

March 2022

**Monthly Summary Report
Water Systems**

**Prepared by: Greg Wiedenhoef
Overall Responsible Operator**

Dated: April 4, 2022

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of March 2022 at the Water Treatment Plant - Water Works # 220000978 and the Airport Groundwater Well Water Works No. 849N7DGE0 (Precedes Airport Groundwater Well Water Works No. 26002736). This information report has been prepared for Council to better understand how the water systems they own and operate are maintained on a monthly basis. Also, this report will assist Council as Directors of the Corporation in exercising its obligation to meet a reasonable Standard of Care as outlined in Section 19 of the Safe Drinking Water Act. The water treatment plant falls under the requirements of Ontario Regulation 170/03 – Drinking Water Systems.

The Airport Small Drinking Water System, System No. 849N7DGE0, was put into service August 01, 2017. The system falls under the requirements of Ontario Regulation 319/08 – Small Drinking Water Systems.

2) **Flow Data:**

Water Treatment Plant: See attached spreadsheet.

Airport Groundwater Well:

Estimated Daily Usage	0.21 m3
Estimated Monthly Usage	6.5 m3

3) **Microbiological (Health Related) Water Analysis - Main Water System No. 220000978:**

Water Treatment Plant (treated): 4 samples taken no adverse results

Water Treatment Plant (raw): 4 samples taken no adverse results

Water Distribution System: 16 samples taken where 25% of samples were tested for heterotrophic plate count (HPC) - no adverse results.

We take microbiological samples on a weekly basis, which includes 1 raw sample, 1 treated sample and 4 distribution samples. The 4 distribution samples are taken at different locations throughout the distribution system.

Water distribution samples taken at the following locations:

1. 940 Third St. E.	2. 601 Reid Ave.	3. 1324 King's Hwy.	4. W. Tower
5. 601 Reid Ave.	6. 218 Third St. E.	7. 900 Wright Ave.	8. W. Tower
9. 943 Third St. E.	10. 835 McKenzie Ave.	11. 900 Wright Ave.	12. W. Tower
13. 715 Col. Rd. E.	14. 1309 King's Hwy.	15. 601 Reid Ave.	16. W. Tower

4) Microbiological (Health Related) Water Analysis - Airport Groundwater Well No. 849N7DGE0:

New drinking water system put online August 01, 2017. No treatment required as the Airport groundwater tested negative for bacteria.

The Airport drinking water system is to be sampled and tested for bacteria once every three (3) months in accordance with Section 25 – Microbiological Sampling and Testing of the Small Drinking Water Systems Regulation, O. Reg. 319/08.

Water distribution sample taken March 16, 2022 – no adverse results.

5) Free Available Chlorine Residual (FAC) - Main Water System No. 220000978:

FAC residuals are taken at a minimum daily at both the Water Treatment Plant and within the Water Distribution System.

6) Free Available Chlorine Residual (FAC) - Airport Groundwater Well System No. 849N7DGE0:

New drinking water system put online August 01, 2017. No treatment required as the Airport groundwater well tested negative for bacteria.

7) Maintenance Activities at the WTP:

- Mar 2nd - Cleaned Flash mixer.
 - Started draining clarifier #2 for maintenance.
- Mar 3rd - Cleaned all 4 check valves on the poly pumps.
 - Cleaned top and bottom tanks on the poly unit.
- Mar 8th - Cleaned and inspected clarifier #2.
 - Started working on clarifier #2 mixer and rake drive assembly.
- Mar 9th - Reassembled clarifier #2 mixer drive assembly.
 - Changed sprockets, bearings, couplers, shaft and chain.
 - Changed oil in clarifier #2 rake gearbox.
 - Changed oil in clarifier #2 mixer gearbox.
 - Calibrated distribution cl2 analyzer.
- Mar 10th - Changed filters in soda ash blower.
 - Cleaned all 4 check valves on the poly pumps.
 - Cleaned top and bottom tanks on the poly unit.
- Mar 11th - Replaced seal on soda ash access panel.
- Mar 15th - Transferred sludge from clarifier #1 to clarifier #2.

- Mar 17th - Calibrated distribution cl2 analyzer.
- Measured media depth in filters #3 and #4.
- Transferred media from filter #2 to filter #4.
- Transferred sludge from clarifier #1 to clarifier #2.
- Mar 18th - Cleaned all 4 check valves on the poly unit.
- Cleaned top and bottom tanks on the poly unit.
- Transferred media from filter #2 to filter #4.
- Put clarifier #2 back into service.
- Mar 21st - Transferred media from filter #2 to filter #4.
- Calibrated distribution cl2 analyzer.
- Mar 22nd - Transferred media from filter #2 to filter #4.
- Mar 23rd - Transferred media from filter #2 to filter #4.
- Mar 24th - Transferred media from filter #2 to filter #3.
- Calibrated distribution cl2 analyzer.
- Cleaned all 4 check valves on the poly unit.
- Cleaned top and bottom tanks on the poly unit.
- Mar 25th - Added 100 bags of anthracite to filter #3.
- Mar 27th - Calibrated distribution cl2 analyzer.
- Flushed poly line for clarifier #2.
- Mar 29th - Ran the standby generator for 1 hr.
- Calibrated the fluoride analyzer.
- Measured media depth in filters #1.
- Mar 30th - Added 25 bags of Anthracite to filter #3.
- Mar 31st - Changed out West cl2 tonner.

8) **Water Complaints:**

- Poor Pressure – 0 complaints.
- Water quality – 0 complaints.

9) **Other Miscellaneous Information:**

- Mar 7th - Routine micro sample collection.
- Took Bacti samples for the 500 Blk. of 2nd St. E. main repair. (1st set)

- Mar 8th -Took Bacti samples for the 500 Blk. of 2nd St. E. main repair. (2nd set)
- Mar 9th - Cannect Electric here working on High lift pump #1.
- Mar 10th - Cannect Electric here working on heating system fans.
- Mar 14th - Routine micro sample collection.
-Took Bacti samples for the 500 Blk. of 2nd St. E. main repair (2ndset)
(Re- sample for the second set...March 8th samples did not make to lab in time due to shipping error)
- Cannect Electric here working on High lift pump #1.
- Mar 16th - Took Annual and Quarterly samples.
- Monthly TSS sample collection.
- Took Airport Bacti sample.
- Mar 17th - Took Bacti samples for the 300 blk. of 6th St. W. main repair. (1st set)
- Mar 21st - Took Bacti samples for the 300 blk. of 6th St. W. main repair. (2nd set)
- Routine micro sample collection.
- Mar 22nd - Lakeside here to update SCADA system.
- Received a skid of poly from ClearTech.
- Received 8 pails of calcium hypochlorite from ClearTech.
- Mar 25th - Received a load of soda ash.
- Mar 28th - Routine micro sample collection.
- Mar 29th - Ran the standby generator for 1 hr.
- Took grab samples off the filters.
- Calibrated the fluoride analyzer.
- Mar 31st - Took a Bacti sample at 1301 Elizabeth St. E. water service repair.

10) In order to acknowledge that all levels of responsibility within the Corporation of the Town of Fort Frances have received and reviewed this monthly report, it is necessary to sign-off in the appropriate location below:

- Greg Wiedenhoeft, Overall Responsible Operator: Greg Wiedenhoeft
- Craig Miller, P.Eng. Environmental Superintendent: Craig Miller
- Travis Rob, P.Eng. Manager of Operations & Facilities: Travis Rob
- Faisal Anwar, CAO: _____
- Rick Wiedenhoeft, Chair O & F Exec Committee: _____
- June Caul, Mayor: _____
- John McTaggart, Councillor: _____
- Mike Behan, Councillor: _____
- Wendy Brunetta, Councillor: _____
- Doug Judson, Councillor: _____
- Andrew Hallikas, Councillor: _____

Note: Once all signatures have been obtained, the report will be distributed and made available to the public. If you have any questions, please feel free to contact Greg Wiedenhoeft, Overall Responsible Operator at 807-274-2325.

Flow Data MARCH	Units	2020	2021	2022
Total Raw Water	m ³	155940	155300	170510
Raw Maximum Day	m ³	6000	5200	6120
Raw Minimum Day	m ³	4690	4900	5000
Raw Average Daily Consumption	m ³	5030	5010	5500
Total Treated Water	m ³	105300	109120	143250
Treated Water Maximim Day Consumption	m ³	4490	5530	5580
Treated Water Minimim Day Consumption	m ³	2790	2900	3820
Treated Water Average Day Consumption	m ³	3400	3520	4620
Daily Average Per Household Consumption Rate	m ³	0.899	0.930	1.221
* Daily Average Per Person Consumption Rate	m ³	0.426	0.441	0.579
Monthly Averages - Operating Parameters WTP				
FAC Residual - Treated Water	mg/L	2.08	2.14	2.14
Total Chlorine Residual - Treated Water	mg/L	2.31	2.44	2.43
Aluminum Sulphate - Raw Water	mg/L	35.0	34.0	37.0
Aluminum Sulphate - Treated Water Residua	mg/L	0.06	0.04	0.03
Fluoride - Treated Water	mg/L	0.75	0.63	0.68
Soda Ash - Raw Water	mg/L	35.0	37.0	36.0
pH - Adjusted	mg/L	6.93	7.23	6.99
Temperature	°C	2.2	3.3	2.3
Quantity of Chemical Used:				
Aluminum Sulphate	kg	5457.9	5280.2	6308.87
Polyelectrolyte	kg	75.0	62.5	100.0
Chlorine Gas	kg	588	569	589
Soda Ash - Used for pH Adjustmen	kg	5457.9	5746.1	6138.36
Fluoride	kg	707	519	632

* The Canadian Average is 450 litres (0.45 m³) per day.

* Population is 7986

* Number of Households is 3783

Town of Fort Frances - Water treatment Plant - Water Works # 220000978
Monitoring Record
Mar-22

Operating Data	Units	*MAC	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total	Average
		or Range																																	
Flow rates																																			
Raw Water	1000 m³	17	5.14	5.16	5.00	5.12	5.16	5.10	5.09	5.76	6.07	6.08	6.07	5.94	6.09	5.93	5.86	5.19	5.14	5.12	5.08	5.12	5.27	5.23	5.15	5.28	5.17	5.01	5.83	6.11	6.12	6.05	6.07	170.51	5.50
Peak Instantaneous - Raw Water	l/s	n/a	60.06	60.16	60.07	60.05	59.93	60.72	59.84	72.02	70.88	71.03	70.91	70.92	71.07	71.00	70.94	70.84	60.07	63.25	62.18	60.19	60.13	60.09	60.15	60.22	60.13	60.09	70.93	71.05	71.07	70.93	70.91		65.22
Treated Water	1000 m³	17	4.44	4.42	4.60	4.18	4.31	4.49	5.28	5.01	5.16	5.24	4.58	4.50	4.60	4.17	4.44	4.20	4.17	4.47	4.00	4.50	4.24	4.63	4.13	4.76	4.66	4.58	5.18	5.34	5.58	5.57	3.82	143.25	4.62
Peak Instantaneous - Treated Water	l/s	n/a	64.77	64.77	65.27	65.05	65.24	66.30	67.39	66.91	67.59	67.54	67.57	65.43	64.13	64.76	64.72	65.18	64.64	64.15	64.24	64.40	65.34	65.93	64.19	65.83	66.20	65.76	65.46	66.93	67.07	68.03	75.55		66.01
BackWash Water	1000 m³	n/a	0.25	0.28	0.28	0.25	0.25	0.26	0.25	0.25	0.26	0.25	0.26	0.26	0.26	0.27	0.27	0.26	0.28	0.27	0.53	0.27	0.26	0.54	0.54	0.52	0.51	0.49	0.00	0.00	0.28	0.263	0.498	9.392	0.303
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.65	0.69	0.69	0.67	0.68	0.67	0.68	0.68	0.68	0.67	0.65	0.68	0.68	0.69	0.70	0.70	0.71	0.71	0.72	0.72	0.72	0.68	0.69	0.68	0.69	0.71	0.71	0.71	0.63	0.64	0.64		0.68
Turbidity Information																																			
Raw Water	NTU	n/a	0.59	0.40	0.51	0.68	0.53	0.56	0.48	0.53	0.57	0.54	0.50	0.56	0.50	0.53	0.48	0.76	0.77	0.64	0.38	0.44	0.53	0.69	0.63	0.58	0.40	0.39	0.40	0.37	0.66	0.41	0.42		0.53
Settled Water	NTU	n/a	0.14	0.21	0.23	0.24	0.22	0.23	0.21	0.21	0.23	0.19	0.20	0.24	0.20	0.19	0.16	0.14	0.11	0.12	0.14	0.10	0.12	0.13	0.14	0.23	0.17	0.16	0.13	0.15	0.12	0.12	0.10		0.17
Treated Water	NTU	1	0.11	0.11	0.13	0.14	0.12	0.11	0.13	0.11	0.11	0.11	0.12	0.12	0.11	0.11	0.08	0.13	0.10	0.10	0.11	0.05	0.10	0.12	0.11	0.09	0.09	0.11	0.10	0.10	0.11	0.10	0.09		0.11
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	7.02	7.05	7.01	7.03	7.05	7.04	7.04	6.87	6.90	6.92	6.94	6.88	6.93	6.95	6.92	6.94	6.95	7.02	7.02	7.05	7.00	7.03	7.05	7.01	7.02	7.01	7.03	6.95	7.01	7.03	7.01		6.99
pH - Settled water	no units	n/a	6.55	6.47	6.45	6.44	6.48	6.48	6.45	6.60	6.55	6.60	6.58	6.56	6.61	6.59	6.56	6.54	6.52	6.58	6.64	6.65	6.61	6.56	6.47	6.49	6.43	6.47	6.51	6.51	6.49	6.47	6.51		6.53
pH - Raw Water	no units	n/a	6.97	6.83	6.85	6.90	6.98	6.92	6.93	6.95	6.96	6.98	6.98	6.93	6.96	7.00	7.02	7.01	7.00	6.96	6.97	7.00	7.04	6.96	6.90	6.93	6.88	6.86	6.83	6.87	6.92	6.90	6.91		6.94
FAC - Treated Water	mg/l	0.2 to 4	2.15	2.17	2.24	2.19	2.15	2.19	2.22	2.58	2.48	2.47	2.24	2.14	2.14	2.16	1.91	1.78	1.77	2.05	2.09	1.97	1.90	2.00	1.98	2.01	2.05	2.04	2.24	2.32	2.23	2.24	2.27		2.14
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.23	2.54	2.57	2.44	2.43	2.50	2.31	2.97	2.82	2.84	2.72	2.46	2.50	2.48	2.28	2.06	2.03	2.28	2.29	2.18	2.20	2.23	2.37	2.18	2.32	2.27	2.52	2.56	2.54	2.58	2.58		2.43
Temperature	°C	15	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		2.3
Fluoride used (Total Daily Consumption)	kg	n/a	20.0	20.0	21.0	18.0	19.0	19.0	18.0	21.0	22.0	22.0	22.0	21.0	21.0	21.0	24.0	20.0	20.0	20.0	20.0	20.0	19.0	19.0	20.0	19.0	19.0	21.0	22.0	21.0	22.0	21.0	632.00	20.4	
Chlorine used (Total Daily Consumption)	kg	n/a	18.0	18.0	17.0	18.0	19.0	18.0	18.0	22.0	23.0	22.0	21.0	21.0	22.0	20.0	20.0	15.0	16.0	17.0	17.0	16.0	17.0	18.0	16.0	18.0	16.0	17.0	20.0	22.0	23.0	22.0	22.0	589.00	19.0
Soda Ash (Total Daily Consumption)	kg	n/a	185.0	185.8	180.0	184.3	185.8	183.6	183.2	207.4	218.5	218.9	218.5	213.8	219.2	213.5	211.0	186.8	185.0	184.3	182.9	184.3	189.7	188.3	185.4	190.1	186.1	180.4	209.9	220.0	220.3	217.8	218.5	6138.36	198.0
Soda Ash - Dosage	mg/l	n/a	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36		36.0
Alum residual - (Total Daily Consumption)	kg	n/a	190.2	190.9	185.0	189.4	190.9	188.7	188.3	213.1	224.6	225.0	224.6	219.8	225.3	219.4	216.8	192.0	190.2	189.4	188.0	189.4	195.0	193.5	190.6	195.4	191.3	185.4	215.7	226.1	226.4	223.9	224.6	6308.87	203.5
Alum residual - Dosage	mg/l	n/a	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0	37.0		37.0	
Alum residual - Treated Water	mg/l	0.1	0.05	0.03	0.05	0.02	0.03	0.03	0.04	0.04	0.02	0.01	0.01	0.01	0.01	0.04	0.05	0.05	0.03	0.04	0.02	0.03	0.04	0.04	0.04	0.03	0.02	0.02	0.01	0.02	0.02	0.04	0.03		0.03
Poly bags added (25 kg bags)	kg	n/a	0.5			0.5						0.5					0.5						0.5		0.5			0.5					0.5	100.0	

* MAC - maximum acceptable range

Signature: Greg Wiedenhoeft
Greg Wiedenhoeft (Jun 29, 2022 09:05 CDT)

Email: gwiedenhoeft@fortfrances.ca

Signature: Carly Miller

Email: cmiller@fortfrances.ca

Signature: Tim Rob

Email: trob@fortfrances.ca

Minimum	Maximum
5.00	6.12
59.84	72.02
3.82	5.58
64.13	75.55












Mar 2022 WTP Report

Final Audit Report

2022-06-30

Created:	2022-06-29
By:	Craig Miller (cmiller@fortfrances.ca)
Status:	Signed
Transaction ID:	CBJCHBCAABAA5Y50pQbmFG-plmIficJ-rreCuaGVG20w

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