

December 15, 2016

Report To: Mayor & Council

From: Travis Rob, Manager of Operations & Facilities

SUBJECT: November 2016 Drinking Water Systems Monthly Summary Report

Please find attached the November 2016 Summary Report on the drinking water systems, prepared by Randy White, Senior WTP Operator.

Your Administration recommends that Operations & Facilities Executive Committee accept the November 2016 report as presented.

Respectfully submitted,
Operations & Facilities Division

Travis Rob, E.I.T.
Manager of Operations & Facilities

<p>Council approval of this report will accept the November 2016 Drinking Water Systems Monthly Summary Report and approve the report prior to it being made available to the general public.</p>
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c.c. – Doug Herr, Environmental & Facilities Supt.
Randy White, Senior WTP Operator

03CouncilwaterreportMarch 2015

November, 2016

**Monthly Summary Report
Water Systems**

**Prepared by: Randy White, ORO
Senior Water Treatment Plant Operator**

Dated: December 14, 2016

1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of November 2016 at the Water Treatment Plant - Water Works # 220000978 and the Airport Groundwater Well Water Works # 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.

2) **Flow Data:**

Water Treatment Plant: See attached spreadsheet. No flow data for Airport groundwater well.

3) **Microbiological (Health Related) Water Analysis – Main Water System # 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. 1150 Portage Ave.	2. 740 Sixth St. W.	3. 500 King's Hwy.	4. W. Tower
5. 740 Scott St.	6. 1150 Portage Ave.	7. 901 Wright Ave.	8. W. Tower
9. 1036 Victoria Ave.	10. 901 Wright Ave.	11. 810 King's Hwy.	12. W. Tower
13. 740 Scott St.	14. 901 Wright Ave.	15. 122 Scott St.	16. W. Tower

4) **Microbiological (Health Related) Water Analysis - Airport Groundwater Well # 26002736:**

No samples taken.

The Airport has signs posted in the men's and women's washroom stating that the water has not been tested or treated for drinking purpose in accordance with the Health Protection and Promotion Act – Section 7 of the Small Drinking Water Systems Regulation, O. Reg. 318/08 (*Amended to Safe Drinking Water Act, 2002 - Section 6 of Ontario Regulation 252/05*). The operators do a visual inspection of

the warning notices at a minimum of once per week to ensure that they are legible and comply with Ontario Regulation 318/08, Section 7(5).

5) Free Available Chlorine Residual (FAC) - Main Water System - # 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 # 26002736:

Signs posted, exempt from testing.

7) Maintenance Activities at the WTP:

- Nov. 01st - worked on Filter No. 3 effluent valve.
- Nov. 05th - cleaned Filter No. 1 turbidity meter and put filter back on-line.
- Nov. 10th - cleaned top and bottom tanks on the poly unit.
- cleaned all 4 check valves on the poly unit.
- Nov. 16th - calibrated the distribution Chlorine Analyzer.
- Nov. 17th - ran the standby generator under load.
- training on the standby generator – by Wajax Power Systems.
- Nov. 24th - cleaned top and bottom tanks on the poly unit.
- cleaned all 4 check valves on the poly unit.
- installed a new soda ash pump.
- Nov. 25th - flushed the poly lines from the pumps to the clarifiers.
- Nov. 29th - installed two (2) new soda ash lines.

8) **Water Complaints:**

- Poor Pressure – 0 complaints
- Water Quality – 0 complaints

9) **Other Miscellaneous Information:**

Nov. 02nd - took Grab samples off the filters.

Nov. 07th - routine micro sample collection.

Nov. 10th - electrical safety inspection at the plant – by ESA Inspector

Nov. 14th - routine micro sample collection

Nov. 15th - took well monitoring samples at the landfill

Nov. 21st - routine micro sample collection

Nov. 22nd - took Grab samples off the filters

Nov. 23rd - water service repair - bacti samples – 610 Second Street West.

Nov. 28th - routine micro sample collection.

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:

- Randy White, ORO, Senior WTP Operator: _____
- Doug Herr, Environmental & Facilities Supt.: _____
- Travis Rob, Manager of Operations & Facilities: _____
- Doug Brown, CAO: _____
- Paul Ryan, Chair O& F Exec Committee: _____
- Roy Avis, Mayor: _____
- June Caul, Councillor: _____
- John Albanese, Councillor: _____
- Wendy Brunetta, Councillor: _____
- Doug Kitowski, Councillor: _____
- Ken Perry, 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 myself or Randy White, Senior WTP Operator at 274-2325.

Monthly Report September 2016

Town of Fort Frances - WTP - 220000978
November 2014/2015 vs. November 2016
Flow and Operating Data

Flow Data November	2014		2015		2016	
	Day of the Month		Day of the Month		Day of the Month	
Total Raw Water		129150		159390		165660
Raw Maximum Day	Friday 12th	4430	Sunday 01st	5780	Friday 12th	5820
Raw Minimum Day	Wednesday 17th	4110	Monday 23rd	4850	Wednesday 17th	5340
Raw Average Daily Consumption		4310		5310		5520
Total Treated Water		100380		102560		96940
Treated Water Maximum Day Consumption	Friday 26th	3660	Monday 16th	3860	Friday 26th	3520
Treated Water Minimum Day Consumption	Friday 19th	2960	Saturday 14th	3010	Friday 19th	2900
Treated Water Average Day Consumption		3350		3420		3230
Daily Average Per Household Consumption Rate		0.886		0.904		0.854
* Daily Average Per Person Consumption Rate		0.419		0.428		0.404
Monthly Averages - Operating Parameters WTP:						
FAC Residual - Treated Water		1.90		2.02		2.24
Total Chlorine Residual - Treated Water		2.21		2.23		2.49
Aluminum Sulphate - Raw Water		37.0		35.4		35.0
Aluminum Sulphate - Treated Water Residual		0.05		0.04		0.03
Fluoride - Treated Water		0.67		0.57		0.57
Soda Ash - Raw Water		35.0		35.0		35.0
PH - Adjusted		7.11		7.24		7.18
Temperature		4.2		7.0		6.7
Quantity of Chemical Used:						
Aluminum Sulphate		4778.6		5641.6		5798.1
Polyelectrolyte		50.0		75.0		75.0
Chlorine Gas		497		589		711
Soda Ash - Used for PH Adjustment		4520.3		5578.7		5798.1
Fluoride		379		463		545

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

* Population is 7986

* Number of Households is 3783

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	Total	Average
		or Range																																
Flow rates																																		
Raw Water	10^3 M^3	17	5.52	5.52	5.60	5.48	5.46	5.82	5.50	5.59	5.54	5.57	5.67	5.50	5.50	5.37	5.50	5.53	5.52	5.50	5.44	5.34	5.57	5.52	5.49	5.52	5.53	5.54	5.43	5.55	5.49	5.55	165.66	5.52
Peak Instantaneous - Raw Water	L/s	n/a	64.74	64.75	64.77	64.73	64.72	64.74	64.79	64.62	64.72	64.65	64.65	64.56	64.61	64.38	64.35	64.37	64.38	64.29	64.38	64.55	64.55	64.51	64.38	64.48	64.44	64.40	64.42	64.45	64.41	64.39	1936.18	64.54
Treated Water	10^3 M^3	17	3.06	3.24	3.33	3.18	3.04	3.51	3.42	3.39	3.34	3.07	3.52	3.10	3.15	3.31	3.16	3.15	3.19	3.39	2.90	3.15	3.51	3.35	3.15	3.13	3.25	3.14	3.15	3.43	3.02	3.21	96.94	3.23
Peak Instantaneous - Treated Water	L/s	n/a	80.14	80.62	80.23	84.10	81.44	79.84	80.75	81.89	82.15	80.40	81.50	79.71	79.46	80.41	81.32	81.03	82.08	80.71	79.30		79.91	81.45	80.79	80.16	81.65	79.07	79.84	78.96	79.39	79.79	2338.09	80.62
BackWash Water	10^3 M^3	n/a	0.211		0.264	0.200		0.195		0.264	0.202	0.200	0.448	0.202	0.198			0.263	0.203	0.212	0.264			0.188	0.213			0.205			0.304	4.236	0.235	
Fluoride Information																																		
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.51	0.53	0.61	0.61	0.60	0.60	0.60	0.54	0.62	0.58	0.55	0.52	0.57	0.54	0.58	0.62	0.57	0.60	0.59	0.58	0.55	0.56	0.55	0.57	0.56	0.56	0.56	0.55	0.54	0.56	17.08	0.57
Turbidity Information																																		
Raw Water	NTU	n/a	1.29	1.22	1.23	1.31	1.34	1.21	1.26	1.33	1.34	1.22	1.31	1.37	1.34	1.28	1.21	1.18	1.27	1.32	1.30	1.33	1.27	1.24	1.22	2.19	1.31	1.34	1.31	1.22	1.51	1.60	39.87	1.33
Settled Water	NTU	n/a	0.15	0.13	0.17	0.15	0.14	0.14	0.16	0.14	0.16	0.17	0.19	0.21	0.22	0.27	0.30	0.20	0.19	0.18	0.17	0.15	0.19	0.18	0.17	0.19	0.18	0.18	0.16	0.19	0.18	0.15	5.36	0.18
Treated Water	NTU	1	0.10	0.09	0.11	0.09	0.08	0.09	0.09	0.10	0.11	0.09	0.12	0.12	0.13	0.11	0.13	0.12	0.13	0.13	0.11	0.10	0.13	0.14	0.10	0.10	0.11	0.10	0.09	0.11	0.13	0.11	3.27	0.11
Other Operating Parameters																																		
pH - Treated Water	no units	6.5 to 8.5	7.17	7.16	7.16	7.12	7.19	7.22	7.15	7.15	7.15	7.14	7.11	7.15	7.10	7.23	7.14	7.12	7.13	7.15	7.18	7.21	7.15	7.20	7.24	7.22	7.20	7.23	7.22	7.21	7.25	7.22	215.27	7.18
pH - Settled water	no units	n/a	6.46	6.49	6.58	6.47	6.49	6.38	6.47	6.56	6.57	6.57	6.45	6.49	6.55	6.57	6.70	6.62	6.65	6.72	6.70	6.68	6.80	6.69	6.62	6.49	6.63	6.49	6.42	5.96	6.72	6.77	196.76	6.56
pH - Raw Water	no units	n/a	7.08	7.11	7.10	7.09	7.12	7.09	7.14	7.13	7.11	7.13	7.10	7.08	7.13	7.14	7.12	7.08	7.14	7.17	7.21	7.12	7.12	7.35	7.13	7.18	7.11	7.14	7.11	7.09	7.20	7.24	7.18	7.14
FAC - Treated Water	mg/l	0.2 to 4	2.36	2.36	2.28	2.24	2.18	2.21	2.24	2.26	2.22	2.18	2.20	2.18	2.14	2.20	2.32	2.22	2.34	2.26	2.30	2.32	2.34	2.30	2.26	2.22	2.22	2.19	2.16	2.22	2.18	2.18	67.28	2.24
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.62	2.58	2.42	2.46	2.37	2.44	2.38	2.62	2.60	2.44	2.41	2.39	2.28	2.42	2.60	2.42	2.54	2.58	2.62	2.60	2.66	2.54	2.50	2.48	2.52	2.46	2.41	2.48	2.52	2.48	74.84	2.49
Temperature	C	15	9.0	9.0	9.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.0	7.0	7.0	6.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	4.0	4.0	4.0	202.0	6.7
Fluoride used (Total Daily Consumption)	kg	n/a	18.0	18.0	17.0	18.0	17.0	17.0	17.0	17.0	19.0	20.0	21.0	19.0	19.0	19.0	18.0	19.0	19.0	18.0	20.0	20.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	16.0	19.0	545.0	18.2	
Chlorine used (Total Daily Consumption)	kg	n/a	25.0	25.0	24.0	24.0	24.0	25.0	24.0	24.0	24.0	24.0	25.0	24.0	23.0	23.0	24.0	24.0	23.0	22.0	23.0	23.0	23.0	24.0	24.0	24.0	23.0	24.0	23.0	23.0	23.0	23.0	711.0	23.7
Soda ash (Total Daily Consumption)	kg	n/a	193.2	193.2	196.0	191.8	191.1	203.7	192.5	195.7	193.9	195.0	198.5	192.5	192.5	188.0	192.5	193.6	193.2	192.5	190.4	186.9	195.0	193.2	192.2	193.2	193.6	193.9	190.1	194.3	192.2	194.3	5798.1	193.3
Soda Ash - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1050.0	35.0
Alum residual - (Total Daily Consumption)	kg	n/a	193.2	193.2	196.0	191.8	191.1	203.7	192.5	195.7	193.9	195.0	198.5	192.5	192.5	188.0	192.5	193.6	193.2	192.5	190.4	186.9	195.0	193.2	192.2	193.2	193.6	193.9	190.1	194.3	192.2	194.3	5798.1	193.3
Alum residual - Dosage	mg/l	n/a	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	1050.0	35.0
Alum residual - Treated Water	mg/l	0.1	0.04	0.04	0.03	0.02	0.02	0.04	0.03	0.04	0.02	0.03	0.02	0.05	0.02	0.03	0.05	0.02	0.03	0.04	0.02	0.03	0.02	0.04	0.04	0.03	0.04	0.04	0.02	0.05	0.05	0.04	0.99	0.03
Poly bags added (25 kg bags)	kg			0.5					0.5							0.5			0.5				0.5			0.5			0.5				75.0	