle of 20 years. After this time, the meters' accuracy decreases and readings can underestimate water usage. Lifecycle replacement of 844 water meters will be required over the next five years, with preparation underway to replace an additional 6,181 in the following 10 years (1,196 to be replaced in 2030-2034, and 4,985 to be replaced in 2035-2039).
- Operators receive an average of 122-meter repair requests per year.

Valves

- Bleeder valves must be turned on and off on a seasonal basis, which results in 110 appointments per year.
- Bypass valves are checked once per year, resulting in 77 appointments annually.
- Block valves are exercised once every five years, which currently equates to 285 valve inspections each summer.
- A block valve that is found to be broken takes approximately one full day and three Operators to repair. Immediate repairs are vital to protecting residential homes and businesses, as well as to carry out the Uni-Directional Flush Program.

Hydrants

- Each hydrant is inspected twice per year to align with the National Fire Code of Canada, resulting in 1,402 hydrant inspections annually.

- Best practice suggests all hydrants should be completely dismantled and consumable parts replaced, if required, on a five-year rotation. Fort Saskatchewan is currently achieving this full inspection on a ten-year rotation.
- Each hydrant is painted once every five years.
- Operators are responsible for clearing snow from about twenty hydrants in the winter.

Requests

- Operators receive an average of 168 Alberta One-Call locate requests per month, with up to 300 requests per month during warmer months.
- Operators spend about 800 hours completing account work order requests for Utility Billing staff each year. An additional 200 hours is spent distributing disconnection notices.
- Operators receive an average of 248 miscellaneous service requests per year. Requests to turn a CC as well as water quality or pressure concerns are among the most popular.

Emergent Tasks

Some tasks, programs, and service levels are urgent or unforeseen, and staff hours vary yearly. An array of resource-consuming activities that have not been captured above include:

- Water main breaks and other unforeseen underground infrastructure repair projects.
- Trouble shooting for SCADA, instrumentation, and mechanical systems.
- Manual water meter reads at locations with technical issues.
- Inspections, meetings, and other support for development and capital projects.
- External inquiries and support (e.g. required inspections, builder inquiries).
- Internal inquiries and support (e.g. time-sensitive billing notices, miscellaneous support for emergency responses).

Utility Services staff are pulled in many directions and prioritize accordingly. When an emergency arises, meter appointments, preventative building checks, and maintenance programs are cancelled or postponed to address the immediate needs. These disruptions impact customer service, maintenance schedules, and proactive planning capacity. The recommendations in this Growth Plan are intended to progress the Utilities & Sustainability Department from a response-based model to a preventative maintenance and asset management-focused model.

5-Year Growth Plan Overview

The Utilities Growth Plan introduces new contracted and consulting services, staffing adjustments, and system upgrades into the City operational and capital budgets over a period of five years, starting in 2025.

The focus of the Growth Plan includes additional resources to maintain essential utility service levels and infrastructure, adapt programs for growth, and ensure the long-term security and sustainability of our water and sewer systems.

The Utilities Growth Plan considers the following operational staffing adjustments over the next five years:

- Adding two new operator positions
- Adding two new seasonal positions
- Implementing a step progression program to incentivize higher certification levels

Also, additional contracted and consulting services for inspection, flushing, maintenance, and repair programs and planning is recommended.

Capital requests include a system-wide SCADA upgrade, two new ½ ton trucks to support Operators, two new backhoe attachments, and a dedicate meter appointment van.

Year One- 2025

The Plan's first year will focus on additional contracted services for sewer maintenance programs and SCADA system support, additional funding for hydrant repair parts, an upgrade to the system-wide SCADA and a new staff position to help sustain essential utility services. Year one also adds resources to better recognize staff's professional development.

Contracted Services- $90,000 on-going ($60,000 for sewer programs and $30,000 for SCADA support)

Sewer line inspections, flushing, repairs, and maintenance activities are contracted out each year. A combination of inflation and growth have led to increasing costs for these services. To ensure sewer infrastructure continues to be properly maintained, allocating additional funding is recommended.

Additionally, an on-going agreement for specialized SCADA support is recommended to assist Operators and Information Technology staff when system errors occur. This specialized knowledge will ensure emergency calls at any time are addressed immediately and effectively.

Replacement Parts- $30,000 on-going

In addition to more hydrants being added throughout the city in new developments, repair costs for existing hydrants have increased due to a combination of inflation and aging infrastructure. This additional resource will be used to cover the increasing cost of components or parts that require replacement. Additionally, this budget will ensure small specialty tools (e.g. chlorine analyzers) and other pump station components can be maintained.

Staffing

One Permanent Full-Time Utility Operator- $97,755 on-going (2025: $74,279; 2026: $23,476)

An additional Utility Operator is required to maintain service levels as the asset inventory increases. The utility team is currently comprised of six permanent full-time operators (one foreman and five operators) and two seasonal labourers. Currently, there are sufficient hours to deliver programs that sustain present-day growth demands, asset maintenance requirements, and external requests for services. Preparing plans and materials for the day's work, travel time to/from the Public Works yard to sites throughout the city, demobilisation after tasks are completed, emergent issues, reporting, and planned absences (e.g. vacation) can prevent the team from completing all routine tasks. When an emergency arises, meter appointments, preventative building checks, and maintenance programs are cancelled or postponed to address

the immediate needs. These disruptions impact customer service, maintenance schedules, and proactive planning capacity.

Introducing a new Utility Operator will create capacity within the team to respond to emergent issues or requests without sacrificing productivity in other priority areas, such as planned asset management activities.

Step Progression Program – $20,000 on-going

Municipal water and wastewater systems are regulated by Provincial Codes of Practice. Operator qualification requirements are determined based on the size of the community. At a minimum, Fort Saskatchewan is required to always have at least one Level 2 Certified operator *and* one Level 3 Certified operator readily available. To ensure the City maintains compliance with the Code of Practice, a comprehensive review of Utility Operator qualifications will be completed in 2024.

A step progression program will recognize Operator qualifications in their compensation. This will create resiliency within the Utilities team by incentivizing staff to work towards higher certification levels while also better defining certification requirements for some positions. The step progression program will help ensure the City is able to meet regulatory requirements and increase staff retention as Operators advance their qualifications.

Capital

SCADA Upgrade- Capital: $100,000, Op. Impact: $5,000 on-going (2026)

SCADA systems relay information between station controls and sensors. This information is monitored by Operators who can make adjustments from their workstations. SCADA also stores data on parameters of interest related to water and sewer systems (e.g. water levels, pump hours) and can produce reports, display trends, and dispatch alarms if critical thresholds are reached. These systems alert Operators as soon as an issue arises and allow for troubleshooting regardless of where that Operator is in relation to the physical station.

A SCADA system upgrade is required to increase security and redundancy so that the water distribution system is more resilient and less susceptible to disruption. Some components of the current system are obsolete. Replacing these components will eliminate risks associated with outdated equipment and ensure current technologies are employed to meet critical public safety and public health deliverables.

One ½ Ton Truck - Capital: $90,000, Op. Impact: $16,665 on-going (2025: $4,570 and 2026: $7,500)

This truck will be assigned to the new Utility Operator and will be used to travel throughout the community responding to requests, completing inspection and locate requirements, and fulfilling other Operator tasks as required. Most routine work is completed by Operators independently.

The additional vehicle will ensure the team can cover more ground and get essential tasks done simultaneously.

Year Two – 2026

The Plan's second year will focus on updating the existing Uni-Directional Flushing Program and a new temporary staff position to support preventative maintenance programs. The purchase of an additional ½ ton truck is also scheduled to better support the operations staff.

Consulting Services- $20,000 one-time

The Uni-Directional Flushing (UDF) Program is essential to ensure water quality and safety requirements associated with the delivery of safe drinking water. An update to the City's UDF program and schedule is required to capture new developments. Windsor Pointe development is not included in the current five-year UDF program rotation, and annexation area developments will need to be considered. An update to the hydraulic models and flushing maps is recommended to include these new and anticipated developments and to ensure current processes remain effective.

Staffing

One Temporary Seasonal Labourer (22 Weeks) – $35,092 on-going ($26,992 for position costs and $8,100 for vehicle rental).

Temporary Labourers assist with preventative maintenance programs, hydrant inspections and painting, repair projects requiring excavation, valve exercising, and other essential tasks that do not require water or wastewater certification. This support allows programs and tasks carried out by certified Operators to continue without interruption, even when seasonal demands increase. Utilities is currently supported by two Labourer positions with additional support from Public Works staff when required. A new position will reduce the reliance on Public Works and provide additional capacity to meet service levels.

In addition to wages, a rental vehicle is essential to ensure this position can commute to job sites throughout the city while other team members complete tasks elsewhere.

Capital

One ½ Ton Truck - Capital: $93,000, Op. Impact: $17,028 on-going (2026: $4,570 and 2027: $7,725)

Most routine work is completed by Operators independently. The truck proposed for Year 2 matches vehicles with personnel, increasing the overall capacity within the team by enabling each Operator to travel to separate locations and respond to separate requests, allowing multiple tasks to advance simultaneously.

Year Three – 2027

The Plan's third year will see additions to equipment attachments that allow the Utility team to be more independent when completing repairs.

Capital

Backhoe Attachments – Capital: $37,000 ($16,000 for a tamper plate and $21,000 for a breaker); Op. Impact: $3,965 on-going (2028)

When underground infrastructure needs to be repaired, Operators typically undertake the required excavation work. Backhoe attachments are shared between the Utilities and Public Works departments. This can cause delays in repairs if the equipment is unavailable. Additionally, the existing attachments are not easily manoeuvrable for smaller utility repair jobs. Purchasing two right-sized attachments for Utility operations will increase responsiveness and improve manoeuverability.

Year Four – 2028

The plan's fourth year will create two distinct seasonal crews to maximize the preventative maintenance program efficiency. This will increase the team's overall capacity to meet service levels without impacting other programs.

Staffing

One Temporary Seasonal Labourer: $29,225 on-going

Temporary Labourers assist with preventative maintenance flushing programs, hydrant inspections and painting, repair projects requiring excavation, and other essential tasks that do not require water or wastewater certification.

This Labourer is the second seasonal position recommended in the five-year plan. By year four of the Growth Plan, seasonal programs will be supported by three temporary Labourers. This fourth seasonal Labourer will create two full teams of two, allowing the seasonal staff to work on multiple sites with greater versatility and independence, and providing increased opportunity for certified Operators to carry out activities that require higher certification or more experience.

Year Five – 2029

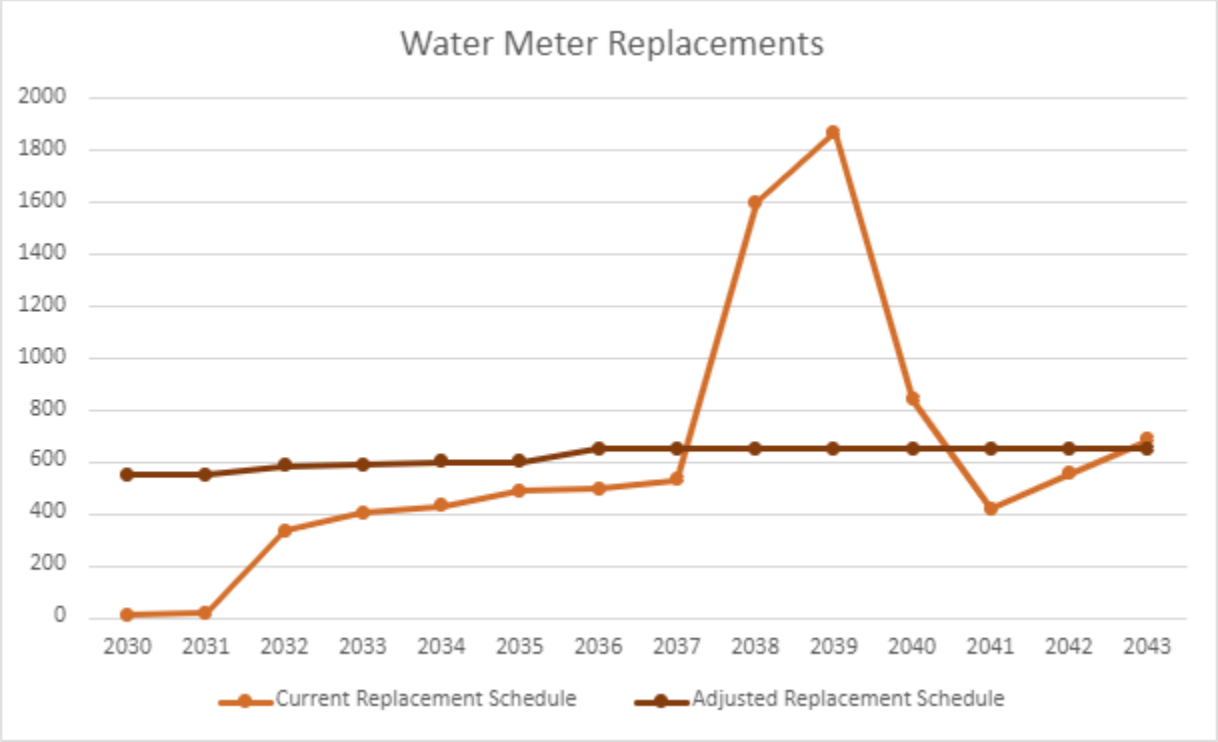
The plan's fifth year will add a new Operator position and a vehicle to assist with growth and lifecycle replacement of water meters throughout the community. The business unit will also start looking to proactively consider on-going updates to the SCADA system.

Staffing

One Permanent Full-Time Utility Operator: $99,852 on-going (2029: $74,889; 2030: $24,963)

An additional Utility Operator will be added to the department to maintain service levels and accommodate the increase in assets resulting from growth. In particular, this position will support a surge in lifecycle replacements for water meters.

Starting in 2018, as part of the reading technology upgrade project, over 1/3 of the City's meters were replaced over a brief period. Between 2030 and 2040, over 7,000 meters will need to be replaced. Most these replacements are scheduled for replacement between 2038 and 2040. An adjusted replacement schedule will help even out the number of appointments required each year, beginning in 2030. This will result in some meters getting replaced earlier than recommended. Adding a Utility Operator will double the team's appointment capacity, allowing for more water meter installations, replacements, and repairs to be completed each week, as well as providing an increased capacity to support the utility billing team and to respond to customer requests.



SCADA Sustainment Plan: $20,000 one-time

SCADA technology is constantly evolving, and systems must stay relevant to ensure the water management system continues to be secure and reliable. In 2029, a sustainment plan will be developed to prepare for future needs. This plan will look at system growth, updated technologies, and new security risks to inform future recommendations.

Capital

One Meter Appointment Van- Capital: $97,853, Op. Impact: $14,872 on-going (2029: $4,607 and 2030: $8,420)

This van will be dedicated to meter-related appointments and will allow supplies and materials to be stored inside the vehicle. Operators currently stock a truck with meter supplies each day. A customized van will help store more items, reduce preparation time in the morning, and help avoid back and forth travel to the shop when unexpected materials are required. As meter work increases, the conveniences of a van will help streamline the Operator's time to maximize appointment opportunities.

Summary- Utilities Growth Plan 2025- 2029

2025

- One new permanent full-time Operator position to maintain service levels in a growing community.
- Compensation adjustment ensuring Fort Saskatchewan can meet regulatory requirements for available operators.
- One new ½ ton truck to support the new operator.
- SCADA upgrade to increase system compatibility and security.
- Annual SCADA System Support services.
- Increase to contracted services and parts replacement budgets to reflect the impacts of inflation, growth, and aging infrastructure.

2026

- One new temporary Labourer position to help with seasonal preventative maintenance programs.
- One ½ ton truck to increase daily workload capacity.
- Rental vehicle budget to support the temporary labourer.
- Consulting services to update the City's existing UDF Program.

2027

- New backhoe attachments for utility repair projects, including a tamper plate and breaker.

2028

- One new temporary Labourer position to help with seasonal preventative maintenance programs.

2029

- One new permanent full-time Operator position to maintain service levels and replace water meters.
- One new van for meter appointments.
- Creation of a SCADA Sustainment Plan.

Operating Cost Forecast

The total operating cost forecast is $454,454 on-going and $40,000 one-time.

2025
$218,849 On-going: $90,000 in contracted maintenance and additional network monitoring through contracted services, $30,000 for parts, $94,279 in staffing costs, and $4,570 in operating impacts from capital.

2026
$75,638 On-going: $50,468 in staffing costs, $8,100 for a rental vehicle, and $17,070 in operating impacts from capital.

$20,000 One-time: Uni-Directional Flush Program Update.

2027
$7,725 On-going: Operating impacts from capital

2028
$33,190 On-going: $29,225 in staffing cost and $3,965 in operating impacts from capital.

2029
$79,496 On-going: $74,889 in staffing cost and $4,607 in operating impacts from capital.

$20,000 One-time: SCADA Sustainment Plan.

2030
$33,383 On-going: $24,963 in staffing cost and $8,420 in operating impacts from capital.

Operational Cost Impact of Utilities Growth Plan

OPERATION	2025	2026	2027	2028	2029	2030	Total
Staffing	$94,279	$50,468	-	$29,225	$74,889	$24,963	$273,824
Op. Impacts	$34,570	$25,170	$7,725	$3,965	$4,607	$8,420	$84,457
Contracted Services	$90,000	-	-	-	-	-	$90,000
Total On-going	**$218,849**	**$75,638**	**$7,725**	**$33,190**	**$79,496**	**$33,383**	**$448,281**
One-time	-	$20,000	-	-	$20,000	-	$40,000

Capital Cost Forecast

The total capital cost forecast is $417,853.

2025
$190,000; $100,000 for a SCADA system upgrade and $90,000 for ½ ton truck.

2026
$93,000: $90,000 for ½ ton truck.

2027
$37,000: $37,000 for two backhoe attachments (tamper plate and breaker).

2028
$0.

2029
$97,853: Dedicated meter appointment van.

Capital Cost Impact of Utilities Growth Plan

CAPITAL	2025	2026	2027	2028	2029	Total
SCADA System Upgrade	$100,000					$100,000
Two ½ Ton Trucks	$90,000	$93,000				$183,000
Two Backhoe Attachments			$37,000			$37,000
One Meter Appointment Van					$97,853	$97,853
Total	**$190,000**	**$93,000**	**$37,000**	**$0**	**$97,853**	**$417,853**