

Prepared By: The Ontario Clean Water Agency

Prepared for: The Township of McGarry

SYSTEM OVERVIEW

April 1 to June 30, 2022

HIGHLIGHTS

Virginiatown-Kearns Drinking Water System

- May – annual lifting device inspection and generator maintenance complete.
- May 5 – generator fuel tank replaced by Township of McGarry.
- June 20 – A tower inspection was conducted. The vent and rupture disc is intact. The roof is rusted and there is settled material in the bottom of the tank that should be removed. These issues will be identified in the 2023 capital letter.
- June 21 – External desk-top audit complete. Refer to *Regulatory* below for findings.
- Langelier testing was done on the treated water from the plant and distribution water. This test indicates that the water is aggressive and can cause serious corrosion of the pipes.
- Four (4) water mains break occurred in the second quarter. Refer to “*Incidents*” below for details.
- The stand-by well No. 2 exceeded its allowable rate of taking resulting in a permit to take water (PTTW) exceedance on May 7th and 8th. Refer to “*Incidents*” below for more information.

McGarry Wastewater Treatment Lagoon

- From 2021 - The spill at the Lagoon is on-going. Weekly sampling and reporting to the MECP continued in the second quarter. A large amount tracer dye was put into Cells No. 2 and No. 3 on June 6th to try and determine the location of the leak. No colour was observed at the spill site. A dye test for Cell No. 1 is planned for July.
- May – annual lifting device inspection and generator maintenance complete.
- One (1) overflow events occurred this quarter. Refer to Incidents below for details.

CAPITAL PLAN PROGRESS

Status of capital work completed to date in 2022.

CAPITAL WORK – WATER TREATMENT SYSTEM	STATUS
Generator maintenance	Complete in May
Lifting device inspections	Complete in May
DWQMS – third party desk-top audit	Complete in June 10

CAPITAL WORK - WASTEWATER LAGOON SYSTEM	STATUS
Replaced Jockey pump at the V-Town SPS	Complete – January 20, 2022
Generator maintenance	Complete in May
Lifting device inspections	Complete in May

CAPITAL WORK - WASTEWATER LAGOON SYSTEM	STATUS
Spill – dye test	June 6 (Cell 2 & 3)

INCIDENTS

Virginiatown Drinking Water System:

Three Category 2 watermain breaks, one Category 1 watermain break and one permit to take water (PTTW) exceedance occurred in the second quarter.

Date	Type of Incident	Details
April 10	Category 2 Watermain Break, Boil Water Advisory (AWQI No. 158168)	<p>Loss of pressure due to a Category 2 watermain break in the community of Kearns (intersection of Lynch Avenue and Highway 66). The main was isolated on April 10th and the repair occurred on April 11th at 0900 hours. The local Health Unit was notified and a precautionary boil water advisory (BWA) was issued for the affected area (60 homes) on April 10th.</p> <p>After the repair was complete, the pressure was restored and the area was flushed until acceptable chlorine residuals were achieved. OCWA's OIC oversaw the repair. All materials were disinfected as per the Ministry's Watermain Disinfection procedure. Two sets of 3 bacteriological samples were collected (upstream, downstream and at the site of the break) on April 11th and 12th. Sample results indicated no total coliforms or <i>E.coli</i>. BWA was lifted on April 13, 2022 at 1530 hours (3:30 PM). Reported to appropriate authorities as required.</p>
April 15	Category 2 Watermain Break, Boil Water Advisory (AWQI No. 158211)	<p>Loss of pressure due to a Category 2 watermain break in the community of Kearns (intersection of Lynch Avenue and Highway 66). The main was isolated on April 15th at 1700 hours and the repair occurred the morning of April 16th. The local Health Unit was notified and a precautionary BWA was issued for the affected area (60 homes) on April 15th.</p> <p>After the repair was complete the pressure was restored and the area was flushed until acceptable chlorine residuals were achieved. OCWA's OIC oversaw the repair. All materials were disinfected as per the Ministry's Watermain Disinfection procedure. Two sets of 3 bacteriological samples were collected (upstream, downstream and at the site of the break) on April 16th and 17th. Sample results indicated no total coliforms or <i>E.coli</i>. BWA was lifted on April 18, 2022 at approximately 1645 hours (4:45 PM). Reported to appropriate authorities as required.</p>

Date	Type of Incident	Details
April 22	Category 2 Watermain Break, Boil Water Advisory (158236)	Category 2 watermain break at Reddick Avenue caused a loss of pressure to approximately 30 homes. Areas affected include: Reddick Avenue, Colville Street and Thompson Street. The 6 " main had a hole caused by corrosion. The main was isolated prior to excavation. The local Health Unit was notified and a precautionary BWA was issued for the affected area. After the repair was complete with a repair band, the pressure was restored and the area was flushed until acceptable residuals were achieved. Two sets of 3 bacteriological samples were collected (upstream, downstream and at the site of the break) on April 21st and 22nd. Sample results indicated no total coliforms or <i>E.coli</i> . BWA was lifted on April 23, 2022 at approximately 1435 hours (2:35 PM). Reported to appropriate authorities as required.
June 29	Category 1 watermain break	blow-out on a 6 inch cast iron main at 133 Government Rd due to deterioration. Repaired using Smith and Blair clamp while system was live. Pipe and repair parts disinfected as per the Ministry's Watermain Disinfection procedure. No sampling required.
May 7 & 8	PTTW Exceedance for Well No. 2	Stand-by Well No. 2 allowable run time exceeded due to production well left in the 'off' position from May 5 th to May 9 th . Allowable runtime for stand-by well is 10 hours per day. Stand-by Well No.2 ran for approximately 11 hours on the May 7 th and 10 hours and 25min. on May 8 th .

McGarry Lagoon Sewage Treatment System:

One sewage overflow occurred in the second quarter.

Date	Type of Incident	Details
April 14	Sewage Overflow (SAC Reference No. 1-1RIKBQ)	Approximately 7,000 m ³ of wastewater overflowed the Virginiatown sewage pumping station due to heavy rains and snowmelt. The event started at 1919 hours and lasted for approximately 67 hours, terminating on April 17 th at 1419 hours.

COMPLAINTS

No complaints were documented this quarter.

CALL-OUT SUMMARY

Number of Call-outs this Quarter:	3 (water system)	2 (sewage lagoon)
Total Call-outs to Date (2022):	5	
Annual Call-out Allowance:	8	
Details of the Call-outs:	Refer to Appendix A for a call-out summary.	

Note: Not all call backs are billed to the Owner; depends on the nature of the call.

REGULATORY

Inspections:

- No MECP or MOL inspections were conducted this quarter.

Quality & Environmental Management System (QEMS)

- June 21 – External desk-top audit complete. No issues identified. External on-site audit scheduled for July 26th.

Sampling, Testing and Monitoring

- Refer to Appendix B for Performance and Compliance Summaries.

Reporting

- Annual WSER report completed.

FLOW SUMMARIES

Virginiatown-Kearns Water Treatment Plant (Tower Flows)

Year	Total Treated Flows (m ³)	Average Daily Treated Flow (m ³ /d)	Maximum Treated Flow (m ³ /d)	Maximum % of Rated Capacity (2045 m ³ /d)
Jan. to Jun. 2022	91,128	503	1254	61.3%
2021	142,720	391	789	38.6%
2020	188,494	515	889	43.5%
2019	230,717	632	991	45.5%
2018	337,340	924	1870	91.4%

McGarry Lagoon

Year	Total Influent Flow (m ³)	Maximum Influent Flow (m ³ /d)	Average Daily Influent Flow (m ³ /d)	Average Day % of Design Capacity (1135 m ³ /d)
Jan. to Jun. 2022	232,172	6617	1283	113%
2021	349,792	10,000	958	84.4%
2020	476,828	6191	1303	115%
2019	475,681	7585	1303	115%
2018	575,627	7896	1580	139%

Refer to Appendix C for historical flow trends which compare flows from 2018 to June 2022.

HEALTH AND SAFETY

- All safety equipment at each plant was checked monthly to ensure that they are in good working order.



McGARRY WATER & WASTEWATER SYSTEMS

QUARTERLY OPERATIONS REPORT

- Health and Safety Training/Sessions completed this quarter include:
- Health and Safety Training/Sessions completed this quarter include:
 - ✓ Emergency Showers and Eyewash Stations
 - ✓ Ladder Safety
 - ✓ Facility Emergency Plan Review



APPENDIX A

Call-Out Summary

Workorder Summary Report

Report Start Date: Apr 1, 2022 12:00 AM

Report End Date: Jun 30, 2022 11:59 PM

Location: 5085*

Work Order Type: CALL,

Work Order Class:

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
2774634			5085, McGarry WTP Pump House, Facility	CALL	Compliance	0		McGarry watermain break BWA issued	CLOSE		4/10/22 01:00 PM	4/10/22 05:00 PM	McGarry watermain break BWA issued - Gord from McGarry called to inform me of a watermain break between vtown and kerns causing loss of pressure.60 homes were affected as a result of this. I contacted the THU who issued a BWA. Reported incident to MOE SAC ORO anthony danis was notified. i filled out the AWQI form and sent it to all apropriate people. AWQI # 158168
2775209			5085, McGarry WTP Tower, Facility	CALL	Compliance	0		McGarry DWS BWA AWQI 158236 5085	COMP		4/26/22 11:37 AM	4/26/22 11:37 AM	McGarry DWS BWA 5085 - Worked with lab, MOH and Town to lift BWA on Reddick Ave. BWA issued due to a Category 2 water main break

Workorder Summary Report

Report Start Date: Apr 1, 2022 12:00 AM

Report End Date: Jun 30, 2022 11:59 PM

Location: 5085*

Work Order Type: CALL,

Work Order Class:

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
2775211			5085, McGarry WTP Tower, Facility	CALL	Compliance	0		McGarry DWS AWQI 158211 BWA , 5085	COMP		4/15/22 07:30 AM	4/15/22 03:15 PM	- Trends show water main break occurred at 0305am. Operators became aware of the break at 0730am. Positive pressure was maintained until 17:00hrs McGarry DWS BWA 5085 - Water Main Break at the intersection of Lynch Ave and Hwy 66. Second break in that area in past few days affecting 60 + houses. Complete isolation of 60 + homes was required to prevent further erosion of highway 66. A Pre-cautionary Boil Water Advisory issued because of loss of pressure. 2 sets of bacterial samples required 24 hours apart prior to lifting the boil water advisory McGarry DWS AWQI 158211 BWA , 5085 - Worked with lab, MOH, operator and Town to lift the BWA in Kearns
2775742			5085, McGarry WTP Tower, Facility	CALL	Compliance	0			COMP		4/21/22 01:09 PM	4/21/22 01:09 PM	

Workorder Summary Report

Report Start Date: Apr 1, 2022 12:00 AM

Report End Date: Jun 30, 2022 11:59 PM

Location: 1022*

Work Order Type: CALL,

Work Order Class:

				WorkOrder		PM Schedule		Workorder Details					
WO #	Asset ID	Asset Description	Location Description	Type	Class	FEQ	Units	Work Order Description	Status	Schedule Start	Actual Start	Actual Finsh	WorkLog Detail
2817380	0000247069	PUMP DIAPHRAGM 2 ALUM PUMP	1022, V Town Pumping Station, Process	CALL	Refurbish/ Replace/Repair	0		ALARM - SPS alum pump Fault 1022	COMP		5/1/22 08:30 AM	5/1/22 12:30 PM	ALARM - SPS alum pump Fault 1022 - found the pump faulted as a result of the day tank being empty . I delivered more Alum and filled the day tank. restart the pump. normal ops resumed.
2824758			1022, V Town Pumping Station	CALL	Refurbish/ Replace/Repair	0		Chemical Pump Failed Alarm, 1022	COMP		5/28/22 06:00 PM	5/28/22 10:00 PM	Chemical Pump Failed Alarm, 1022 - Chemical pump failed of over pressure. - purged addition line and primed both pumps - reset faulted pump



APPENDIX B

Performance & Compliance Summaries

MCGARRY DRINKING WATER SYSTEM

Quarterly Data Report



Q2: April 1 to June 30, 2022

McGarry Drinking Water System		April	May	June	Compliance
Flows					
Total Raw Flow - Max. Daily Volume	m ³ /d	1299	819	662	Max. = 2044.8
Well 1 Flow - Maximum Daily Volume	m ³ /d	1299	819	662	Max. = 2044.8
Well 1 Flow - Maximum Flow Rate	L/min	1402	1410	1415	Max. = 1420
Well 2 Flow - Maximum Daily Volume	m ³ /d	99	669	112	Max. = 1500
Well 2 Flow - Maximum Flow Rate	L/min	1100	1098	1100	Max. = 1105
Tower Flow - Maximum Daily Volume	m ³ /d	1254	702	480	Max. = 2045
Tower Flow - Maximum Flow Rate	L/min	1733	2093	1338	N/A
Well 1 Total Coliforms - Maximum	c/100mL	0	0	0	N/A
Well 1 <i>E.coli</i> - Maximum	c/100mL	0	0	0	N/A
Well 2 Total Coliforms - Maximum	c/100mL	0	0	0	N/A
Well 2 <i>E.coli</i> - Maximum	c/100mL	0	0	0	N/A
Well 1 Turbidity - Maximum	NTU	0.344	0.193	0.161	N/A
Well 2 Turbidity - Maximum	NTU	0.508	0.631	0.920	N/A
Free Chlorine Residual - Minimum	mg/L	1.08	0.664	0.484	Min. = 0.10 (CT) ¹
Total Coliforms - Maximum	c/100mL	0	0	0	Max. = 0
<i>E.coli</i> - Maximum	c/100mL	0	0	0	Max. = 0
Nitrite	mg/L	< 0.01	-	-	Max. = 1
Nitrate	mg/L	0.1	-	-	Max. = 10
Free Chlorine Residual - Minimum	mg/L	0.78	0.88	0.48	Min. = 0.05
Total Coliforms - Maximum	c/100mL	0	0	0	Max. = 0
<i>E.coli</i> - Maximum	c/100mL	0	0	0	Max. = 0
Trihalomethanes (THMs)	µg/L	1.6	-	-	Max. = 100 µg/L (RAA) ²
Haloacetic Acids (HAAs)	µg/L	< 8	-	-	Max. = 80 µg/L (RAA) ³

MCGARRY DRINKING WATER SYSTEM

Quarterly Data Report



Q2: April 1 to June 30, 2022

Distribution Water					
Lead – Maximum	µg/L	-	-	N/A	Max. = 10 µg/L ⁴
Alkalinity - Maximum	mg/L	-	-	-	N/A ⁵
pH - Average	mg/L	-	-	-	N/A ⁵

Notes:

- ¹ CT is the concentration of chlorine in the water times the time of contact that the chlorine has with the water. It is used to demonstrate the level of disinfection treatment in the water. CT calculations are performed for the Virginiatown-Kearns water plant if the free chlorine residual level drops below 0.10 mg/L to ensure primary disinfection is achieved. Primary disinfection was achieved this quarter.
- ² Maximum Allowable Concentration (MAC) for Trihalomethanes (THMs) = 100 ug/L (Four Quarter Running Average). The annual running average to the end of the quarter = 2.08 ug/L
- ³ Maximum Allowable Concentration (MAC) for Haloacetic Acids (HAAs) = 80 ug/L (Four Quarter Running Average). The annual running average to the end of the quarter = 8.5 ug/L
- ⁴ Lead testing required every 3 year. Next sampling due in 2023.
- ⁵ Alkalinity and pH testing required twice per year. Next sampling due in September 2022.

McGARRY WASTE WATER SYSTEM

Quarterly Data Report



Q2: April 1 to June 30, 2022

McGarry Waste Water System		April	May	June	Compliance
Flows					
Influent – Average Daily Flow	m ³ /d	3312	1635	1081	Average = 1135
Influent – Maximum Daily Flow	m ³ /d	6617	5291	2704	N/A
Effluent – Average Daily Flow	m ³ /d	3200 ¹	1598 ¹	822	Average = 1135
Effluent – Maximum Daily Flow	m ³ /d	4975	3023	2487	N/A
Influent					
BOD ₅ – Average	mg/L	1.8	9.4	11	N/A
Total Suspended Solids (TSS) – Average	mg/L	2	22.5	< 1	N/A
Total Phosphorus (TP) – gAverage	mg/L	0.077	0.243	0.124	N/A
Total Ammonia (TKN) – Average	mg/L	10.6	2.2	2	N/A
Effluent²					
cBOD ₅ – Average	mg/L	< 0.938	< 1.29	< 1.17	Monthly Average = 25
cBOD ₅ Loading	kg/d	< 3	< 2.06	< 1.03	Monthly Average = 28.4
TSS – Average	mg/L	1.63	<6.60	< 2.64	Monthly Average = 25
TSS Loading	kg/d	5.2	< 10.546	< 2.331	Monthly Average = 28.4
TP – Average	mg/L	0.110	0.188	0.105	Monthly Average = 0.5
TP Loading	kg/d	0.351	0.300	0.093	Monthly Average = 0.6
Total Ammonia Nitrogen (TAN) – Average	mg/L	< 0.939	< 0.423	< 0.560	Monthly Average = 5
TAN Loading	kg/d	< 3.004	< 0.676	< 0.494	Monthly Average = 5.7
<i>E.coli</i> (geometric mean)	cfu/100mL	547.745	26.173	19.392	N/A

Notes:

- 1 High flows in April and May due to rain and snow melt.
- 2 Effluent data also includes results from a suspected spill discharging from near the side of the lagoon which was observed in November 2021. MECP requested that the spill material be tested weekly and the results be included as part of the effluent results.

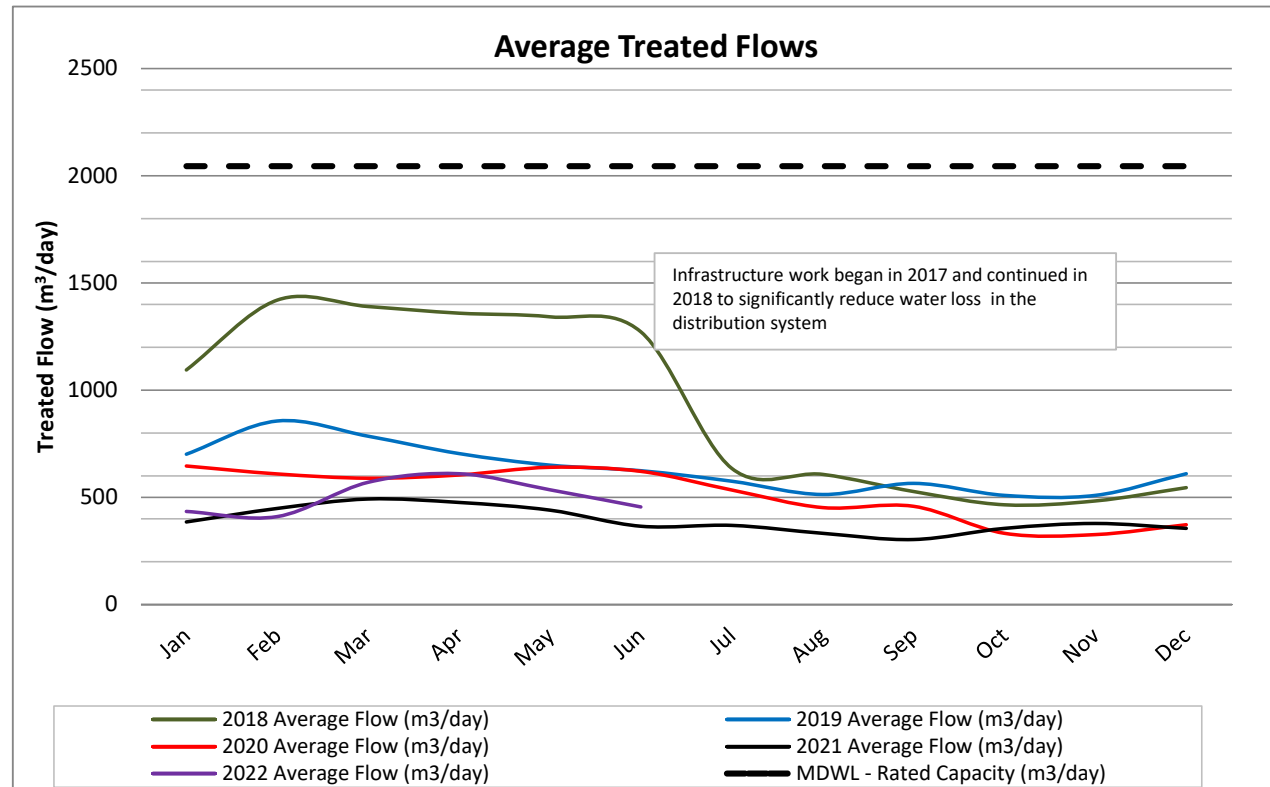


APPENDIX C

Historical Flow Trends

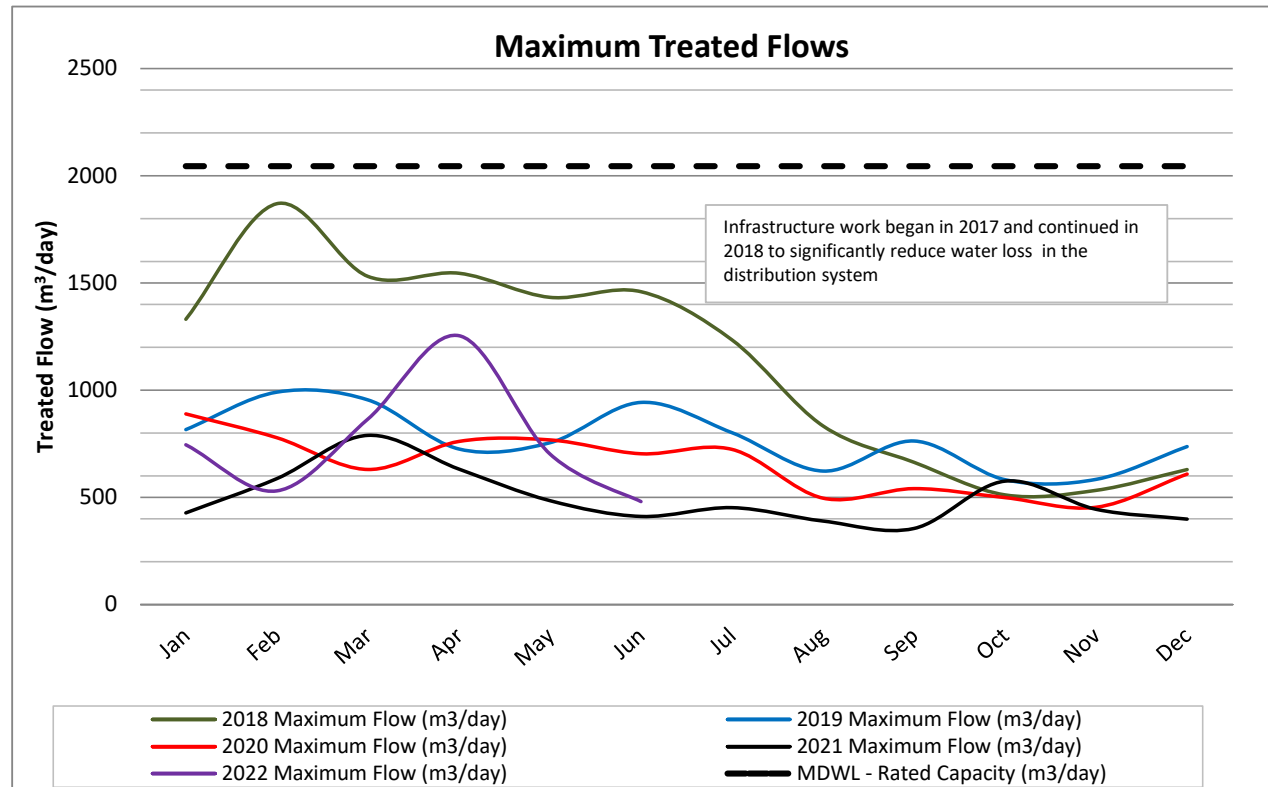
Virginiatown-Kearns Water Treatment System - Average Treated Water Tower Flows from 2018 to 2022

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018 Average Flow (m ³ /day)	1094	1420	1390	1359	1342	1272	635	607	527	465	483	545
2019 Average Flow (m ³ /day)	701	856	785	704	650	624	575	513	565	509	509	610
2020 Average Flow (m ³ /day)	646	609	589	604	640	621	534	452	458	332	326	372
2021 Average Flow (m ³ /day)	385	448	492	476	440	365	369	332	303	355	378	355
2022 Average Flow (m ³ /day)	434	410	570	610	535	455						
MDWL - Rated Capacity (m ³ /day)	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045



Virginiatown-Kearns Water Treatment System - Maximum Treated Water Tower Flows from 2018 to 2022

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018 Maximum Flow (m ³ /day)	1331	1870	1531	1545	1433	1459	1234	833	663	511	532	629
2019 Maximum Flow (m ³ /day)	816	991	954	725	755	943	801	622	763	582	584	737
2020 Maximum Flow (m ³ /day)	889	778	630	761	768	703	724	496	541	499	454	608
2021 Maximum Flow (m ³ /day)	427	587	789	632	484	411	452	389	355	576	444	398
2022 Maximum Flow (m ³ /day)	745	530	865	1254	702	480						
MDWL - Rated Capacity (m ³ /day)	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045	2045



McGarry Lagoon - Average Influent Flows from 2018 to 2022

2018 Average Flow (m³/day)

2019 Average Flow (m³/day)

2020 Average Flow (m³/day)

2021 Average Flow (m³/day)

2022 Average Flow (m³/day)

ECA - Rated Capacity (m³/day)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2018 Average Flow (m ³ /day)	1304	1457	1459	2244	2394	1837	1017	1141	1766	2434	1187	729
2019 Average Flow (m ³ /day)	769	874	1118	2679	3352	1611	696	699	849	1117	1064	802
2020 Average Flow (m ³ /day)	683	632	802	3533	1840	1322	1255	775	1156	1975	1236	447
2021 Average Flow (m ³ /day)	447	422	1519	1653	1148	824	2024	608	981	690	524	634
2022 Average Flow (m ³ /day)	412	389	839	3311	1635	1081						
ECA - Rated Capacity (m ³ /day)	1135	1135	1135	1135	1135	1135	1135	1135	1135	1135	1135	1135

