WINDSOR UTILITIES COMMISSION

2022 SUMMARY REPORT

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SUCCESS BY THE NUMBERS

WINDSOR'S WATER SYSTEM HAS BEEN A SOURCE OF SAFE AND RELIABLE POTABLE WATER FOR OVER 160 YEARS.

2022 Fast Facts

76,599
Customers

$29,957M
Total Assets Installed

1,444
New Water Meters Installed

36,338 ML
Water Delivered

16.7 km
New Watermains Installed

WINDSOR UTILITIES
COMMISSIONERS

Drew Dilkens
(Chair, retired Dec, 2022)
LL.B, MBA, DBA, CHRL
Mayor, City of Windsor

Egidio Sovran
(Vice-Chair)
MBA, CPA, CA
Owner, E L Sovran Professional Corp.

Jeewen Gill
(Retired Dec, 2022)
Councillor, City of Windsor, Ward 7

Julian (Jules) Hawkins
(Retired Jan, 2023)
Partner, Hawkins & Co. Accounting Professional Corp.

J. Douglas Lawson
O.Ont. QC, LL.D
Counsel, Willis Business Law

Kieran McKenzie
(Chair, appointed Jan, 2023)
BA
Councillor, City of Windsor, Ward 9

Jim Morrison
PFP
Councillor, City of Windsor, Ward 10

Mario Sonego
P.Eng.
Retired City of Windsor Engineer
President, Sonego Management Inc.

ENWIN UTILITIES LTD.*
SENIOR MANAGEMENT

Helga Reidel
(Retired Dec, 2022)
President & CEO
FCPA, FCA, ICD.D

Garry Rossi
(President & CEO, appointed Jan, 2023)
Vice President Water Operations
P.Eng

Paul Gleason
Vice President Customer Care and Corporate Operations
BA, LLM, CSCMP

Kris Taylor
Vice President Business Development
MBA, CEM

Jim Brown
Vice President Hydro Operations
P.Eng

Matt Carlini
Vice President Corporate Services & CFO
CPA, CA, MBA

Christopher Manzon
Director Engineering Water
M.A.Sc., P.Eng

David Melnyk
Director Water Operations
C.E.T. (Civil Eng.)

*Windsor Utilities Commission maintains a contract of service with ENWIN Utilities Ltd. to operate and maintain the WUC owned water system that serves customers in Windsor, Tecumseh, and LaSalle.

COMMISSIONER ATTENDANCE

Windsor Utilities Commission			
Commissioners	**Attend**	**Held**	**%**
Drew Dilkens	4	6	67
Egidio Sovran	6	6	100
Jeewen Gill	6	6	100
Julian (Jules) Hawkins	6	6	100
J. Douglas Lawson	6	6	100
Kieran McKenzie	6	6	100
Jim Morrison	5	6	83
Mario Sonego	6	6	100

MESSAGE FROM CHAIR OF WUC AND VP WATER OPERATIONS

On behalf of the Windsor Utilities Commission (WUC), we are pleased to present our 2022 annual report.

The beginning of 2022 involved a fair amount of uncertainty following two years of obstacles and challenges brought about by the COVID-19 global pandemic.

Luckily, restrictions began to lift and a sense of optimism emerged. However, as the risk of COVID remained, our teams maintained a cautious and methodical approach to lessening our organization's pandemic protocols and reintegrating staff back into the office.

Despite those initial challenges and uncertainties from last year, the Windsor Utilities Commission remains steady in our commitment to our community in providing safe, clean, and reliable water. This was exemplified in our achievement of receiving a 100% inspection rating from the Ministry of the Environment, Conservation and Parks for the eleventh consecutive year. This achievement would not have occurred without the hard work and dedication of our team members.

One of the highlights of the year was the A. H. Weeks Water Treatment Plant West Building opening its doors once again, for public tours of the water treatment facility. This event, hosted by Doors Open Windsor, generated over 400 attendees over just two short days. ENWIN team members volunteered their time for the entire weekend conducting tours, providing refreshments, and answering questions. This made for a memorable experience for our customers who touted it as one of the highlights of the Doors Open experience.

One of the larger announcements of 2022 was the plan for the development of a joint reservoir solution with Union Water. This much-needed connection will uphold the integrity of both major water services in Windsor-Essex should an emergency occur, thus, helping safeguard our residents by protecting their drinking water supply. As planning continues, we look forward to this monumental project proceeding.

As we progress into 2023, we are happy to announce that discussions have commenced regarding the reintroduction of educational tours of the water treatment facility with local schools. These tours were once a main point of outreach for WUC and helped students learn about the amazing process and people involved in providing their community with safe drinking water.

This upcoming year also marks a change in leadership, as we are happy to announce the appointment of Robert Spagnuolo as the new Vice President of Water Operations. In his previous role as the Director of Customer Care, Robert has exemplified excellence, especially in customer service, and we are confident that his wealth of knowledge will be a great asset to the Windsor Utilities Commission.

We know that WUC's legacy of providing our community with safe, reliable drinking water and exceptional innovation and customer service will continue, especially with the help of its amazing team, who have worked tirelessly at ensuring the safety and security of the drinking water supply for Windsor, Tecumseh, and LaSalle.

Mayor Drew Dilkens
Chair, Windsor Utilities Commission

Garry Rossi,
Vice President Water Operations
ENWIN Utilities Ltd.

MISSION, VISION AND VALUES

ENWIN is the accredited water system operator for WUC. As part of the ENWIN Group of Companies, our mission is to provide safe and reliable energy and water services in a cost effective, sustainable manner.

A core premise of our Strategic Direction is that our service model is undergoing significant transformation — taking on a more decentralized, customer-centric, technologically advanced and environmentally sustainable form.

For WUC, this means ensuring that we have the human, fiscal and capital asset resources to continue to provide existing and modernized service levels to the community. We must also assess our environmental footprint to make certain that we are balanced in our use of resources.

As the energy and water needs and options of our customers and our community evolve — and as signature projects and developments proceed — WUC will play a leading role in helping our city to become a smart energy centre with a reliable, potable water system.

We embrace our role in water distribution and will continue our service to the community, as we work to develop redundancy in the system to ensure water system resiliency.

Our Core Values

Leadership

Accountability

Integrity

Mission

To provide safe and reliable energy and water services in a cost effective, sustainable manner.

Vision

To be a trusted leader in providing exceptional value and services to our customers and stakeholders.

INTRODUCTION TO WUC OPERATIONS

In 2022, WUC produced 36,338 million litres of potable water for use by the citizens of the City of Windsor, the Town of LaSalle and the Town of Tecumseh, as well as the industrial, commercial, and institutional customers of the region.

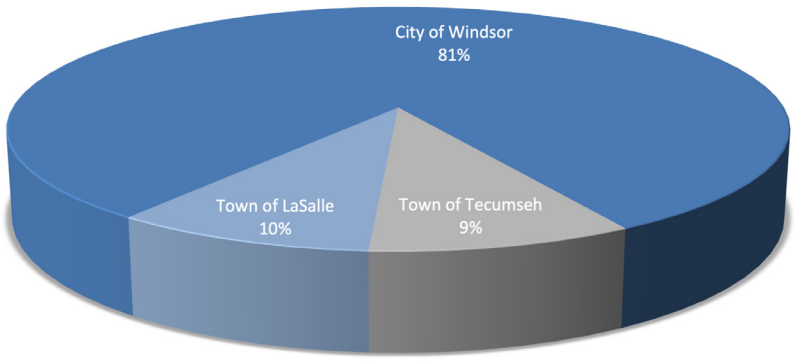
The summary contained in Appendix A, Table 1 (page 20), provides a detailed breakdown of the monthly production rates. The volume of water transferred to the Town of LaSalle and the Town of Tecumseh is also provided.

Under the Municipal Drinking Water License and Ontario Reg. 170/03 there are a number of Schedules that outline the requirements for compliance with the Safe Drinking Water Act (SDWA). This report highlights the requirements of the applicable section of the regulation, along with a statement of compliance or, if applicable, specific areas of non-compliance with the schedule requirements.

2022 Total Treated Water by Municipality

Volume in megalitres (ML)

Town of LaSalle	3,436	9.46%
Town of Tecumseh	3,367	9.27%
City of Windsor	29,534	81.28%



Percentage of water delivered to each served Municipality.

TREATMENT EQUIPMENT

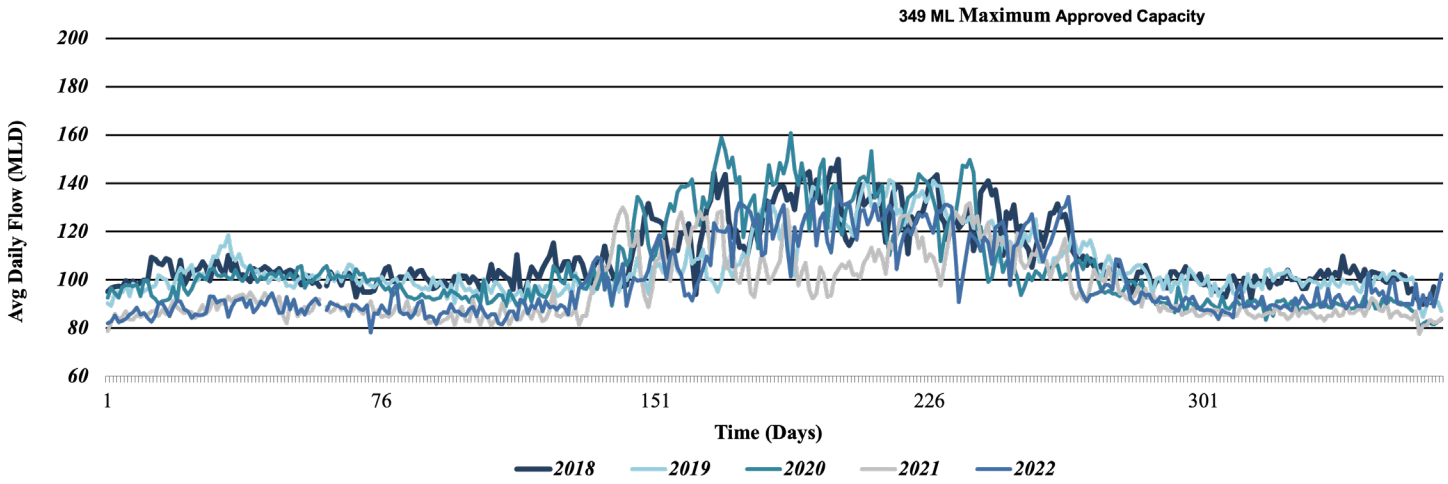
O.Reg 170/04, Schedule 1 dictates that the owner of a drinking water system shall ensure that approved water treatment equipment, as specified in the Drinking Water Works Permit, is provided and is in operation whenever water is being supplied for potable use.

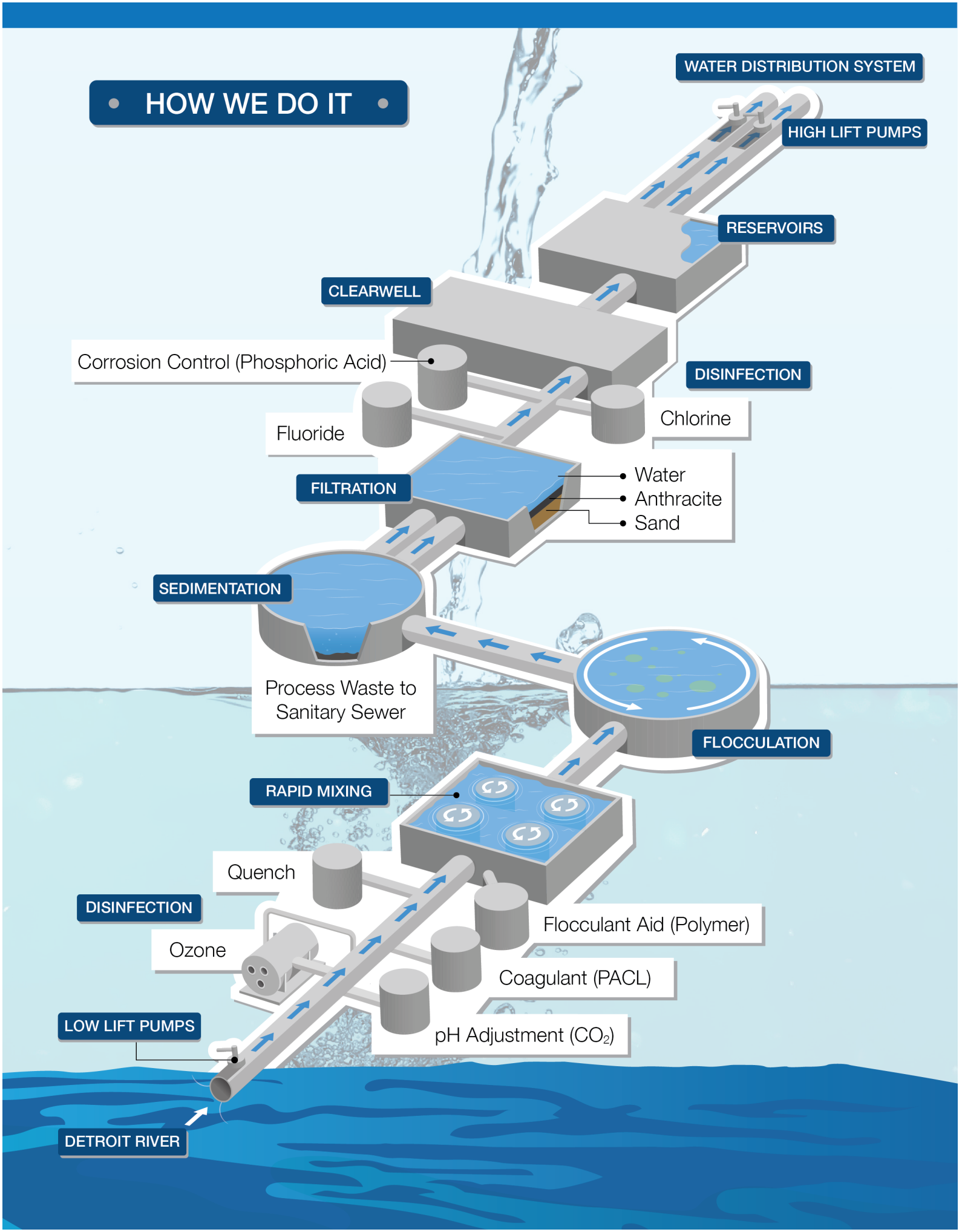
Further, the regulation requires that the equipment be operated in a manner that achieves its design capabilities and that only certified operators carry out operation of the system.

In the calendar year 2022, WUC complied fully with this section of the regulations.

Chart 3 (below) depicts WUC's average daily water flow for the 2016 - 2022 calendar years. Of particular note is the approved 349 ML daily maximum treatment capacity of WUC's treatment plants. As illustrated in the chart, WUC is operating well within the approved limits of its license and permit.

Chart 3: 2016-2022 Volume of Approved Capacity




HOW WE DO IT
WATER DISTRIBUTION SYSTEM
HIGH LIFT PUMPS
RESERVOIRS
CLEARWELL
Corrosion Control (Phosphoric Acid)
DISINFECTION
Chlorine
Fluoride
FILTRATION
Water
Anthracite
Sand
SEDIMENTATION
Process Waste to Sanitary Sewer
FLOCCULATION
RAPID MIXING
Quench
DISINFECTION
Ozone
Flocculant Aid (Polymer)
Coagulant (PACL)
LOW LIFT PUMPS
pH Adjustment (CO_2)
DETROIT RIVER

OPERATIONAL CHECKS, SAMPLING AND TESTING

O.Reg 170/03, Schedule 6 outlines:

- The frequency of sampling and testing requirements;
- The requirement for chlorine residual testing to be carried out at the time microbiological samples are collected;
- The location at which samples are to be collected;
- The form of sampling to be undertaken and the requirements for continuous monitoring equipment; and
- Clarification of how samples are to be handled and recorded, and the need for an appropriately accredited laboratory to carry out the sample analysis.

In the calendar year 2022, WUC complied fully with this section of the regulations.

Operational Checks

O.Reg 170/03, Schedule 7 specifies the requirements for continuous monitoring of equipment for free chlorine residual and turbidity, and the required location for this equipment. The regulation dictates the requirement for regular collection and analysis of samples by an appropriately certified individual. The chart below summarizes the results for the parameters mentioned above.

In the calendar year 2022, WUC complied fully with this section of the regulations.

Microbiological Sampling and Testing

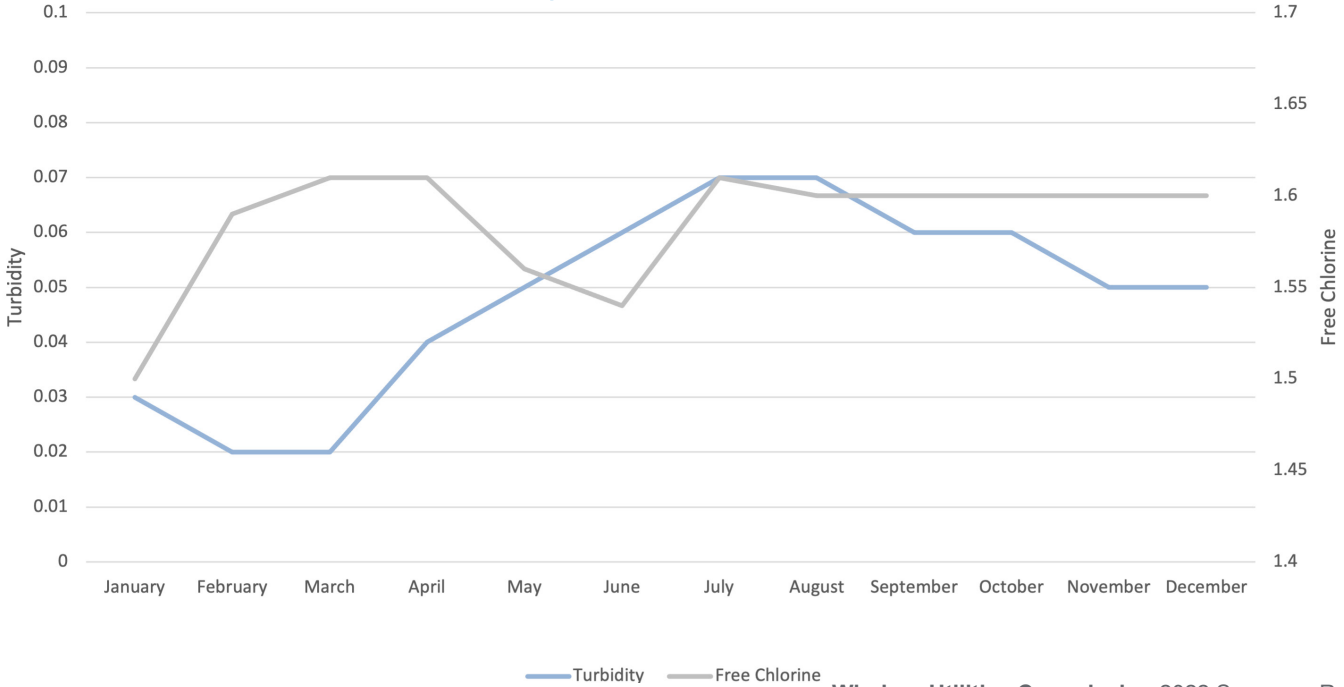
O.Reg 170/03, Schedule 10 provides the requirements for sampling and testing of microbiological parameters.

The schedule states that for large municipal systems serving a population of more than 100,000 people, the required monthly frequency of sampling is 100 distribution samples, plus one additional sample for every 10,000 people served, with at least three samples being taken in each week.

Each of these samples are to be tested for Escherichia Coli and Total Coliform, with a requirement that at least 25 per cent of the samples be tested for general bacteria population, expressed as colony counts on a heterotrophic plate count. Windsor's required sampling frequency is 130 samples monthly.

In 2022, 1,963 samples were collected and analyzed: an average of 164 samples per month. Approximately 49 per cent of the distribution samples

Chart 4: 2022 Operation Trends



were also analyzed for heterotrophic plate count. In addition, each sample was tested for free chlorine residual at the time the sample was taken.

Schedule 10 states that a treated water sample must be taken at least once per week and tested for Escherichia Coli and Total Coliform. Windsor's treated water samples were generally collected and tested on average five days per week.

The schedule further states that a raw water sample must be taken at least once per week, before any treatment is applied to the water, and that the sample be tested for Escherichia Coli and Total Coliform. Samples were collected and tested on average five days per week. Chart 5 (below) indicates the number of samples taken on a monthly basis.

Chemical Sampling and Testing

O.Reg 170/04, Schedule 13 provides the requirements for sample collection and testing for a variety of chemical components in drinking water. Additionally, it lists the Maximum Acceptable Concentration (MAC) for each component. The requirements are outlined in the following sections, along with the status of Windsor's sampling program.

Inorganics

One sample must be collected and tested every 12 months, if the source is surface water, and tested for every parameter set out in Schedule 23 (see page 15 for Table 13.2 - Inorganics, Lead, Nitrates, and Sodium Sample Results).

In 2022, ENWIN, on behalf of WUC, collected and tested samples for every parameter set out in Schedule 23 on a quarterly basis.

Organics

One sample must be collected and tested every 12 months, if the source is surface water, and tested for every parameter set out in Schedule 24 (see page 17 for Table 13.3 - Organics, THM's and HAA's Sample Results).

In 2022, ENWIN, on behalf of WUC, collected samples and tested for every parameter set out in Schedule 24 on a quarterly basis.

Trihalomethane (THM's) and Haloacetic Acids (HAAs)

For any system that provides chlorination, one distribution sample must be collected and tested for trihalomethanes every three months (see page 17 for Table 13.3 - Organics, THM's and HAA's Sample Results).

In 2022, ENWIN, on behalf of WUC, collected samples and tested for trihalomethanes on a quarterly basis.

Bromates

For the system that provide ozonation, as primary disinfection, one treated water sample must be collected monthly, from each Water Treatment Plant (see page 15 for Table 13.1 - Bromate Sample Results).

In 2022, ENWIN, on behalf of WUC collected samples and tested for Bromates on a monthly basis.

Lead

One sample must be collected and tested every 12 months for Lead (see page 15 for Table 13.2 - Inorganics, Lead, Nitrates, and Sodium Sample Results).

In 2022, ENWIN, on behalf of WUC, collected samples and tested for lead in a treated water sample and a distribution sample on a quarterly basis.

Chart 5: Microbiological Sample Count

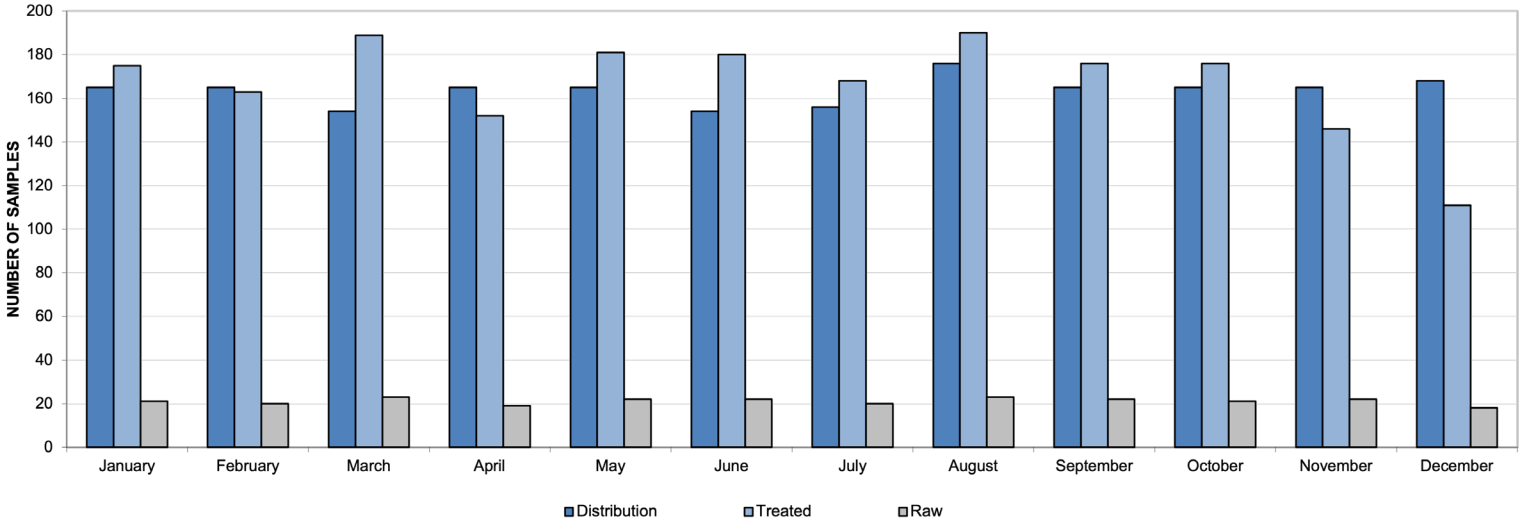


Table 13.1 - Bromate Sample Results

Date of legal instrument issued	Parameter	Date Sampled	Running Annual Average Result	Unit of Measure
MDWL 025-101	Bromate - Treated	1-Jan-22 to 31-Dec-22	**0.004**	mg/L
MDWL 025-101	Bromate - Distribution	1-Jan-22 to 31-Dec-22	**0.003**	mg/L

Table 13.2 - Inorganics, Lead, Nitrates and Sodium Results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedence
Antimony	26-Oct-22	0.0001	mg/L	NO
Arsenic	26-Oct-22	0.0003	mg/L	NO
Barium	26-Oct-22	0.0161	mg/L	NO
Boron	26-Oct-22	0.015	mg/L	NO
Cadmium	26-Oct-22	0.00001	mg/L	NO
Chromium	26-Oct-22	0.0005 <MDL	mg/L	NO
*Lead	26-Oct-22	0.0005 <MDL	mg/L	NO
Mercury	26-Oct-22	0.00010 <MDL	mg/L	NO
Selenium	26-Oct-22	0.00009	mg/L	NO
Sodium	12-Jan-22	6.21	mg/L	NO
Uranium	26-Oct-22	0.00007	mg/L	NO
Fluoride	12-Jan-22	0.44	mg/L	NO
Nitrite	26-Oct-22	0.010 <MDL	mg/L	NO
Nitrate	26-Oct-22	0.24	mg/L	NO

Nitrates and Nitrites

The owner of a drinking water system (WUC) and the operating authority for the system (ENWIN) must ensure that at least one water sample is taken every three months and tested for nitrate and nitrite (see above for Table 13.2 - Inorganics, Lead, Nitrates, and Sodium Sample Results).

In 2022, ENWIN, on behalf of WUC, collected samples and tested for nitrates and nitrites on a quarterly basis.

Sodium

Schedule 13 stipulates that at least one water sample is taken every 60 months and tested for sodium (see above for Table 13.2 - Inorganics, Lead, Nitrates, and Sodium Sample Results).

In 2022, ENWIN, on behalf of WUC, last collected and sampled for sodium on January 12, 2022.

Sampling & Testing: Lead

The Municipal Drinking Water License requires 60 samples annually to monitor corrosion control effectiveness. Sample locations include private, non-private and distribution systems. Each of these samples are to be tested for lead.

A total of 181 lead sample locations were collected and tested in 2022: 112 private and non-private samples and 69 samples in distribution.

As the COVID-19 restrictions have been lifted, lead samples were collected from the kitchen tap as prescribed in O.Reg 170/03. The option to collect at an outside tap remains optional in our Municipal Drinking Water Licence.

In the calendar year 2022, WUC complied fully with the requirements of the License.

Reporting Test Results

If a sample collected and tested indicates an adverse result, as outlined in the regulations, the owner of a drinking water system must report the result to the Medical Officer of Health (MOH) and the Spills Action Centre (SAC) of the Ministry of Environment, Conservation and Parks (MECP). If an observation other than an adverse test result indicates that a drinking water system is directing water that may not be adequately disinfected to users of the water system, the observation must be reported to the MOH and the SAC.

If a report is required under this section, a verbal report must be provided to the MOH by speaking directly to a person at the Windsor Essex County Health Unit (WECHU) or the designated on-call representative. In addition, a verbal report must be provided to the Ministry by contacting the SAC.

These verbal reports of adverse water conditions must be verified by written notice within 24 hours to the MOH and the SAC specifying the nature of the adverse result, actions being taken or observation and what corrective action is being taken.

Within seven days of resolution of a problem, a follow up written notice is to be provided outlining the resolution that gave rise to the adverse result report.

In 2022, there were seven adverse incidents requiring notification of the MOH and the SAC. Details are as follows:

- Lead result of 84.1 µg/L at a hydrant;
- Total Colifom result of 1 CFU/100mL and Eschericia Coli of 1 CFU/mL – Treated Water;
- Total Colifom result of 1 CFU/100mL at Sample Station near Ojibway Parkway;
- Fluoride result of 1.8 mg/L at the Sample Station located at the intersection Highway 3 and Howard Ave (Laboratory error);
- Total Colifom result of 1 CFU/100mL at George Ave Pumping Station;
- Total Colifom result of 1 CFU/100mL – Treated Water; and
- Lead result of 92.1 µg/L at a hydrant.

Notifications were made to the MOH and the SAC.

Chart 6 (right) presents the number of Adverse Water Quality Incidents from 2012-2022.

Corrective Action

This schedule outlines required corrective action to be followed with the determination of an adverse result requiring notification.

In all cases, the required corrective action was followed, as directed by the Medical Officer of Health.

Summary Report for Municipalities

Not later than March 31 of each year, a summary report must be prepared for the preceding calendar year and submitted to members of municipal council and members of a municipal services board, if one exists.

The submission of this report fulfills the requirement for this section of the regulations.

Summarizing tables are attached for review:

Table 1 – 2022 Treated Water Volume (page 20)

Table 2 – 2022 Volume as a Percentage of Approved Plant Capacity (pages 21-22)

Table 3 – 2022 Microbiological Sample Count (page 22)

Table 4 – 2022 Distribution Chlorine Residuals (page 23-24)

Table 5 – 2022 Operational Parameters (page 25)

A copy of Schedule 23 (Inorganic Test Parameters) and Schedule 24 (Organic Test Parameters) are attached for information, as previously submitted and as required by the regulation (pages 25-26).

Chart 6: Adverse Water Quality Incidents

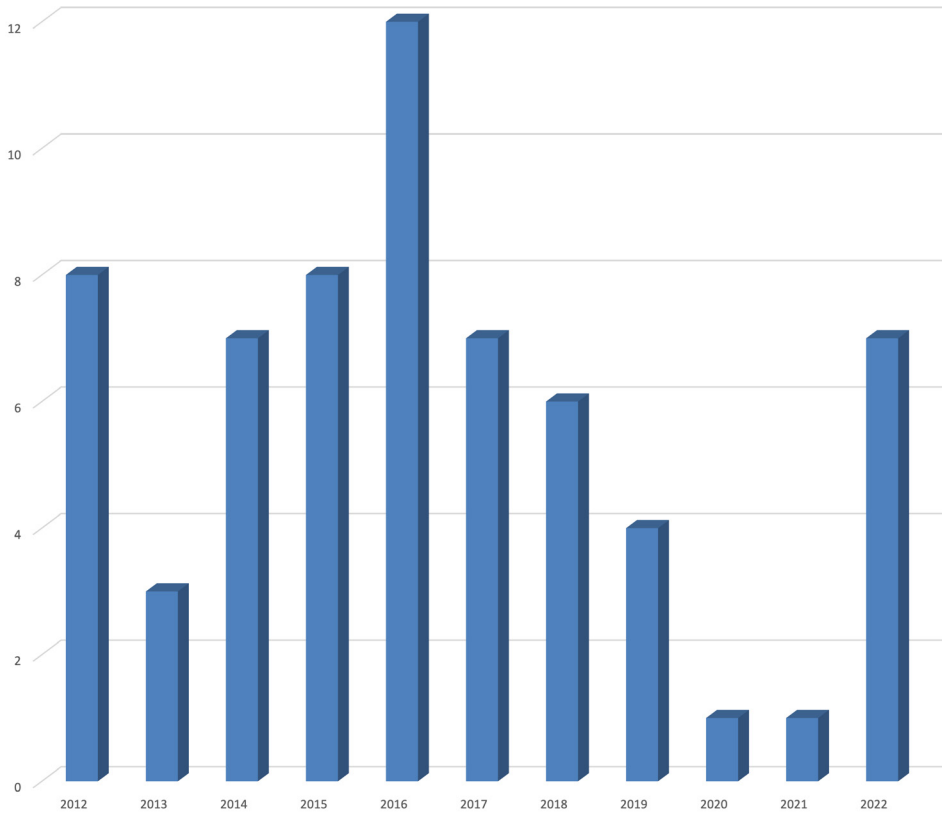


Table 13.3 - Organics, THM's and HAA's Sample Results

Parameter	Sample Date	Result Value	Unit of Measure	Exceedence
Alachlor	26-Oct-22	0.00050 <MDL	mg/L	NO
Atrazine + N-dealkylated metobolites	26-Oct-22	0.001 <MDL	mg/L	NO
Azinphos-methyl	26-Oct-22	0.0020 <MDL	mg/L	NO
Benzene	26-Oct-22	0.0001 <MDL	mg/L	NO
Benzo(a)pyrene	26-Oct-22	0.0000050 <MDL	mg/L	NO
Bromoxynil	26-Oct-22	0.00050 <MDL	mg/L	NO
Carbaryl	26-Oct-22	0.005 <MDL	mg/L	NO
Carbofuran	26-Oct-22	0.005 <MDL	mg/L	NO
Carbon Tetrachloride	26-Oct-22	0.00010 <MDL	mg/L	NO
Chlorpyrifos	26-Oct-22	0.001 <MDL	mg/L	NO
Diazinon	26-Oct-22	0.001 <MDL	mg/L	NO
Dicamba	26-Oct-22	0.001 <MDL	mg/L	NO
1,2-Dichlorobenzene	26-Oct-22	0.00020 <MDL	mg/L	NO
1,4Dichlorobenzene	26-Oct-22	0.00020 <MDL	mg/L	NO
1,2-Dichloroethane	26-Oct-22	0.00020 <MDL	mg/L	NO
1,1-Dichloroethylene (vinylidene chloride)	26-Oct-22	0.00010 <MDL	mg/L	NO
Dichloromethane	26-Oct-22	0.00050 <MDL	mg/L	NO
2,4-Dichlorophenol	26-Oct-22	0.00025 <MDL	mg/L	NO
2,4-Dichlorophenoxy acetic acid (2,4-D)	26-Oct-22	0.001 <MDL	mg/L	NO
Diclofop-methyl	26-Oct-22	0.00090 <MDL	mg/L	NO
Dimethoate	26-Oct-22	0.0025 <MDL	mg/L	NO
Diquat	26-Oct-22	0.007 <MDL	mg/L	NO
Diuron	26-Oct-22	0.010 <MDL	mg/L	NO
Glyphosate	26-Oct-22	0.010 <MDL	mg/L	NO
Haloacetic Acids (HAA5)	Running Annual average	Avg.	mg/L	NO
(Note: show latest running annual average)				
Q1 2022 = <0.0053 mg/L		<0.0050		
Q2 2022 = <0.0050 mg/L				
Q3 2022 = <0.0050 mg/L				
Q4 2022 = <0.0050 mg/L				
Malathion	26-Oct-22	0.0050 <MDL	mg/L	NO
MCPA	26-Oct-22	0.010 <MDL	mg/L	NO
Metolachlor	26-Oct-22	0.00050 <MDL	mg/L	NO
Metribuzin	26-Oct-22	0.0050 <MDL	mg/L	NO
Monochlorobenzene	26-Oct-22	0.00010 <MDL	mg/L	NO
Paraquat	26-Oct-22	0.001 <MDL	mg/L	NO
Pentachlorophenol	26-Oct-22	0.00050 <MDL	mg/L	NO
Phorate	26-Oct-22	0.00050 <MDL	mg/L	NO
Picloram	26-Oct-22	0.0050 <MDL	mg/L	NO
Polychlorinated Biphenyls (PCB)	26-Oct-22	0.00005 <MDL	mg/L	NO
Prometryne	26-Oct-22	0.00025 <MDL	mg/L	NO
Simazine	26-Oct-22	0.0010 <MDL	mg/L	NO
THM	Running Annual average	Avg.	mg/L	NO
(Note: show latest running annual average)				
Q1 2022 = 0.0038 mg/L		0.0085		
Q2 2022 = 0.00953 mg/L				
Q3 2022 = 0.0154 mg/L				
Q4 2022 = 0.00532 mg/L				
Terbofos	26-Oct-22	0.00050 <MDL	mg/L	NO
Tetrachlorethylene	26-Oct-22	0.00010 <MDL	mg/L	NO
2,3,4,6-Tetrachlorophenol	26-Oct-22	0.00050 <MDL	mg/L	NO
Triallate	26-Oct-22	0.0010 <MDL	mg/L	NO
Trichloroethylene	26-Oct-22	0.00010 <MDL	mg/L	NO
2,4,6-Trichlorophenol	26-Oct-22	0.00050 <MDL	mg/L	NO
Trifluralin	26-Oct-22	0.00007	mg/L	NO
Vinyl Chloride	26-Oct-22	0.00020 <MDL	mg/L	NO

CAPITAL RENEWAL PROGRAM

Water Meter Replacement Program

The goal of WUC's Water Meter Replacement Program is to replace all damaged, frozen, defective, aging and obsolete water meters, in residential and industrial, commercial and institutional (ICI) settings.

New meters provide benefits that include:

- Increased accuracy in billing for our customers;
- Improved efficiency in meter reading, as reads can be obtained via radio frequency (RF); and
- Enhanced ability to identify the sources and manage the causes of non-revenue water, thereby limiting revenue loss for both WUC and its ratepayers.

WUC installed 1,444 new meters in 2022. A very small number of non-RF meters remained in the field at year end. The remaining meters are either located in vacant properties or conditions at the customer site require additional attention prior to replacement. These replacements will be coordinated with customers on a case-by-case basis going forward.

At year end, the average age of WUC's total meter population is four years. For ICIs only, the average age is 8.1 years.

All meter reading routes are now using the drive-by (RF) method to collect meter data.

Aside from the exceptions noted, the Water Meter Replacement Program is now considered complete.

Watermain Replacement Program

The 2022 WUC capital renewal program involved the replacement of approximately 16.7 km of existing cast and ductile iron watermains, as well as water services, with new PVC pipelines and polyethylene/ copper tubing, respectively.

Water services are typically replaced from the new main to the property line.

The projects included watermains that no longer provided adequate service, and which were deemed to have the highest risk to public health.

The MECP and Ontario Fire Codes (OFC) mandate minimum levels of performance required for hydrants throughout the water distribution system. In 2022, 124 water hydrants were installed.

WUC capital projects, such as renewal of cast iron watermain, are prioritized based on a scoring system algorithm. A point score is assigned to the seven criteria listed below to determine the priority of the project.

The higher the risk to public health and safety, the higher the score, hence, the higher the priority status assigned. The algorithm uses the following priority:

- Anticipated percentage or total number of lead services;
- Deficient hydrant spacing;
- Low fire flow;
- Pipe diameter;
- Breaks per 100m with an emphasis on recency;
- Disturbed water per 100m;
- Age (life cycle of pipe type).

New Surge Protection and Pressure Relief Valve at George Pump Station.

Filter Bed Rehabilitation – Phase 4

WUC continues rehabilitation of our eight (8) dual media filters at the A. H. Weeks Treatment Plant (WTP) including removal of the existing plastic underdrain system, waterproof coating of the filter beds and walls, installation of new stainless-steel underdrains and installation of new anthracite and sand filter media. The new underdrain system and media will increase the overall filter performance. As of January 2023, WUC has completed six out of eight filters rehabilitations. Approximate capital expenditure for phase 4 of the rehabilitations is $4.2M.

Fluoride Implementation

As part of the overall fluoride implementation project, ENWIN continued the fluoride pipe loop study utilizing the existing pipe loop at the A. H. Weeks WTP with the goal of studying possible interference, if any, with the effectiveness of the existing corrosion control plan. The study continued after fluoride was introduced for approximately ten (10) months for monitoring purposes. In early 2021, ENWIN contracted Jacobs Engineering for the detailed design of the permanent fluoride dosing system which is now completed. ENWIN also opted to construct a temporary dosing system to begin the dosing of fluoride into the distribution system ahead of completion of the permanent dosing system. The temporary dosing system was commissioned in January 2022. Construction of the permanent system was tendered and awarded in July 2022 and has been on-going through the second half of 2022. The system has been put in service in February 2023. Approximate cost to date for the overall project is $1.2M.

SCADA Network Upgrade

ENWIN engaged the service of Rockwell for the design and implementation of an upgraded SCADA network at the A.H. Weeks WTP. The project will update and improve the current SCADA network infrastructure adding increased security measures in line with current industry best practices. Installation and commissioning of the new network was completed in November 2022. Approximate capital expenditure $820,000.

Ozone Power Supply Unit (PSU) Upgrades

ENWIN procured the services of Suez Water Technologies to begin the refurbishment of two of the Ozone Generator Power Supply Units (PSU). The current PSU components for Ozone Generators #1 and #2 are at end of life and in need of replacement. ENWIN tendered the work for the PSU upgrades in summer 2022 and began work on the PSU upgrades following receipt of the replacement equipment in October 2022. The project is expected to be completed in the first half of 2023. Approximate capital expenditure of $588,000 in 2022.

New Fluoride Storage Tanks and Chemical Containment Wall.

APPENDIX A:
OPERATIONAL CHARTS

Table 1 - 2022 Treated Water Volume

MONTH	TOTAL PUMPED M.L. (Windsor / Las/Tec)	TOWN OF LASALLE M.L.	TOWN OF TECUMSEH M.L.	CITY OF WINDSOR M.L
JANUARY	2,687	180	216	2,291
FEBRUARY	2,512	204	190	2,118
MARCH	2,716	227	209	2,280
APRIL	2,609	210	211	2,188
MAY	3,060	264	262	2,534
JUNE	3,399	399	287	2,713
JULY	3,836	429	416	2,991
AUGUST	3,697	407	382	2,908
SEPTEMBER	3,374	362	378	2,634
OCTOBER	2,869	280	313	2,276
NOVEMBER	2,701	232	260	2,209
DECEMBER	2,877	242	241	2,393
TOTAL	**36,338**	**3,436**	**3,367**	**29,534**
AVERAGE	**3,028**	**286**	**281**	**2,461**

Table 2 - 2022 Volume as Percentage of Approved Plant Capacity

Date	January		February		March		April		May		June	
	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %
1	82.1	24%	91.5	26%	87.5	25%	85.6	25%	88.5	25%	108.9	31%
2	82.8	24%	91.6	26%	90.7	26%	86.7	25%	89.0	26%	100.7	29%
3	85.3	24%	84.7	24%	89.9	26%	86.2	25%	87.7	25%	110.1	32%
4	82.5	24%	88.7	25%	89.3	26%	89.9	26%	89.6	26%	112.4	32%
5	82.9	24%	91.3	26%	88.3	25%	86.9	25%	88.7	25%	105.1	30%
6	83.9	24%	91.9	26%	88.2	25%	87.0	25%	85.8	25%	102.2	29%
7	85.6	25%	92.5	26%	84.9	24%	85.4	24%	95.1	27%	93.4	27%
8	86.5	25%	88.7	25%	89.8	26%	85.2	24%	88.2	25%	94.2	27%
9	88.5	25%	91.7	26%	89.5	26%	87.9	25%	96.5	28%	91.4	26%
10	85.5	25%	86.6	25%	88.0	25%	88.9	25%	97.8	28%	96.9	28%
11	86.3	25%	88.4	25%	87.4	25%	85.0	24%	99.7	29%	100.4	29%
12	84.2	24%	91.0	26%	89.5	26%	89.6	26%	102.7	29%	104.7	30%
13	82.6	24%	89.4	26%	78.1	22%	86.6	25%	107.2	31%	109.8	31%
14	85.1	24%	92.4	26%	86.2	25%	84.3	24%	109.3	31%	106.1	30%
15	90.3	26%	94.6	27%	85.9	25%	85.8	25%	108.9	31%	123.6	35%
16	90.2	26%	90.1	26%	89.5	26%	85.8	25%	95.9	27%	120.4	35%
17	87.6	25%	86.2	25%	87.1	25%	82.0	23%	100.8	29%	120.1	34%
18	85.0	24%	86.5	25%	86.1	25%	81.5	23%	90.3	26%	119.8	34%
19	88.7	25%	92.9	27%	96.1	28%	84.0	24%	97.4	28%	122.4	35%
20	91.3	26%	87.9	25%	97.9	28%	87.0	25%	100.4	29%	105.4	30%
21	91.0	26%	91.9	26%	86.8	25%	86.9	25%	106.7	31%	127.9	37%
22	87.8	25%	85.9	25%	85.8	25%	83.6	24%	89.2	26%	132.0	38%
23	87.1	25%	87.9	25%	86.1	25%	91.9	26%	95.2	27%	130.9	38%
24	84.3	24%	85.6	25%	84.1	24%	91.2	26%	100.9	29%	129.5	37%
25	85.7	25%	89.2	26%	86.0	25%	86.0	25%	99.7	29%	128.0	37%
26	85.2	24%	91.0	26%	90.5	26%	89.6	26%	99.9	29%	122.2	35%
27	85.5	25%	92.4	26%	91.3	26%	88.3	25%	100.1	29%	127.1	36%
28	86.4	25%	89.8	26%	83.9	24%	92.1	26%	104.1	30%	110.1	32%
29	93.2	27%			85.0	24%	86.9	25%	111.5	32%	111.1	32%
30	93.1	27%			84.5	24%	91.1	26%	114.7	33%	132.7	38%
31	90.5	26%			81.7	23%			118.7	34%		
MAX	93.2	27%	94.6	27%	97.9	28%	92.1	26%	118.7	34%	132.7	38%

Table 2 - 2022 Volume as Percentage of Approved Plant Capacity

Date	July		August		September		October		November		December	
	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %	Average Daily Flow (MLD)	Plant Capacity %
1	117.0	34%	127.3	36%	122.9	35%	97.9	28%	87.4	25%	89.0	26%
2	121.7	35%	130.9	38%	124.2	36%	96.1	28%	86.6	25%	92.7	27%
3	127.3	36%	127.5	37%	118.1	34%	108.5	31%	86.1	25%	93.9	27%
4	131.0	38%	104.5	30%	97.8	28%	108.2	31%	84.4	24%	90.5	26%
5	114.0	33%	113.5	33%	113.7	33%	102.9	29%	94.6	27%	88.1	25%
6	101.4	29%	119.1	34%	114.8	33%	98.9	28%	98.0	28%	90.9	26%
7	121.8	35%	121.0	35%	119.4	34%	91.9	26%	88.8	25%	92.8	27%
8	114.0	33%	118.7	34%	123.0	35%	90.3	26%	89.1	26%	89.3	26%
9	122.3	35%	123.7	35%	124.3	36%	90.9	26%	89.7	26%	89.1	26%
10	127.0	36%	127.4	36%	127.3	36%	94.9	27%	88.2	25%	88.9	25%
11	128.3	37%	126.2	36%	117.2	34%	93.5	27%	89.9	26%	102.9	29%
12	133.3	38%	127.3	36%	112.8	32%	94.0	27%	93.1	27%	94.6	27%
13	114.2	33%	122.7	35%	107.4	31%	91.3	26%	87.8	25%	96.2	28%
14	125.1	36%	119.4	34%	112.5	32%	90.8	26%	89.4	26%	93.8	27%
15	127.7	37%	128.7	37%	115.3	33%	93.0	27%	89.6	26%	95.3	27%
16	115.8	33%	128.1	37%	119.4	34%	92.4	26%	89.2	26%	90.3	26%
17	111.3	32%	131.1	38%	124.6	36%	92.5	27%	88.2	25%	98.3	28%
18	124.7	36%	131.1	38%	129.3	37%	88.7	25%	89.3	26%	100.3	29%
19	136.9	39%	130.0	37%	130.5	37%	88.2	25%	88.5	25%	90.2	26%
20	130.9	37%	110.3	32%	134.5	39%	87.2	25%	87.3	25%	89.6	26%
21	131.3	38%	90.7	26%	121.2	35%	90.3	26%	92.5	27%	90.1	26%
22	132.1	38%	100.9	29%	106.8	31%	92.7	27%	90.2	26%	90.1	26%
23	123.0	35%	110.7	32%	97.2	28%	91.6	26%	93.4	27%	89.7	26%
24	116.7	33%	119.4	34%	93.7	27%	93.0	27%	90.6	26%	98.4	28%
25	128.4	37%	117.8	34%	91.1	26%	89.8	26%	89.0	25%	88.2	25%
26	128.9	37%	115.8	33%	93.7	27%	87.7	25%	89.9	26%	93.7	27%
27	122.9	35%	112.0	32%	94.0	27%	87.2	25%	96.7	28%	89.4	26%
28	126.4	36%	117.6	34%	94.7	27%	87.6	25%	88.7	25%	94.5	27%
29	131.6	38%	115.4	33%	95.4	27%	87.3	25%	89.0	26%	88.8	25%
30	124.8	36%	106.6	31%	98.0	28%	86.3	25%	96.2	28%	95.1	27%
31	125.1	36%	121.7	35%			83.7	24%			102.2	29%
MAX	136.9	39%	131.1	38%	134.5	39%	108.5	31%	98.0	28%	102.9	29%

Note: white section indicates peak consumption for the year.

Table 3 - 2022 Microbiological Sample Count

Table 3 - 2022 Microbiological Sample Count												
Month	January	February	March	April	May	June	July	August	September	October	November	December
DISTRIBUTION	165	165	154	165	165	154	156	176	165	165	165	168
TREATED	175	163	189	152	181	180	168	190	176	176	146	111
RAW	21	20	23	19	22	22	20	23	22	21	22	18
TOTAL	361	348	366	336	368	356	344	389	363	362	333	297

Table 4 - 2022 Distribution Chlorine Residuals

JANUARY TO MARCH 2022

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D20	D21	D22
Jan	**LOW**	1.41	1.07	0.96	1.16	1.03	1.19	0.99	1.24	1.08	1.48	1.07	0.94	1.00	1.06	1.08	1.16	1.15	1.34	1.03	0.97	0.94
	HIGH	1.62	1.51	1.41	1.35	1.32	1.52	1.49	1.51	1.36	1.75	1.47	1.51	1.32	1.39	1.56	1.45	1.41	1.69	1.32	1.47	1.25
	AVG	1.53	1.25	1.21	1.21	1.13	1.36	1.15	1.39	1.24	1.63	1.28	1.27	1.24	1.27	1.34	1.32	1.32	1.44	1.24	1.21	1.14
Feb	**LOW**	1.41	1.31	1.11	1.08	1.09	1.25	1.19	1.12	0.99	1.44	1.13	1.05	1.18	1.18	1.12	1.26	1.10	1.36	1.17	1.06	0.96
	HIGH	1.62	1.48	1.40	1.49	1.26	1.54	1.39	1.52	1.39	1.79	1.43	1.52	1.43	1.48	1.47	1.56	1.45	1.67	1.50	1.36	1.24
	AVG	1.52	1.40	1.27	1.29	1.15	1.44	1.29	1.38	1.21	1.62	1.34	1.32	1.32	1.34	1.31	1.42	1.31	1.55	1.31	1.21	1.13
Mar	**LOW**	1.49	1.28	1.21	1.27	1.11	1.26	1.09	1.29	1.19	1.44	1.06	1.07	1.01	0.99	0.94	1.01	1.01	1.04	0.98	1.07	0.73
	HIGH	1.60	1.61	1.45	1.45	1.41	1.58	1.41	1.60	1.64	1.65	1.63	1.57	1.45	1.59	1.59	1.63	1.63	1.65	1.56	1.37	1.47
	AVG	1.55	1.47	1.35	1.37	1.25	1.43	1.25	1.41	1.32	1.58	1.38	1.36	1.28	1.37	1.40	1.44	1.37	1.43	1.31	1.25	1.17
Quarterly Avg		**1.53**	**1.38**	**1.28**	**1.29**	**1.17**	**1.41**	**1.23**	**1.39**	**1.26**	**1.61**	**1.33**	**1.31**	**1.28**	**1.33**	**1.35**	**1.39**	**1.33**	**1.47**	**1.29**	**1.22**	**1.15**

NOTE: All values in mg/l unless otherwise stated

APRIL TO JUNE 2022

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D20	D21	D22
Apr	**LOW**	1.19	1.13	1.09	1.14	1.06	1.24	1.03	1.05	1.21	1.29	1.24	1.21	1.18	1.29	1.33	1.24	1.25	1.22	1.12	1.13	1.13
	HIGH	1.74	1.61	1.63	1.65	1.42	1.63	1.18	1.58	1.68	1.72	1.60	1.49	1.61	1.72	1.62	1.55	1.54	1.58	1.40	1.41	1.34
	AVG	1.52	1.38	1.35	1.38	1.25	1.39	1.11	1.35	1.36	1.54	1.41	1.38	1.39	1.44	1.48	1.47	1.39	1.46	1.31	1.25	1.24
May	**LOW**	1.21	1.20	1.13	1.14	1.03	1.29	1.03	1.20	1.23	1.38	1.27	1.30	1.27	1.15	1.27	1.28	1.17	1.12	1.17	1.27	1.27
	HIGH	1.56	1.59	1.34	1.42	1.32	1.63	1.41	1.55	1.51	1.59	1.45	1.43	1.43	1.44	1.42	1.44	1.38	1.60	1.44	1.38	1.32
	AVG	1.38	1.38	1.22	1.32	1.20	1.40	1.18	1.39	1.36	1.45	1.35	1.35	1.36	1.34	1.34	1.38	1.31	1.35	1.29	1.32	1.21
Jun	**LOW**	0.95	1.08	1.05	1.07	1.01	1.19	0.90	1.12	0.91	1.36	1.04	1.02	1.07	1.16	1.17	0.89	0.99	1.12	1.21	1.02	1.07
	HIGH	1.39	1.37	1.44	1.39	1.30	1.53	1.35	1.39	1.41	1.63	1.40	1.46	1.49	1.36	1.59	1.57	1.41	1.45	1.39	1.25	1.22
	AVG	1.26	1.24	1.20	1.24	1.13	1.30	1.12	1.27	1.18	1.46	1.25	1.27	1.24	1.27	1.30	1.32	1.27	1.26	1.28	1.19	1.14
Quarterly Avg		**1.39**	**1.33**	**1.26**	**1.32**	**1.20**	**1.36**	**1.14**	**1.34**	**1.30**	**1.49**	**1.34**	**1.33**	**1.33**	**1.35**	**1.37**	**1.39**	**1.32**	**1.36**	**1.29**	**1.25**	**1.20**

NOTE: All values in mg/l unless otherwise stated

Table 4 - 2022 Distribution Chlorine Residuals

JULY TO SEPTEMBER 2022

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D20	D21	D22
Jul	**LOW**	1.24	0.94	0.97	1.05	0.98	1.25	0.83	1.05	1.03	1.32	1.13	1.17	1.19	1.22	1.02	1.11	1.19	1.08	1.04	1.12	0.79
	HIGH	1.44	1.39	1.27	1.32	1.19	1.45	1.55	1.32	1.29	1.66	1.36	1.32	1.47	1.53	1.53	1.38	1.33	1.37	1.32	1.42	1.28
	AVG	1.36	1.27	1.14	1.21	1.09	1.36	1.16	1.21	1.16	1.47	1.27	1.27	1.26	1.30	1.24	1.28	1.27	1.31	1.21	1.24	1.07
Aug	**LOW**	1.19	1.43	1.02	1.02	0.93	1.14	0.97	0.98	1.02	1.13	1.08	1.03	1.06	1.08	0.99	1.14	1.07	1.11	1.03	1.04	1.01
	HIGH	1.40	1.31	1.30	1.25	1.28	1.48	1.09	1.25	1.19	1.45	1.35	1.52	1.34	1.35	1.45	1.43	1.28	1.44	1.21	1.44	1.31
	AVG	1.28	1.06	1.14	1.15	1.11	1.29	1.03	1.12	1.10	1.29	1.20	1.17	1.16	1.25	1.21	1.28	1.19	1.28	1.13	1.22	1.09
Sep	**LOW**	1.26	1.16	1.04	1.00	1.00	1.16	0.94	1.05	1.03	1.19	0.92	1.04	1.09	1.08	0.96	1.09	0.71	1.08	1.03	1.05	0.95
	HIGH	1.58	1.38	1.20	1.46	1.16	1.62	1.09	1.27	1.33	1.56	1.29	1.31	1.38	1.39	1.28	1.35	1.36	1.50	1.35	1.31	1.10
	AVG	1.42	1.23	1.11	1.21	1.07	1.34	1.02	1.17	1.17	1.35	1.16	1.20	1.20	1.24	1.14	1.24	1.17	1.33	1.17	1.14	1.03
Quarterly	**Avg**	**1.35**	**1.19**	**1.13**	**1.19**	**1.09**	**1.33**	**1.07**	**1.17**	**1.14**	**1.37**	**1.21**	**1.21**	**1.21**	**1.26**	**1.20**	**1.27**	**1.21**	**1.30**	**1.17**	**1.20**	**1.06**

NOTE: All values in mg/l unless otherwise stated

OCTOBER TO DECEMBER 2022

		D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14	D15	D16	D17	D18	D20	D21	D22
Oct	**LOW**	0.83	0.88	0.97	1.00	0.83	0.92	0.95	1.05	0.78	1.25	1.12	1.11	1.19	1.20	1.15	1.29	1.16	1.28	1.10	0.94	1.00
	HIGH	1.47	1.37	1.36	1.42	1.29	1.42	1.38	1.35	1.34	1.53	1.37	1.39	1.46	1.46	1.40	1.39	1.31	1.57	1.30	1.28	1.19
	AVG	1.32	1.25	1.19	1.26	1.10	1.25	1.15	1.21	1.12	1.43	1.26	1.25	1.26	1.31	1.29	1.36	1.24	1.38	1.21	1.16	1.06
Nov	**LOW**	1.19	1.00	1.11	0.92	0.89	1.06	1.02	1.04	1.02	1.43	0.72	0.83	1.00	1.00	1.04	1.12	1.02	1.10	0.94	0.62	0.71
	HIGH	1.48	1.40	1.35	1.40	1.12	1.46	1.24	1.45	1.30	1.73	1.42	1.40	1.40	1.41	1.44	1.50	1.39	1.50	1.31	1.33	1.28
	AVG	1.39	1.30	1.24	1.27	1.06	1.31	1.17	1.35	1.21	1.52	1.22	1.20	1.28	1.26	1.30	1.35	1.23	1.36	1.16	1.17	1.03
Dec	**LOW**	1.34	1.29	1.13	1.25	1.03	1.29	1.16	1.28	1.19	1.40	1.30	1.28	1.19	1.18	1.06	1.22	1.18	1.41	1.00	1.20	0.93
	HIGH	1.51	1.43	1.34	1.40	1.20	1.44	1.27	1.43	1.39	1.31	0.99	1.10	1.48	1.44	1.44	1.53	1.56	1.18	1.30	1.41	1.21
	AVG	1.41	1.35	1.22	1.33	1.12	1.36	1.21	1.36	1.27	1.54	1.44	1.45	1.33	1.30	1.30	1.38	1.30	1.51	1.19	1.26	1.11
Quarterly	**Avg**	1.37	1.30	1.22	1.28	1.09	1.31	1.18	1.31	1.20	1.50	1.31	1.30	1.29	1.29	1.29	1.36	1.26	1.42	1.19	1.20	1.07

NOTE: All values in mg/l unless otherwise stated

(0.05 mg/L - minimum standard per Ministry of Environment)
(0.20 mg/L - miminum WUC standard)

Table 5 - Operational Parameters

		JANUARY			FEBRUARY			MARCH			PLANT PARAMETERS HIGH LOW VALUES		MECP MAC	
		HIGH	LOW	AVG.	HIGH	LOW	AVG.	HIGH	LOW	AVG.			HIGH(*1)	LOW
ALUMINUM (*1)	µg/l	57	31	43	20	12	14	32	15	20	100.0	0.0	100.00	
pH (*2)		7.14	7.07	7.09	7.09	7.01	7.00	7.26	6.95	7.07	7.30	6.50		
TURBIDITY (*1)	NTU	0.10	0.04	0.05	0.03	0.02	0.02	0.03	0.03	0.03	1.00	0.00	1.00	0.00
HARDNESS (*2)	mg/L	124	110	108	118	120	126	126	92	107	100	80	n/a	
TEMPERATURE	°C	2.0	2.0	2.3	2.0	3.3	2.4	18.1	2.0	5.3			n/a	
ALKALINITY (*2 and *3)	mg/L	90	89	90	80	92	88	100	80	90	500	30	n/a	
CHLORINE RESIDUAL (*1)	mg/L	1.73	1.53	1.51	1.46	1.51	1.55	1.84	1.43	1.60	1.50	0.80	4.00	0.05

		APRIL			MAY			JUNE			PLANT PARAMETERS HIGH LOW VALUES		MECP MAC	
		HIGH	LOW	AVG.	HIGH	LOW	AVG.	HIGH	LOW	AVG.			HIGH(*1)	LOW
ALUMINUM (*1)	µg/l	46	16	29	116	25	52	133	59	83	100.0	0.0	100.00	
pH (*2)		7.14	7.09	7.08	7.18	7.01	7.10	7.13	7.01	7.07	7.30	6.50		
TURBIDITY (*1)	NTU	0.10	0.03	0.05	0.13	0.04	0.07	0.13	0.05	0.09	1.00	0.00	1.00	0.00
HARDNESS (*2)	mg/L	94	100	94	130	86	100	95	106	100	100	80	n/a	
TEMPERATURE	°C	14.5	14.0	14.9	16.3	3.9	12.9	23.3	16.1	23.6			n/a	
ALKALINITY (*2 and *3)	mg/L	90	84	80	116	70	87	80	72	82	500	30	n/a	
CHLORINE RESIDUAL (*1)	mg/L	1.58	1.42	1.52	1.08	1.08	1.49	1.55	1.37	1.52	1.50	0.80	4.00	0.05

		JULY			AUGUST			SEPTEMBER			PLANT PARAMETERS HIGH LOW VALUES		MECP MAC	
		HIGH	LOW	AVG.	HIGH	LOW	AVG.	HIGH	LOW	AVG.			HIGH(*1)	LOW
ALUMINUM (*1)	µg/l	154	84	114	154	84	114	157	60	97	100.0	0.0	100.00	
pH (*2)		7.18	7.01	7.10	6.99	7.02	6.92	7.16	7.01	7.10	7.30	6.50		
TURBIDITY (*1)	NTU	0.11	0.06	0.08	0.12	0.06	0.09	0.24	0.05	0.08	1.00	0.00	1.00	0.00
HARDNESS (*2)	mg/L	130	86	100				106	88	92	100	80	n/a	
TEMPERATURE	°C	16.3	3.9	12.9	22.2	22.4	22.6	22.3	17.4	19.6			n/a	
ALKALINITY (*2 and *3)	mg/L	116	70	87	86	80	76	92	72	82	500	30	n/a	
CHLORINE RESIDUAL (*1)	mg/L	1.64	1.08	1.49	1.49	1.52	1.61	1.63	1.37	1.50	1.50	0.80	4.00	0.05

		OCTOBER			NOVEMBER			DECEMBER			PLANT PARAMETERS HIGH LOW VALUES		MECP MAC	
		HIGH	LOW	AVG.	HIGH	LOW	AVG.	HIGH	LOW	AVG.			HIGH(*1)	LOW
ALUMINUM (*1)	µg/l	57	31	43	48	13	26	20	11	13	100.0	0.0	100.00	
pH (*2)		7.11	7.02	7.14	7.21	6.97	7.05	7.21	6.97	7.05	7.30	6.50		
TURBIDITY (*1)	NTU	0.10	0.04	0.05	0.43	0.04	0.06	0.37	0.04	0.11	1.00	0.00	1.00	0.00
HARDNESS (*2)	mg/L	112	104	110	102	86	95	102	86	95	100	80	n/a	
TEMPERATURE	°C	13.1	14.0	13.1	26.1	23.7	24.5	26.1	23.7	24.5			n/a	
ALKALINITY (*2 and *3)	mg/L	82	80	86	86	71	78	86	71	78	500	30	n/a	
CHLORINE RESIDUAL (*1)	mg/L	1.58	1.66	1.51	1.61	1.40	1.50	1.61	1.40	1.50	1.50	0.80	4.00	0.05

*1) MAC - Maximum Allowable Concentration
*2) Health Canada Operational Guidline (O.G.)
*3) Recommended in coagulant treated drinking water

Schedule 23 - Inorganic Parameters

Item	Parameter
1	Antimony
2	Arsenic
3	Barium
4	Boron
5	Cadmium
6	Chromium
7	Mercury
8	Selenium
9	Uranium

Schedule 24 - Organic Parameters

Item	Parameter
1	Alachlor
2	Atrazine + N-dealkylated metabolites
3	Azinphos-methyl
4	Benzene
5	Benzo(a)pyrene
6	Bromoxynil
7	Carbaryl
8	Carbofuran
9	Carbon Tetrachloride
10	Chlorpyrifos
11	Diazinon
12	Dicamba
13	1,2-Dichlorobenzene
14	1,4-Dichlorobenzene
15	1,2-dichloroethane
16	1,1-Dichloroethylene (vinylidene chloride)
17	Dichloromethane
18	2,4-Dichlorophenol
19	2,4-Dichlorophenoxy acetic acid (2,4-D)
20	Diclofop-methyl
21	Dimethoate
22	Diquat
23	Diuron
24	Glyphosate
25	Malathion
26	2-Methyl-4-chlorophenoxyacetic acid
27	Metolachlor
28	Metribuzin
29	Monochlorobenzene
30	Paraquat
31	Pentachlorophenol
32	Phorate
33	Picloram
34	Polychlorinated Biphenyls (PCB)
35	Prometryne
36	Simazine
37	Terbufos
38	Tetrachloroethylene (perchloroethylene)
39	2,3,4,6-Tetrachlorophenol
40	Triallate
41	Trichloroethylene
42	2,4,6-Trichlorophenol
43	Trifluralin
44	Vinyl Chloride