
DATE	MONDAY, MAY 27, 2024
SUBJECT	SERVICE DELIVERY REVIEW – ENVIRONMENTAL SERVICES
REPORT NO.	SDR-22

RECOMMENDATION

That Council of the Municipality of Greenstone approve the following:

1. **THAT** Council authorize the immediate engagement of an engineering consultant to assist the Municipality with complying with the following requirements of the CLI-ECA:
 - i) The preparation of an Assessment Report of Dry Weather Flows Compared to Wet Weather Flows.
 - ii) The preparation of an Operations and Maintenance (O&M) Manual to comply with the new Environmental Compliance Approval (CLI-ECA) for sewage works issued to the Municipality.
2. **THAT** Council authorize the preparation of separate By-laws to regulate Water Use and Sewer Use within Greenstone by a third party as a priority for enforcement by including the project in the 2025 Budget; and
FURTHER THAT Council direct Staff to review Greenstone’s water metering practices for inclusion in the Water Use By-law.
3. **THAT** Council direct the Drinking Water and Wastewater Financial Plan be updated by Corporate Services and Public Services staff in compliance with the DWQMS requirements no later than August 2025.
4. **THAT** Council direct Administration to schedule Standard of Care training for Council to take place by the end of September 2024.

SERVICE SUMMARY

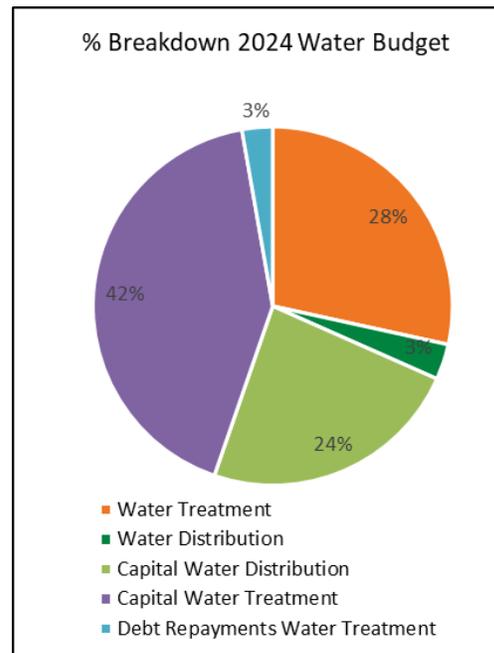
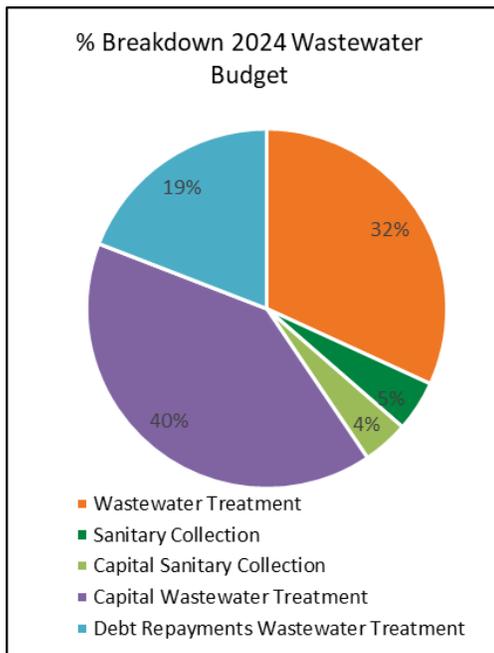
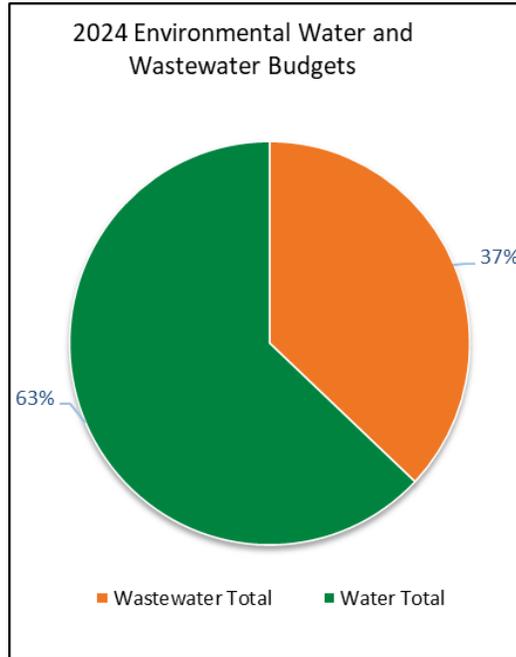
SERVICE	ENVIRONMENTAL SERVICES
DEPARTMENT	Public Services
SUMMARY	<p>Municipalities have broad authority to make improvements for the provision of water and sewer services. The extent of these services depends on various factors including statutory obligations, local by-laws, and community need. This report provides recommendations that adhere to regulations for water and sanitary sewer systems. A separate Service Delivery Review for Storm Water Management will address the storm sewer system.</p>
MANDATORY	<p>Ontario Water Resources Act, R.S.O. 1990, c. O.40</p> <p>Report by Director, water or sewage works 62 (1) Where a Director reports in writing to the clerk of a municipality that he or she is of the opinion that it is necessary in the public interest that water works or sewage works or any part thereof be established, maintained, operated, improved, extended, enlarged, altered, repaired or replaced, the municipality shall forthwith do every act and thing in its power to implement the report of the Director. R.S.O. 1990, c. O.40, s. 62 (1); 2001, c. 9, Sched. G, s. 6 (27).</p> <p>Safe Drinking Water Act, 2002, S.O. 2002, c. 32</p> <p>Duties of owners and operating authorities 11 (1) Every owner of a municipal drinking water system or a regulated non-municipal drinking water system and, if an operating authority is responsible for the operation of the system, the operating authority for the system shall ensure the following:</p> <ol style="list-style-type: none"> 1. That all water provided by the system to the point where the system is connected to a user's plumbing system meets the requirements of the prescribed drinking water quality standards. 2. That, at all times in which it is in service, the drinking water system, <ol style="list-style-type: none"> i. is operated in accordance with the requirements under this Act, ii. is maintained in a fit state of repair, and iii. satisfies the requirements of the standards prescribed for the system or the class of systems to which the system belongs. 3. That the drinking water system is operated by persons having the training or expertise for their operating functions that is required by the regulations and the licence or approval issued or granted for the system under this Act.

	<p>4. That all sampling, testing and monitoring requirements under this Act that relate to the drinking water system are complied with.</p> <p>5. That personnel at the drinking water system are under the supervision of persons having the prescribed qualifications.</p> <p>6. That the persons who carry out functions in relation to the drinking water system comply with such reporting requirements as may be prescribed or that are required by the conditions in the licence or approval issued or granted for the system under this Act. 2002, c. 32, s. 11 (1).</p>
<p>LEGISLATION</p>	<ul style="list-style-type: none"> • Safe Drinking Water Act, 2002, S.O. 2002, c. 32 O. Reg. 205/18 MUNICIPAL RESIDENTIAL DRINKING WATER SYSTEMS IN SOURCE PROTECTION AREAS O. Reg. 453/07 FINANCIAL PLANS O. Reg. 243/07 SCHOOLS, PRIVATE SCHOOLS AND CHILD CARE CENTRES O. Reg. 229/07 SERVICE OF DOCUMENTS O. Reg. 188/07 LICENSING OF MUNICIPAL DRINKING WATER SYSTEMS O. Reg. 242/05 COMPLIANCE AND ENFORCEMENT O. Reg. 128/04 CERTIFICATION OF DRINKING WATER SYSTEM OPERATORS AND WATER QUALITY ANALYSTS O. Reg. 248/03 DRINKING WATER TESTING SERVICES O. Reg. 172/03 DEFINITIONS OF 'DEFICIENCY' AND 'MUNICIPAL DRINKING WATER SYSTEM' O. Reg. 171/03 DEFINITIONS OF WORDS AND EXPRESSIONS USED IN THE ACT O. Reg. 170/03 DRINKING WATER SYSTEMS O. Reg. 169/03 ONTARIO DRINKING WATER QUALITY STANDARDS • Ontario Water Resources Act, R.S.O. 1990, c. O.40 • Clean Water Act, 2006, S.O. 2006, c. 22 • Environmental Protection Act, R.S.O. 1990, c. E.19 • Sustainable Water and Sewage Systems Act, 2002, S.O. 2002, c. 29 - Bill 175 • R.R.O. 1990, Reg. 358: SEWAGE SYSTEMS under Environmental Protection Act, R.S.O. 1990, c. E.19 • Nutrient Management Act, 2002, S.O. 2002, c. 4 • Lakes and Rivers Improvement Act, R.S.O. 1990, c. L.3 • Canadian Navigable Waters Act (RSC, 1985, c. N-22) • Fisheries Act (RSC, 1985, c. F-14) • Water Opportunities and Water Conservation Act, 2010, S.O.

	<p>2010, c. 19 - Bill 72</p> <ul style="list-style-type: none"> • Planning Act, R.S.O. 1990, c. P.13 • Municipal Act, 2001, S.O. 2001, c. 25 • Public Utilities Act, R.S.O. 1990, c. P.52 • Provincial Offences Act, R.S.O. 1990, c. P.33
BY-LAWS	<p>Corporate Policies:</p> <ul style="list-style-type: none"> • Water and Sewer Billing Collection Policy (RES 17-84 amended by By-law 23-14) (re: process for meter testing and replacement) • Water Meter Maintenance and Replacement Policy (RES 17-23) • By-law 18-20 Water and Sewer Infrastructure Maintenance Policy <p>Pre-amalgamation By-laws in effect:</p> <ul style="list-style-type: none"> • Township of Beardmore By-law 426, Township of Nakina By-law 10-76, and Town of Geraldton By-law 75-838 regulating the use of public and private sewers and drains, private sewage disposal, the installation and connection of building sewers, and the discharge of waters and wastes into the public sewer system; and providing penalties for violations thereof • Town of Longlac By-law 369 to control the discharge of sewer into the sewage system of the Municipality • Town of Longlac By-law 802 to enter into an agreement for water supply and sewage collection services by the Town to Reserve 58 • Town of Longlac By-law 810 to enter into an agreement for water supply and sewage collection services by the Town to Reserve 77 • Town of Geraldton By-law 99-2059 requiring owners of buildings in the Town of Geraldton to connect such buildings to the waterworks of the Municipality • Town of Geraldton By-law 88-1347 to regulate water supply and to prohibit the wrongful use of the Geraldton Water Supply System <p>Other Relevant By-laws:</p> <ul style="list-style-type: none"> • By-law 21-60 Greenstone Drinking Water Systems Financial Plan • Water and Wastewater Financial Plan 2015-2024 (RES 15-321) • By-law 20-06 Service Agreement between Ontario Clean Water Agency and the Municipality • By-law 22-86 adopt updated Asset Management Plan • By-law 22-15 adopt Official Plan • By-law 21-52 adopt Emergency Management Program and Plan • By-law 21-04 Prohibit the Use of Private Water Wells in the Beardmore Ward
FEES/CHARGES	By-law 24-16 to set the rates for water services and sewer services and to set a minimum charge for water and sewer usage for 2024.

2024 BUDGET SUMMARY

2024 Budget:

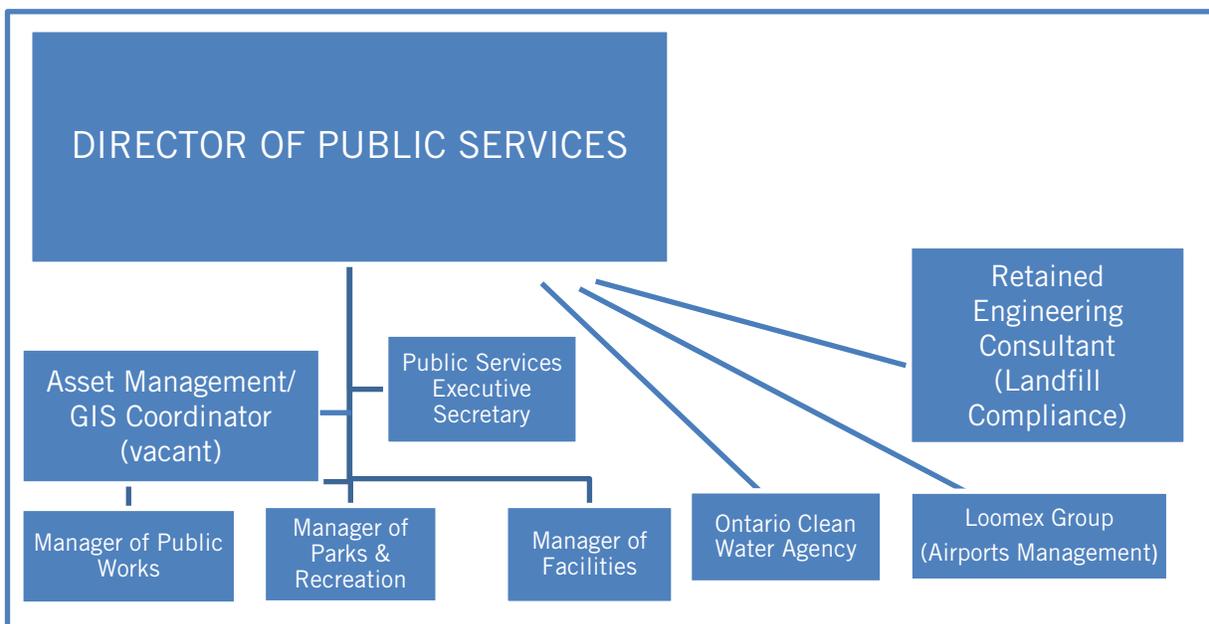


<u>Expenses</u>	
Wastewater Treatment	1,174,825.00
Sanitary Collection	168,325.00
Capital Sanitary Collection	152,500.00
Capital Wastewater Treatment	1,487,500.00
Debt Repayments Wastewater Treatment	704,925.00
Wastewater Total	3,688,075.00
Water Treatment	1,782,375.00
Water Distribution	200,900.00
Capital Water Distribution	1,480,000.00
Capital Water Treatment	2,629,400.00
Debt Repayments Water Treatment	172,800.00
Water Total	6,265,475.00
Total Expenses	9,953,550.00
<u>Revenues</u>	
Provincial and Federal Grants	1,785,880.00
Reserve Funds	913,620.00
User Fees	5,157,300.00
Debt	1,440,000.00
Transfer from Levy	656,750.00
Total Revenue	9,953,550.00

STAFFING

Drinking water and sanitary sewer services is categorized as Environmental Services in the municipal budget, however from a human resources/organizational perspective the management responsibilities for these services is less transparent, falling under the duties of the Director of Public Services. The Director is tasked with oversight of multiple operational groups and is directly responsible for certain management responsibilities for Environmental Services, particularly those associated with regulatory compliance and capital project management, in coordination with Ontario Clean Water Agency. Figure 1 shows the reporting structure to the Director.

Figure 1. Operational reporting relationships of the Director of Public Services

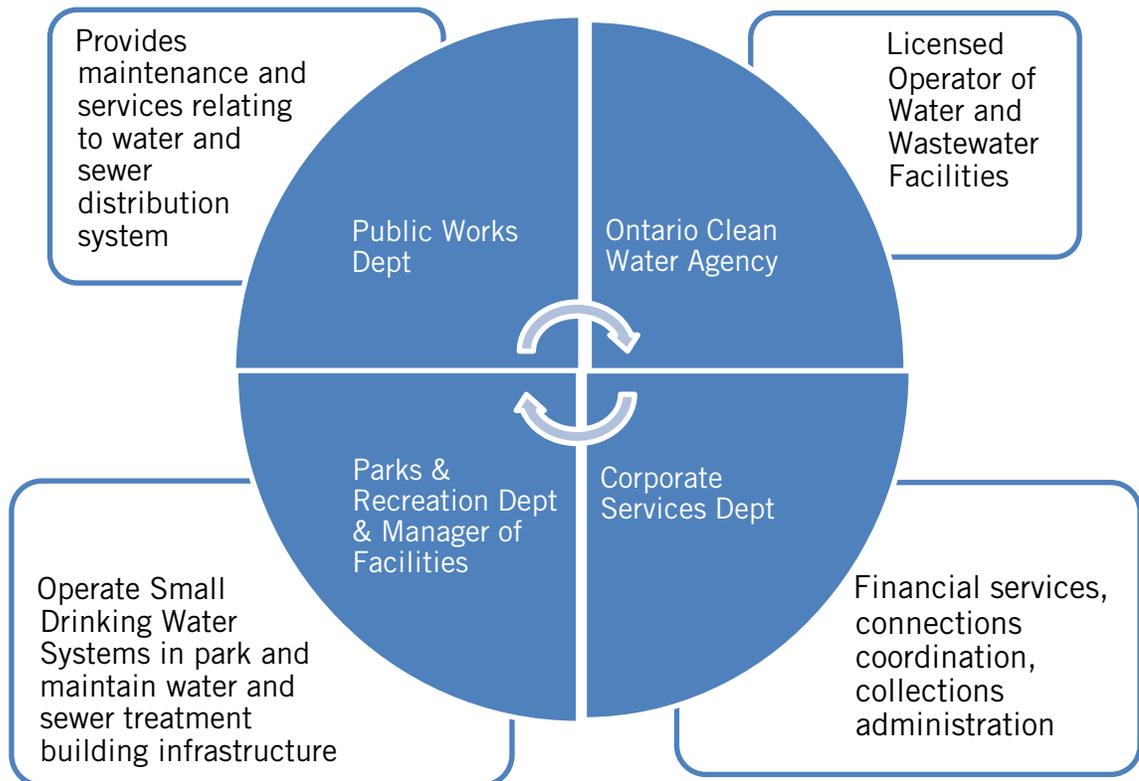


The operational responsibilities for Environmental Services are divided between in-house service provision through the Public Works Department and contracted services with Ontario Clean Water Agency.

The following is a staff breakdown of designated operating responsibilities:

- OCWA is contracted to operate municipal water treatment facilities in Beardmore, Caramat, Geraldton, Longlac and Nakina, and maintain drinking water quality standards throughout the distribution system. OCWA is also contracted to operate and maintain the Municipality's sewage treatment facilities and systems in accordance with site specific requirements.
- Capital Projects are administered collaboratively between the Public Services Department Management Team and the OCWA Northwestern Hub Management Team.
- Parks & Recreation staff operate the small drinking water system at Poplar Lodge Park and must be certified to do so. OCWA assists with the operation and conducts testing prior to the operating season.
- The Manager of Facilities is responsible for treatment plant building maintenance and repairs and ensuring the maintenance of septic systems associated with municipal facilities.
- Public Works staff or contractors perform activities associated with the maintenance and repair or replacement of public water and sewage works infrastructure to maintain services.
- Water service administration involves Corporate Services staff in each Ward Office.
- Council determines an expansion or reduction of water and sewer service, utility rates, by-laws, policies and programs.

Figure 2. General organizational structure for the management of Environmental Services



The organizational workforce numbers are presented as Table 1, 2 and 3.

Table 1. Public Works Staff Positions Assigned by Location

Ward	Supervisor/Foreman	Operators	Labourers	Total FT Staff
Beardmore	1 Foreman	1	0	2
Geraldton	1 Supervisor	6	1	8
Longlac	1 Supervisor	6	1	8
Nakina	1 Foreman	1	1	3
*Does not indicate current staff vacancies				

Table 2. OCWA Operational Staff Positions Assigned by Location

Ward	O&M Team Lead	Operators
Beardmore		2
Geraldton		4
Longlac/Caramat		4
Nakina		1
*Does not indicate current staff vacancies		

Table 3. OCWA & Municipal Management Positions

Location	Senior Management	Management	Administration	Total FT Staff
OCWA	Senior Operations Manager (1)	Process & Compliance Technician (1)	Administrative Assistant (1)	3
Municipality	Director of Public Services (1)		Executive Secretary (1)	2
*Does not indicate current staff vacancies				
** OCWA Corporate (Provincial Team) supports Capital Projects				

SERVICE BACKGROUND

It is important to note that legal responsibilities under drinking water legislation are expressly extended to people with decision-making authority over drinking water systems, including Mayor and Council, and those who oversee the accredited operating authority for the systems to safeguard drinking water quality. More information about legal responsibilities and the Standard of Care for drinking water systems is available at: <https://www.ontario.ca/page/taking-care-your-drinking-water-guide-members-municipal-councils>

The MUNICIPALITY is the “Owner” of 5 municipal drinking water systems. Under the Safe Drinking Water Act, 2002, members of municipal council and municipal officials who provide oversight to the Municipality also provide oversight or exercise decision-making authority in respect of the drinking water systems it owns. They are responsible for having policies, management tools and processes in place so that the Municipality meets all its legislative and regulatory requirements under the Safe Drinking Water Act, 2002.

ONTARIO CLEAN WATER AGENCY (OCWA) is the designated “Operating Authority” for the Municipality of Greenstone. OCWA is the entity that is given responsibility by the owner for the day-to-day operations of the drinking water system, its management, maintenance, or alteration. A municipality may take on this operational role through its own staff or it may choose to contract it out to a third party (e.g. by hiring an accredited operating authority). **The statutory standard of care continues to apply to municipalities that contract out this role to a third party.** Ontario Clean Water Agency, as contracted by the Municipality, reports directly to the Director of Public Services. Together they are the Municipality’s liaisons with the regulating authority, the Ministry of the Environment, Conservation and Parks (MECP).

Prior to legislative changes in the early 2000’s, the local community water and sewer

systems were owned and operated by the Ministry of the Environment. Like most municipalities, Greenstone depends on a hybrid of internal resources supplemented by contracted expertise. Ontario Clean Water Agency has a municipal clientele of 170 municipalities in Ontario. The Municipality of Greenstone is engaged with OCWA for operating services until 2029, upon which the initial term of the agreement may be renewed.

OCWA manages day to day operations of water and sewer treatment and distribution (routine operation and maintenance). Specialized maintenance and inspection services are contracted to external firms, such as potable dive inspections, plumbing, electrical and SCADA programming matters. OCWA also carries out management activities that include oversight, coordination and administrative functions, and the handling of regulatory matters and reporting to the Ministry of Environment, Conservation and Parks (MECP).

The water treatment plant system is automated by SCADA (supervisory control and data acquisition) to provide consistent reliable operation of the plant. Although automatic control reduces manual operating function and operating costs, it is essential that the processes and equipment are visually inspected and monitored by operations staff.

Operation staffing levels are dictated by the requirement of legislation. The facility classifications are the determining factor in the level of certifications required by the operating group, while the DWQMS requires that a staffing contingency plan is in place to ensure qualified staff are always available.

Key Acts and Regulations which water system owners and operators are subject to include:

- *Safe Drinking Water Act, 2002* (SDWA) which set the framework for safe drinking water in Ontario. It is based on a multi-barrier approach to clean water including water source protection from contamination; effective treatment; frequent and comprehensive testing; vigilant monitoring and reporting; the training and competence of waterworks operators; a secure distribution system; and a quick response when problems are found. Key components include drinking- water quality standards, licensing for water-testing laboratories, approvals process for private water supply systems, duties on owners, operating authorities and laboratories to immediately report adverse water tests, enforcement mechanisms, and an annual drinking-water report published by the Minister.
- Regulations under the Act that must be adhered to by the Municipality include: Ontario Drinking Water Quality Standards (DWQMS) Regulation (O. Reg. 169/03), Drinking Water Systems Regulation (O. Reg. 170/03) as amended, Compliance &

Enforcement (O. Reg. 242/05), Drinking Water Testing Services Regulation (O. Reg. 248/03), Certification of Drinking-water System Operators & Water Quality Analysts (O. Reg. 128/04), Financial Plans Regulation (O. Reg. 453/07) which includes requirement for water and wastewater system owners to move towards the goal of sustainable financing of the full asset life-cycle, and Licensing of Municipal Drinking Water Systems (O.Reg. 188/07).

- *Clean Water Act, 2006*, which together with the *Safe Drinking Water Act, 2002* captures the multi-barrier response recommended by the Walkerton Inquiry. The Act seeks to protect sources of municipal residential drinking water systems by establishing multi-stakeholder, decision-making source protection committees which include municipalities. The committees are responsible for developing source water protection plans and for ensuring that activities (e.g., municipal planning decisions), conform to that source water protection plan.
- *Water Opportunities and Water Conservation Act, 2010* intends to foster innovative water, wastewater and stormwater technologies, services and practices in the private and public sectors; create opportunities for economic development and clean-technology jobs in Ontario; conserve and sustain water resources for present and future generations; and prepare sustainability plans for municipal water, wastewater and stormwater services.
- *Infrastructure for Jobs and Prosperity Act, 2010*, specifically O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure which was enacted under the Act. For the Municipality this regulation applies to all municipal assets, but a major component is focused on the Municipality's \$100 million in assets that relate to the collection, production, treatment, storage, supply or distribution of water. Steps to incorporating responsible asset management include establishing strategic asset management policies and developing increasingly sophisticated asset management plans and technical service level targets. For the Municipality it also means adopting preventive and predictive maintenance procedures to protect those assets.

An Environmental Compliance Approval (ECA) is issued by the Ministry of Environment, Conservation and Parks (MECP) for each of the Municipality's water treatment and sewage treatment facilities. An Environmental Compliance Approval (ECA) is a permission that allows a municipality to operate their facility or site with environmental controls that protect human health and the natural environment.

New legislation introduced the Municipal Consolidated Linear Infrastructure ECA (CLI ECA) to replace the numerous pipe-by-pipe ECAs that were previously issued for components of a municipal sewage collection system and municipal stormwater management system. In 2023 the Municipality applied for and received its new CLI ECA. The permit requires several actions to be undertaken by the Municipality. Specifically, under Schedule E: Operating Conditions, the ECA prescribes the following:

- 1) By February 17, 2024 develop and implement O&M Manuals as prescribed.

This report recommends the engagement of an engineering consultant.

- 2) By August 17, 2024 provide an assessment report on wet weather flows compared to dry weather flows for a 10-year period from January 1, 2012 and ending December 31, 2021.

This report recommends the engagement of an engineering consultant.

- 3) By February 17, 2026 install permanent signage at overflow/bypass locations.

This will be included in the 2025 Budget.

KEY PERFORMANCE INDICATORS

Due to the high degree of regulation requiring ongoing monitoring within the operating environment of water and wastewater facilities, certain performance metrics are easily obtained. OCWA regularly reports on the following technical levels of service.

- 1) Total m³ of wastewater treated
- 2) Total m³ of wastewater bypassing treatment
- 3) Total m³ of drinking water treated
- 4) Total number of water main breaks
- 5) Total number of backed up wastewater mains
- 6) Number of water quality complaints
- 7) Incidents of non-compliance

The Municipality provides the following community levels of service:

- 1) Maps of water and sanitary sewer areas of service.
- 2) Maps of fire flow areas of service.
- 3) Notification of boil water advisories and service disruptions.

ASSET USE

The Municipality of Greenstone provides water and sewer services within its communities as follows. With the exception of the newer Caramat facility, all of the treatment plants were built in the 1970's, and much of the facility operating components are original. For example, the filtration system of the Longlac water treatment facility is being upgraded this year and involves removing the exterior building wall to remove and replace the units. The facilities are not alike, and some have different treatment processes associated with them.

	Beardmore	Caramat	Geraldton	Longlac	Nakina
Water Treatment Facility and Distribution System	X	X	X	X	X
Including storage tower			X	X	
Sewage Lagoon System and Distribution System	X				
Sewer Treatment Facility and Distribution System			X	X	X
Septic Field System		X			
Sludge Drying Beds			X	X	X

Detailed information about facilities and infrastructure and their condition is available in the Asset Management Plan. The Asset Inventory and Replacement Costs for the Water Network and Sanitary Sewer Network are provided below for reference.

Water Network

The water services provided by the Municipality are overseen by the Environmental Services Department and the Ontario Clean Water Agency (OCWA). The department is responsible for the following:

- Water Treatment Plant/Distribution System
- Pump stations
- Water towers and wells
- Hydrants and valves

5.1.1 Asset Inventory and Replacement Cost

The table below includes the quantity, replacement cost method, and total replacement cost of each asset segment in the Municipality's Water Network inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Hydrants	297	CPI Tables	\$1,311,376
Pump Houses	5	CPI Tables	\$187,673
Towers	6	CPI Tables	\$5,322,783
Valves	70	CPI Tables	\$544,894
Water Equipment	175	90% CPI Tables, 10% User-defined	\$10,634,354
Water Mains	<i>53,474m</i>	Regional Cost Estimates	\$27,717,108
Water Treatment Plant	37	CPI Tables	\$9,053,487
			\$55,069,085

CPI = Consumer Price Index

Source: Municipality of Greenstone Asset Management Plan

Sanitary Sewer Network

The sewer services provided by the Municipality are overseen by the Environmental Services Department. The department is responsible for the following:

- The Wastewater Treatment Facilities/Collection System
- Lift Stations and Valves
- Manholes

5.1.8 Asset Inventory and Replacement Cost

The table below includes the quantity, replacement cost method, and total replacement cost of each asset segment in the Municipality's Sewer Network inventory.

Asset Segment	Quantity	Replacement Cost Method	Total Replacement Cost
Lift Stations	37	CPI Tables	\$1,734,242
Manholes	446	CPI Tables	\$2,294,035
Pumps	34	CPI Tables	\$362,780
Sanitary Equipment	111	CPI Tables	\$7,836,716
Sanitary Mains	46,259m	CPI Tables	\$25,373,367
Sanitary Treatment Plant	54	CPI Tables	\$11,816,979
Valves	9	CPI Tables	\$207,083
			\$50,255,202

CPI = Consumer Price Index

Source: Municipality of Greenstone Asset Management Plan

ANALYSIS

Options:

1. Do Nothing.
This option cannot be considered due to legislative requirements for service provision.
2. Terminate the OCWA contract and hire the appropriate staff to operate the water and sewer treatment systems in-house.
This option is not recommended due to the difficulties being experienced in recruiting and retaining staff. Having OCWA as a qualified operator provides a level of liability buffer and our experience to date with OCWA has been positive.
3. Expand the role of OCWA to include the operations and maintenance of all the water and sewer infrastructure including all buried linear infrastructure.
This model would require a significant increase in OCWA staffing and contract pricing. The frequency of repairs required to the buried infrastructure is quite variable and would be difficult to acquire accurate budget pricing. Therefore, the additional work would need to be formalized as a cost-plus contract, leaving the cost to operate extremely variable. For this reason, this option is not recommended.
4. Continue with the blended operating model with OCWA having the licenced operators maintaining the water and sewage treatment plants and overseeing compliance of the repairs and maintenance of the buried linear infrastructure that is completed by Municipal staff.
This is the preferred option, however the Municipality will need to develop a plan to allow more staff availability to comply with increased maintenance required as per the CLI-ECA.

Improving In-House Process and Performance:

1. Update By-laws regulating water and sewer use.

It is recommended that the Municipality consolidate and update its various water and sewer by-laws. Referencing the by-laws in the SDR summary at the beginning of this report, it is evident that this process is long overdue. The preparation of a comprehensive document that serves to protect the health and safety of people, the Municipality's water and sewer assets, the surrounding environment, and includes enforceable penalties under the Provincial Offences Act, is needed.

Municipal governments are given the responsibility for administering the Provincial Offences Act (POA), including courts and fine collection.

It is recommended that this project be included in the 2025 Budget.

2. Integrate a preventative maintenance program into water and wastewater operations.

The CLI-ECA for sewage works requires that the Municipality be able to produce for inspection by the Ministry of Environment, Conservation and Parks (MECP) the maintenance and inspection records in the prescribed manner.

Preventative maintenance programs are key to extending the life of water and sewer pipes. There are a variety of methods to assess the conditions of municipal water distribution systems, each with their own strengths and weaknesses. A combination of methods is often used in practice. A good preventative maintenance program not only identifies existing problems, but also predicts problems based on asset age and condition. Some examples are provided.

- Physical Inspection

This is the most basic method and involves visually inspecting system components such as pipes, pumps and reservoirs.

- Hydraulic Modeling

This method uses computer models to simulate water flow in the system to identify any problems or inefficiencies.

- Acoustic Monitoring

In this method, devices are used to listen for sounds that indicate issues such as leaks and breakages.

- Smart Ball Technology

A technology that involves inserting a small, sphere-shaped device into the water system. The device travels through the system, using sensors to detect leaks or other issues.

- Pipe Material Assessment

Here, the material of the pipes in the system is assessed with things like age, material type, and historical failure rates are considered.

- Water Quality Testing

Regular testing of the water quality can indicate issues within the system. If there are contaminants, it could indicate leaks or other issues.

- Pressure Monitoring

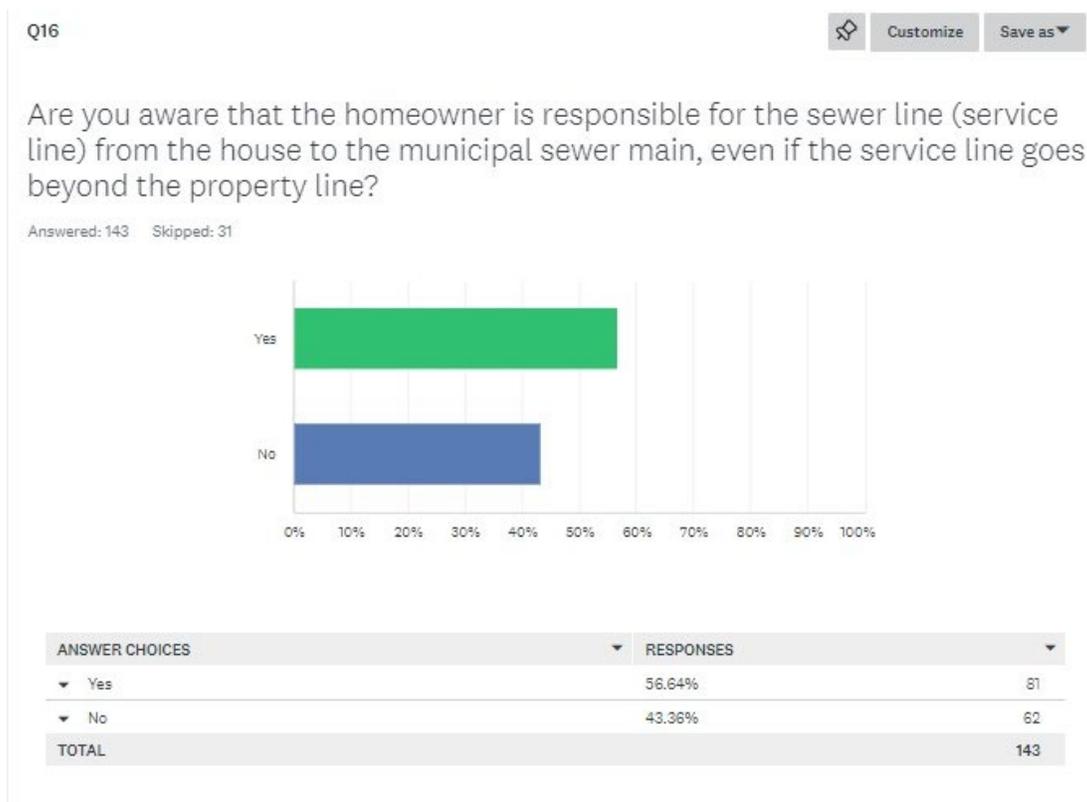
Regularly monitoring the pressure in the system can help identify leaks or blockages. If the pressure is lower than expected given the demand and supply variables, there could be a problem.

Assigning a maintenance strategy to each asset based on its criticality should be laid out and identified in the next update of the Asset Management Plan. The application of bar codes on major assets is an effective way to simplify operator tracking of work and reporting in the asset management registry.

The SDR has noted Council and the Municipalities legal responsibilities under the Safe Drinking Water Act. Standard of Care training is available. Scheduling conflicts have prevented the scheduling of this training to date. It is recommended that Council direct Administration to schedule Standard of Care training for Council to take place by the end of September 2024.

Adjusting Service Levels:

The following results are presented from the five Public Survey questions posed for the Q2 Environmental SDR. In summary, they suggest that the Municipality increase efforts in 1) communicating educational information to homeowners about water and sewer infrastructure and the Municipality's by-laws and policies, and 2) increasing customer service relations through more communication.

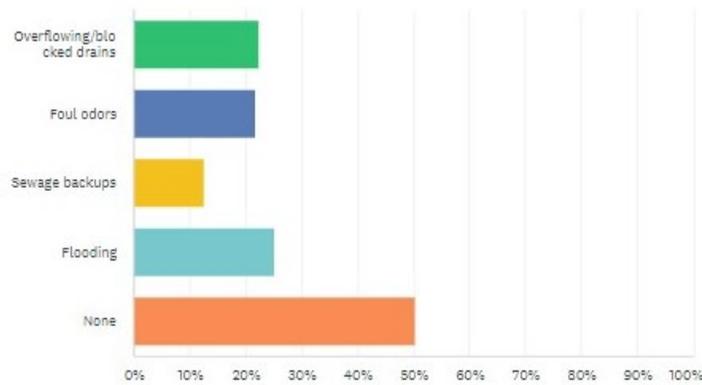


Q18

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Which, if any, sewage and drainage problems have you encountered in your area?(Choose all that apply)

Answered: 143 Skipped: 31



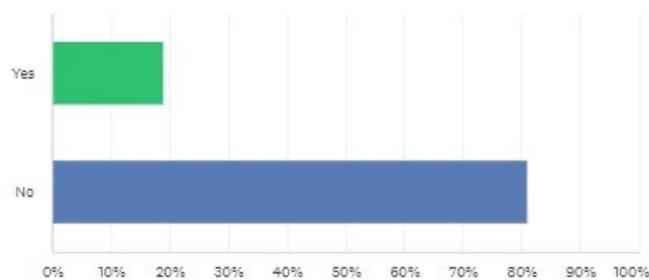
ANSWER CHOICES	RESPONSES
▼ Overflowing/blocked drains	22.38% 32
▼ Foul odors	21.68% 31
▼ Sewage backups	12.59% 18
▼ Flooding	25.17% 36
▼ None	50.35% 72
Total Respondents: 143	

Q19

 Customize  Save as

Have you ever filed a water or sewer complaint with the Municipality?

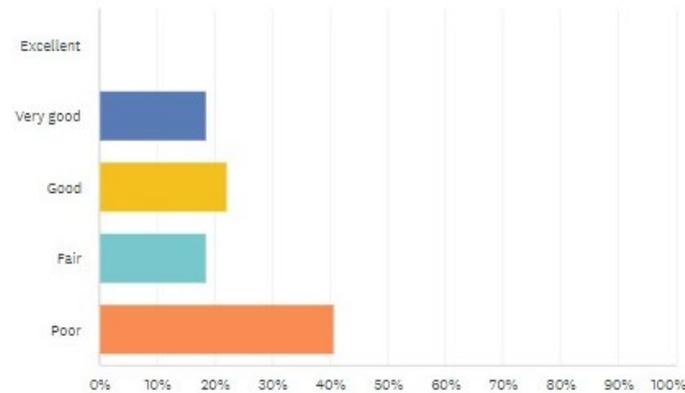
Answered: 143 Skipped: 31



ANSWER CHOICES	RESPONSES
▼ Yes	18.88% 27
▼ No	81.12% 116
TOTAL	143

Rate your satisfaction with the response provided for your concerns.

Answered: 27 Skipped: 147



ANSWER CHOICES	RESPONSES
▼ Excellent	0.00% 0
▼ Very good	18.52% 5
▼ Good	22.22% 6
▼ Fair	18.52% 5
▼ Poor	40.74% 11
TOTAL	27

Cost Avoidance: Operating Costs and Capital Investments:

The Municipality recovers its annual operating expenses for water and sanitary sewer systems by leveraging water and sewer rates, and therefore refers to your water/sewer bill as a rate funded levy. The rate funded levy is therefore applied to the maintenance of rate funded assets (water and sanitary sewer assets).

The Municipality's rate funded assets are valued at \$105 million based on the current Asset Management Plan. An updated Asset Management Plan is due in 2025 and is expected to reflect significant increases in the value (and cost) of the assets. As per the current Asset Management Plan, 57% of rate-funded assets are in fair or better condition.

According to the current Asset Management Plan, the average annual capital requirement to sustain the current level of service for rate-funded assets is approximately \$2.2 million. The valuations for the linear infrastructure are also incomplete and significantly undervalued. Therefore, the actual requirements are significantly higher than is currently reflected in the Asset Management Plan.

Asset Management Plan 10-year Capital Requirements

Water Network

Asset Segment	Backlog	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Hydrants	\$44,374	\$0	\$277,420	\$0	\$0	\$4,294	\$0	\$0	\$0	\$0	\$0
Pump Houses	\$187,673	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Towers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,817	\$0	\$0	\$805
Water Equipment	\$5,149,734	\$329,847	\$926,401	\$0	\$16,739	\$15,389	\$69,459	\$43,143	\$10,980	\$263,837	\$147,182
Water Mains	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$447,300
Water Treatment Plant	\$4,056,523	\$0	\$0	\$0	\$708,153	\$0	\$0	\$891,056	\$0	\$70,764	\$0
Wells	\$148,805	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	\$9,587,109	\$329,847	\$1,203,821	\$0	\$724,892	\$19,683	\$69,459	\$937,016	\$10,980	\$334,601	\$595,287

Source: Municipality of Greenstone Asset Management Plan

Sanitary Sewer Network

Asset Segment	Backlog	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Lift Stations	\$402,823	\$0	\$0	\$0	\$128,353	\$0	\$489,327	\$0	\$75,029	\$0	\$0
Manholes	\$193,116	\$0	\$0	\$0	\$48,174	\$0	\$61,613	\$822,510	\$0	\$0	\$0
Pumps	\$175,722	\$22,490	\$17,075	\$0	\$0	\$20,582	\$0	\$0	\$0	\$0	\$48,788
Sanitary Equipment	\$3,202,911	\$963,548	\$13,971	\$852,729	\$28,114	\$0	\$0	\$0	\$435,354	\$329,195	\$25,611
Sanitary Mains	\$660,800	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$181,440	\$0	\$740,880
	\$4,635,372	\$986,038	\$31,046	\$852,729	\$204,641	\$20,582	\$550,940	\$822,510	\$691,823	\$329,195	\$815,279

Source: Municipality of Greenstone Asset Management Plan

It is a legislated requirement that the Municipality produce a Water Financial Plan. The existing plan will no longer meet compliance with the DWQMS as it approaches the end of its valid timeframe.

It is recommended to update the Financial Plan no later than August 2025, in order that the plan inform the 2026 budget process. A 10-year planning timeframe is appropriate for long-term planning and meets compliance requirements. The financial plan is a more useful tool for the Municipality if it examines sewer assets, and so a Water and Wastewater Financial Plan is recommended to be produced.

Enhancing and Expanding Service Levels:

Long-term budgets should consider any infrastructure improvements that enhance water security for a community. The CLI-ECA seeks to address the identification of any near or long-term corrective actions and with anticipated timelines. The new CLI-ECA has long-term budget implications.

The CLI-ECA includes the following conditions:

- 8.1.1 The Owner shall conduct an assessment of Wet Weather Flows compared to the Dry Weather Flows in the Authorized System and/or to the STP(s) described in Schedule A, as per the following conditions:
 - a) The assessment shall evaluate available data from the ten (10) year period starting January 1, 2012 and ending December 31, 2021.
 - b) The assessment shall be completed and submitted to the Director by August 17, 2024.
 - c) In the event that Wet Weather Flows in the ten (10) year period described above have created STP Bypasses or STP Overflows at the STP(s) specified in Schedule A or Collection System Overflows in an Average Year, then the study shall include:
 - i Actions and timelines to meeting the Procedure F-5-1 objectives;
 - ii Review of causes of STP Overflow, STP Bypass and/or Collection System Overflow Events, including inflow and infiltration, sewer use, and characteristics of rainfall events, as applicable;
 - iii Inspection of the Sewers and bypass structures; and
 - iv Identification of any near and/or long-term corrective actions with anticipated timelines.

Alternative Service Delivery Including Shared Services or Contracting Out:

OCWA is the licensed operator of the Municipality's water and sewage treatment facilities. Many municipalities rely on this specialized service provider. Under a hybrid structure, Public Works staff maintain the distribution system with OCWA oversight.

A water break repair involves Ontario One Call locates, the excavation for repair, and

backfilling/site restoration. Locates are either completed within a 5-day standard timeline or, if determined to be an emergency, are required to be completed within 2 hours. The repair work itself varies greatly and may take up to several days to complete. Large water break repairs, if performed in-house, take staff away from regular scheduled operations. Given the current shortfall of staff, these occurrences are quite disruptive to routine services.

At times, Public Works needs to perform locates for underground infrastructure on an emergency basis. Although Ontario One Call allows the option to appoint a designated (third-party) locator, this is not an option that would benefit the Municipality in the long run. The Municipality needs to be familiar with and knowledgeable about its own infrastructure.

The contracting out of water break repairs is sometimes a necessity due to staff availability. This said, the availability of contractors also poses a challenge in the timely response to water break repairs.

Service Structure and Staffing Realignment:

The Public Works SDR presented earlier this year identified that the current and ongoing staffing situation in this department has a trending reduced operating capacity of 23%. The retirement of several experienced staff from their Public Works careers in the near future will further impact the Municipality. The current expectation of Public Works staff in all positions is to be able to work in all areas of service, e.g. road maintenance, water maintenance, waste collection, etc. The number of staff in the organization restricts the specialization of staff in any one area.

This SDR has discussed the importance of preventative maintenance programs which are now driven by asset management planning and in some cases legislation. The Municipality recognizes that more staff time needs to be dedicated to preventative maintenance programs in general that are not currently addressed.

With respect to Environmental Services, the Municipality's HydroVac truck is a critical piece of equipment. It requires a team of two staff to operate, who must be knowledgeable about the proper care and maintenance of the truck. This unit is currently used to respond to infrastructure repairs; however the fleet unit can serve the Municipality much more effectively in an ongoing preventative maintenance program for sewer and water maintenance.

Sewer rodding (pressure washing and sucking out debris) is a key preventative maintenance activity that cleans the bottoms of manholes and removes debris from sewer pipes that can lead to sewer backups. During the sewer rodding process, each manhole receives a visual inspection. Manhole condition can be documented (condition of manhole lid, frost straps, ladder, benching, separation of manhole sections, and general condition). Another important task that requires the Hydrovac truck is the repair and replacement of malfunctioning water valves. Seized or leaking valves are either

reported by the Public or identified during the scheduled exercising of valves by OCWA.

Inspections are a risk management necessity. The issue lies with staff capacity. Present resources restrict the operational ability to incorporate preventative maintenance into daily schedules.

To provide preventative maintenance of all sewer systems in all communities, two staff would operate the HydroVac truck steady (5 days/week) when the truck is not needed for water break repairs or other tasks. This level of maintenance only occurs re-actively in response to sewer backup issues. It is recommended that the sewer lines are rodded (cleaned) annually to ensure optimal performance of the sewer system and protect the municipality from liability. The Public Works Dept. does not currently have the ability to accommodate this workload.

Council approved the following recommendation as part of the Public Works Service Delivery Review:

“THAT once all service levels are set for Public Services/Public Works related services through the Service Delivery Review (SDR) process, a full review of the Public Services staffing model be completed to ensure adequate staff to deliver service levels identified by the SDR’s.”

With the understanding that a preventative maintenance program for water and sewer systems cannot be postponed under the CLI-ECA, an evaluation of the Public Works Dept. organizational capacity and how contracted services can be used to meet operational gaps needs attention.

FINANCIAL IMPACT

Additional Costs - Compliance with CLI-ECA

An RFP will need to be developed to engage a consultant to complete the Assessment Report of Dry Weather Flows Compared to Wet Weather Flows and Operations and Maintenance (O&M) Manual. Many other communities are attempting to complete the same requirements and as such benchmark pricing has not been determined within the industry. It is expected that this assignment will cost at least \$80,000 to complete.

More important will be the annual costs to complete preventative and operational maintenance needs. It is expected that as much as an additional \$500,000 annually may be required in the future as a combination of added staffing, equipment needs, consultants and contractors to complete various items as contemplated in the future O&M Manuals.

Additional Costs - By-law Updates

Staff will complete market research leading up to drafting the 2025 budget to confirm expected costs. At this time, it is most likely that this assignment will require a minimum of \$25,000 to complete.

Cost Avoidance

Having Corporate Services staff undertake a new Financial Plan, using updated AMP data and new Facility Condition data, the Municipality would save between \$30K - \$50K on a consultant to complete. Public Services staff would be required to provide support and review of this plan.