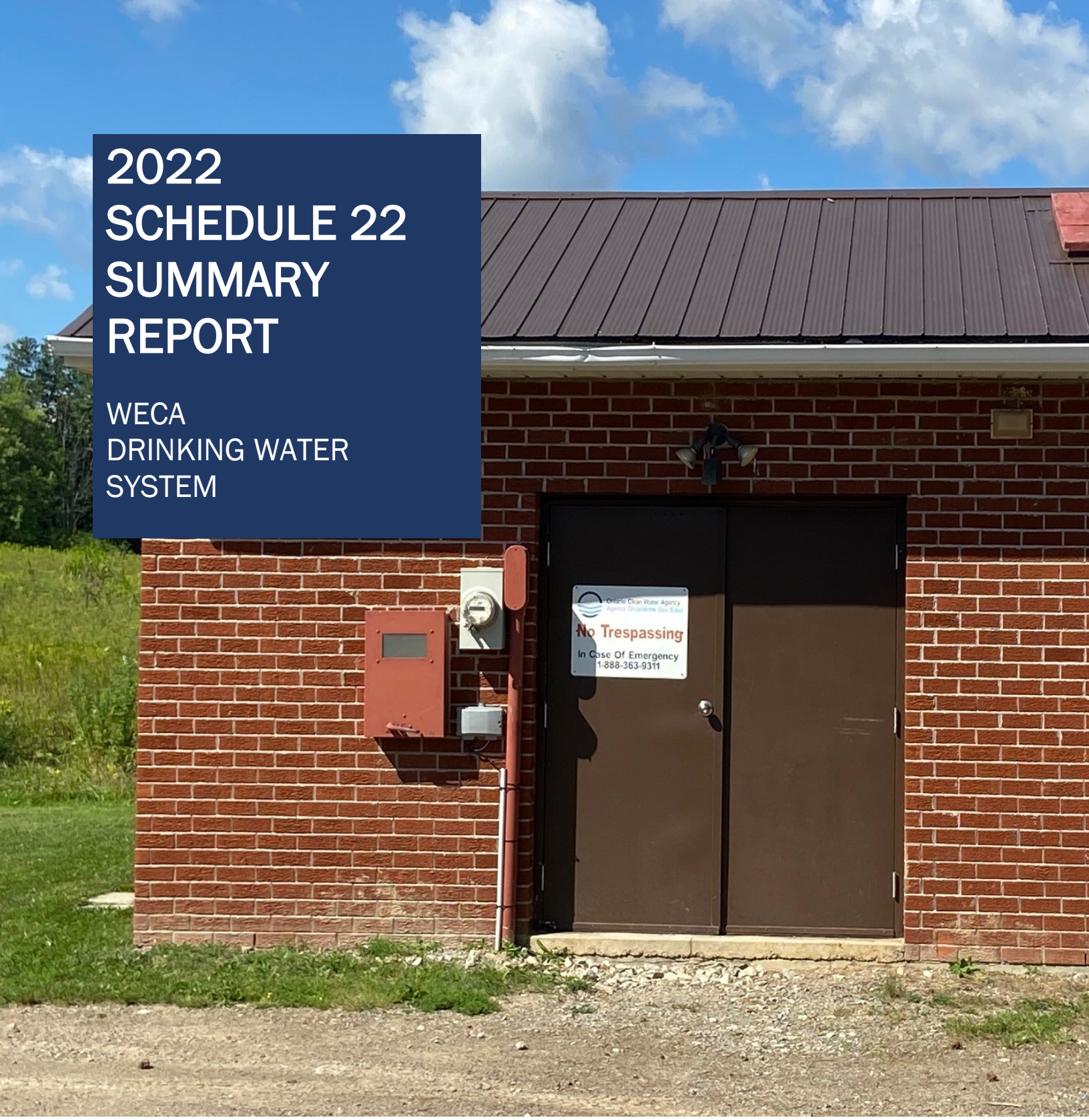
2022 SCHEDULE 22 SUMMARY REPORT

WECA DRINKING WATER SYSTEM



For the period of
January 1st, 2022 to December 31st, 2022

Prepared for the Corporation of the Township of Adjala-Tosorontio
by the Ontario Clean Water Agency

Township of Adjala-Tosorontio

ONTARIO CLEAN WATER AGENCY
AGENCE ONTARIENNE DES EAUX

This report was prepared in accordance with the requirements of *O.Reg 170/03, Schedule 22, Summary Reports for Municipalities* for the following system and reporting period:

Drinking-Water System Number:	220010048
Drinking-Water System Name:	Weca Drinking Water System
Drinking-Water System Owner:	The Corporation of the Township of Adjala-Tosorontio
Drinking-Water System Category:	Large Municipal Residential
Period being reported:	January 1, 2022 – December 31, 2022

1. Issue(s) of Non-Compliance

A Ministry of Environment, Conservation and Parks (MECP) Drinking Water System Inspection was conducted on December 2, 2022 for the period covering August 5, 2021 to December 2, 2022. On January 27, 2023 the Inspection Report was issued and an Inspection Summary Rating Record (IRR) of 100% was received.

The following is a summary of non-compliances noted in the MECP Inspection Report, as well as the duration and the measures that were taken to correct the non-compliance. If any self-reported non-compliances were included in the inspection report, they will be noted in Table 1.

Table 1. Non-Compliances and Corrective Actions noted in the 2021/2022 MECP Inspection Report

Non-Compliance(s)	Duration	Required Actions & Corrective Actions
N/A	N/A	N/A

The following table (Table 2) is a summary of any incidents that the Operating Authority interpreted as a instances where any requirements of the Act, the regulations, the system's approval, drinking water works permit (DWWP), municipal drinking water licence (MDWL), and any orders applicable were not met. The Operating Authority reported the following incidents to the MECP and confirmation of whether the incidents are considered non-compliances are noted in the MECP Inspection Report and included in Table 1.

Table 2. Self-Reported Incidents and Corrective Actions for the Reporting Period

Incident	Duration	Corrective Actions
N/A	N/A	N/A

For information on any Adverse Water Quality Incident(s) that may have occurred during the reporting period, please refer to the Weca Drinking Water System Annual Report (Section 11).

2. Assessment of Flowrates and Quantity of Water Supplied

The following tables (Table 3 to 14) summarize the quantities and flowrates of water supplied during the reporting period, including monthly averages and maximum daily flows as well as a comparison to the rated capacity and flowrates approved in the system's approval, DWWP or MDWL.

As required by the MDWL, regulatory flow measuring devices are checked/verified and where necessary calibrated. These checks/verifications/calibrations are performed annually by a third party to ensure the flow measuring devices are within acceptable deviation limits.

2.1 Treated Water

Municipal Drinking Water License (MDWL):	097-101 (Issue Number: 5)
Allowable Rated Capacity for Well No. 1 Pumphouse:	261 m^3/day
Allowable Rated Capacity for Well No. 2 Pumphouse:	655 m^3/day
Allowable Rated Capacity for Well No. 1 Pumphouse (Loretto Heights):	137 m^3/day
Allowable Flowrate into Treatment System:	Not listed in MDWL

As per the MDWL, the maximum daily volume of treated water that flows from the treatment subsystem to the distribution system shall not exceed the listed rated capacity. However, the MDWL allows a system to be operated temporarily at a maximum daily volume and/or a maximum flowrate above the values set out in the MDWL for the purposes of fighting a large fire or for the maintenance of the drinking water system.

Table 3. Treated Water Annual and Monthly Average and Maximum Flows with Comparison to Rated Capacity and Total Volume for Well No. 1 Pumphouse[3A] in 2022

Treated Water Flow- Well No. 1 Pumphouse[3A]					
Timeframe	**Average Flow (m^3/day)**	**Percent of Rated Capacity**	**Maximum Flow (m^3/day)**	**Percent of Rated Capacity**	**Total Volume (m^3)**
January	31.21	11.96%	48.97	18.76%	967.38
February	29.81	11.42%	37.86	14.51%	834.66
March	29.29	11.22%	47.58	18.23%	908.04
April	28.37	10.87%	49.71	19.05%	652.61
May	50.48	19.34%	89.03	34.11%	1564.99
June	57.16	21.90%	107.07	41.02%	1657.55
July	29.92	11.46%	74.54	28.56%	718.09
August	33.51	12.84%	41.41	15.87%	1038.79
September	30.84	11.82%	41.21	15.79%	925.21
October	23.11	8.85%	36.54	14.00%	716.27
November	29.79	11.41%	70.51	27.02%	893.66

Treated Water Flow- Well No. 1 Pumphouse[3A]					
Timeframe	**Average Flow (m^3/day)**	**Percent of Rated Capacity**	**Maximum Flow (m^3/day)**	**Percent of Rated Capacity**	**Total Volume (m^3)**
December	29.05	11.13%	49.55	18.98%	900.58
2022	**33.54**	**12.85%**	**107.07**	**41.02%**	**11,777.83**

[3A]Treated water flow and flowrate data for Weca Well No.1 Pumphouse is based off the raw water flow and flowrate data for Well #1: PW1. There is only one set of pumps responsible for the raw water taking, water that flows into the treatment system and water that flows from the treatment system into the distribution system.

A review of flow information for the reporting period indicates that Weca Well No. 1 Pumphouse operated within the rated capacity specified in the MDWL, for the maximum treated volume of treated water that flows from the treatment subsystem to the distribution system.

A summary of flowrates of water that flows into the Weca Well No. 1 Pumphouse treatment subsystem can be found in Table 7. The applicable MDWL for the reporting period did not list a maximum allowable limit for the flowrate of water that flows into the treatment subsystem at Weca Well No. 1 Pumphouse.

Table 4. Treated Water Annual and Monthly Average and Maximum Flows with Comparison to Rated Capacity and Total Volume for Well No. 2 Pumphouse[4A] in 2022

Treated Water Flow - Well No. 2 Pumphouse[4A]					
Timeframe	**Average Flow (m^3/day)**	**Percent of Rated Capacity**	**Maximum Flow (m^3/day)**	**Percent of Rated Capacity**	**Total Volume (m^3)**
January	102.21	15.61%	163.11	24.90%	3,168.64
February	93.71	14.31%	140.06	21.38%	2,623.74
March	95.21	14.54%	160.00	24.43%	2,951.59
April	121.19	18.50%	203.04	31.00%	3,635.77
May	97.69	14.91%	203.15	31.02%	3,028.45
June	98.68	15.07%	244.06	37.26%	2,960.34
July	193.33	29.52%	362.71	55.38%	5,993.26
August	145.97	22.29%	192.26	29.35%	4,525.01
September	141.90	21.66%	204.08	31.16%	4,257.07
October	141.08	21.54%	228.83	34.94%	4,373.51
November	114.66	17.51%	148.02	22.60%	3,439.78
December	132.15	20.18%	182.09	27.80%	4,096.54
2022	**123.15**	**18.80%**	**362.71**	**55.38%**	**45,053.70**

[4A]Treated water flow and flowrate data for Weca Well No.2 Pumphouse is based off the raw water flow and flowrate data for Well #2: PW2. There is only one set of pumps responsible for the raw water taking,

water that flows into the treatment system and water that flows from the treatment system into the distribution system.

A review of flow information for the reporting period indicates that Weca Well No. 2 Pumphouse operated within the rated capacity specified in the MDWL, for the maximum treated volume of treated water that flows from the treatment subsystem to the distribution system.

A summary of flowrates of water that flows into the Weca Well No. 2 Pumphouse treatment subsystem can be found in Table 9. The applicable MDWL for the reporting period did not list a maximum allowable limit for the flowrate of water that flows into the treatment subsystem at Weca Well No. 2 Pumphouse.

Table 5. Treated Water Annual and Monthly Average and Maximum Flows with Comparison to Rated Capacity and Total Volume for Well No. 3 (Loretto Heights) Pumphouse[5A] in 2022

Treated Water Flow- Well No. 3 (Loretto Heights) Pumphouse[5A]					
Timeframe	**Average Flow (m^3/day)**	**Percent of Rated Capacity**	**Maximum Flow (m^3/day)**	**Percent of Rated Capacity**	**Total Volume (m^3)**
January	7.06	5.15%	9.95	7.26%	218.74
February	7.02	5.13%	9.22	6.73%	196.69
March	6.00	4.38%	7.53	5.50%	156.01
April	9.73	7.10%	19.72	14.39%	243.15
May	5.04	3.68%	9.99	7.29%	146.14
June	5.71	4.17%	13.44	9.81%	171.32
July	6.93	5.06%	16.48	12.03%	214.95
August	3.99	2.91%	5.74	4.19%	107.61
September	0.08	0.06%	0.21	0.15%	0.31[5B]
October	0.03	0.02%	0.05	0.04%	0.09[5B]
November	0.16	0.11%	0.20	0.15%	0.62[5B]
December	0.13	0.09%	0.18	0.13%	0.51[5B]
2022	**4.32**	**3.15%**	**19.72**	**14.39%**	**1,456.14**

[5A] Treated water flow and flowrate data for Loretto Heights Well No. 3 Pumphouse is based off the raw water flow and flowrate data for Well #3: PW1 Loretto Heights. There is only one set of pumps responsible for the raw water taking, water that flows into the treatment system and water that flows from the treatment system into the distribution system.

[5B] Well No. 3 Pumphouse was taken offline in September 2022. Flows were from flushing raw water to waste during maintenance exercises, no water was directed to the distribution system.

A review of flow information for the reporting period indicates that the Weca Well No. 3 (Loretto Heights) Pumphouse operated within the rated capacity specified in the MDWL, for the maximum treated volume of treated water that flows from the treatment subsystem to the distribution system.

A summary of flowrates of water that flows into the Loretto Well No. 3 Pumphouse treatment subsystem can be found in Table 11. The applicable MDWL for the reporting period did not list a maximum allowable limit for the flowrate of water that flows into the treatment subsystem at Loretto Well No. 3 Pumphouse.

2.2 Raw Water

Permit to Take Water Number (PTTW):	0033-C2YNBY
Allowable Maximum Raw Water Volume – Well #1: PW1	260.60 m^3/day
Allowable Maximum Raw Water Flowrate– Well #1: PW1	3.0 L/sec
Allowable Maximum Raw Water Volume – Well #2: PW2	655.2 m^3/day
Allowable Maximum Raw Water Flowrate– Well #2: PW2	7.58 L/sec
Allowable Maximum Raw Water Volume – Well #3: PW1 Loretto Heights	163.8 m^3/day
Allowable Maximum Raw Water Flowrate– Well #3: PW1 Loretto Heights	1.90 L/sec

As per the PTTW, water shall only be taken from the specified source(s) and at the rates and amounts taken as specified in the permit.

Table 6. Raw Water (Well #1: PW1) Monthly Average, Maximum Flow and Total Volume for 2022

Raw Water Flow – Well #1: PW1					
Timeframe	**Average Flow (m^3/day)**	**Percent of Allowable Volume**	**Maximum Flow (m^3/day)**	**Percent of Allowable Volume**	**Total Volume (m^3)**
January	31.21	11.96%	48.97	18.76%	967.38
February	29.81	11.42%	37.86	14.51%	834.66
March	29.29	11.22%	47.58	18.23%	908.04
April	28.37	10.87%	49.71	19.05%	652.61
May	50.48	19.34%	89.03	34.11%	1564.99
June	57.16	21.90%	107.07	41.02%	1657.55
July	29.92	11.46%	74.54	28.56%	718.09
August	33.51	12.84%	41.41	15.87%	1038.79
September	30.84	11.82%	41.21	15.79%	925.21
October	23.11	8.85%	36.54	14.00%	716.27
November	29.79	11.41%	70.51	27.02%	893.66
December	29.05	11.13%	49.55	18.98%	900.58
2022	**33.54**	**12.85%**	**107.07**	**41.02%**	**11,777.83**

A review of flow information for the reporting period indicates that the system operated within the PTTW's maximum allowable daily raw water volume for Well #1: PW1.

Table 7. Raw Water (Well #1: PW1) Annual and Monthly Average and Maximum Flowrates for 2022

Raw Water Flowrate – Well #1 (PW1)		
Timeframe	**Average Flowrate (L/sec)**	**Maximum Flowrate (L/sec)**
January	2.36	2.26
February	2.33	2.28
March	2.30	2.69
April	2.34	1.96
May	2.31	2.43
June	2.29	2.05
July	1.78	3.12[7A]
August	1.93	1.97
September	1.93	2.00
October	2.09	3.06[7B]
November	1.85	2.09
December	1.67	1.89
2022	**2.10**	**3.12**[7A]

A review of flow information for the reporting period indicates that the system operated within the PTTW's maximum allowable raw water flowrate for Well #1: PW1 with the exception of:

- [7A]July 27, 2022 – Flowrate exceedances due to external third party flow measuring device verification and calibration.
- [7B] October 7, 2022- Flowrate exceedances due to response to a low chlorine alarm. OCWA responded to the alarm and increased flushing to the system. No adverse water directed to the users.

Table 8. Raw Water (Well #2: PW2) Monthly Average, Maximum Flow and Total Volume for 2022

Raw Water Flow – Well #2: PW2					
Timeframe	**Average Flow (m^3/day)**	**Percent of Allowable Volume**	**Maximum Flow (m^3/day)**	**Percent of Allowable Volume**	**Total Volume (m^3)**
January	102.21	15.61%	163.11	24.90%	3,168.64
February	93.71	14.31%	140.06	21.38%	2,623.74
March	95.21	14.54%	160.00	24.43%	2,951.59
April	121.19	18.50%	203.04	31.00%	3,635.77
May	97.69	14.91%	203.15	31.02%	3,028.45
June	98.68	15.07%	244.06	37.26%	2,960.34
July	193.33	29.52%	362.71	55.38%	5,993.26
August	145.97	22.29%	192.26	29.35%	4,525.01

Raw Water Flow – Well #2: PW2					
Timeframe	**Average Flow (m^3/day)**	**Percent of Allowable Volume**	**Maximum Flow (m^3/day)**	**Percent of Allowable Volume**	**Total Volume (m^3)**
September	141.90	21.66%	204.08	31.16%	4,257.07
October	141.08	21.54%	228.83	34.94%	4,373.51
November	114.66	17.51%	148.02	22.60%	3,439.78
December	132.15	20.18%	182.09	27.80%	4,096.54
2022	**123.15**	**18.80%**	**362.71**	**55.38%**	**45,053.70**

A review of flow information for the reporting period indicates that the system operated within the PTTW's maximum allowable daily raw water volume for Well #2: PW2.

Table 9. Raw Water (Well #2: PW2) Annual and Monthly Average and Maximum Flowrates for 2022

Raw Water Flowrate – Well #2: PW2		
Timeframe	**Average Flowrate (L/sec)**	**Maximum Flowrate (L/sec)**
January	6.61	10.89[9A]
February	6.60	8.20[9A]
March	6.70	9.37[9A]
April	6.70	21.73[9A]
May	6.79	11.71[9A]
June	6.71	10.71[9A]
July	6.56	9.29[9A, 9B]
August	6.64	9.13[9A]
September	6.71	9.11[9A]
October	6.82	12.61[9A]
November	6.80	23.57[9A]
December	6.77	12.45[9A]
2022	**6.70**	**23.57**[9A]

A review of flow information for the reporting period indicates that the system operated outside of the PTTW's the maximum allowable raw water flowrate for Well #2: PW2. There were instances where the system operated outside of the PTTW's the maximum allowable raw water flowrate for short durations of time due to:

- [9A]Flowrate exceedances were a result of well pump start-ups or distribution system flushing activities.
- [9B]July 27, 2022 - Flowrate exceedances due to external third party flow measuring device verification and calibration.

It should be noted that the systems average flowrate was within the PTTW's the maximum allowable raw water flowrate for Well #2: PW2.

Table 10. Raw Water (Well #3: PW1 Loretto Heights) Monthly Average, Maximum Flow and Total Volume for 2022

Raw Water Flow – Well #3: PW1 Loretto Heights					
Timeframe	**Average Flow (m^3/day)**	**Percent of Allowable Volume**	**Maximum Flow (m^3/day)**	**Percent of Allowable Volume**	**Total Volume (m^3)**
January	7.06	5.15%	9.95	7.26%	218.74
February	7.02	5.13%	9.22	6.73%	196.69
March	6.00	4.38%	7.53	5.50%	156.01
April	9.73	7.10%	19.72	14.39%	243.15
May	5.04	3.68%	9.99	7.29%	146.14
June	5.71	4.17%	13.44	9.81%	171.32
July	6.93	5.06%	16.48	12.03%	214.95
August	3.99	2.91%	5.74	4.19%	107.61
September[10A]	0.08	0.06%	0.21	0.15%	0.31[10A]
October[10A]	0.03	0.02%	0.05	0.04%	0.09[10A]
November[10A]	0.16	0.11%	0.20	0.15%	0.62[10A]
December[10A]	0.13	0.09%	0.18	0.13%	0.51[10A]
2022	**4.32**	**3.15%**	**19.72**	**14.39%**	**1,456.14**

[10A] Well No. 3 Pumphouse was taken offline in September 2022. Flows were from flushing raw water to waste during maintenance exercises, no water was directed to the distribution system.

A review of flow information for the reporting period indicates that the system operated within the PTTW's maximum allowable daily raw water volume for Well #3: PW1 Loretto Heights.

Table 11. Raw Water (Well #3: PW1 Loretto Heights) Annual and Monthly Average and Maximum Flowrates for 2022

Raw Water Flowrate – Well #3: PW1 Loretto Heights		
Timeframe	**Average Flowrate (L/sec)**	**Maximum Flowrate (L/sec)**
January	0.71	1.10
February	0.64	0.75
March	0.64	0.70
April	0.59	0.85
May	0.56	0.72
June	0.47	0.63
July	0.36	3.29[11A]
August	0.28	0.35
September	0.12	0.26
October	0.08	0.27
November	0.41	0.26

Raw Water Flowrate – Well #3: PW1 Loretto Heights		
Timeframe	**Average Flowrate (L/sec)**	**Maximum Flowrate (L/sec)**
December	0.16	0.26
2022	**0.51**	**3.29**[11A]

A review of flow information for the reporting period indicates that the system operated within the PTTW's the maximum allowable raw water flowrate for Well #3: PW1 Loretto Heights with the exception of:

- [11A]July 27, 2022 – Flowrate exceedances due to external third party flow measuring device verification and calibration.