

November 21, 2016

Report To: Mayor & Council

From: Travis Rob, Manager of Operations & Facilities

**SUBJECT: October 2016 Drinking Water Systems Monthly Summary Report**

Please find attached the October 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 October 2016 report as presented.

Respectfully submitted,  
Operations & Facilities Division

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

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

03CouncilwaterreportMarch 2015

**October, 2016**

**Monthly Summary Report  
Water Systems**

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

**Dated: November 14, 2016**

### 1) **Introduction:**

This report contains the major maintenance activities and operational events that occurred during the month of October 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. 122 Scott St.	2. 901 Wright Ave.	3. 810 King's Hwy.	4. W. Tower
5. 1111 First St.	6. 740 Scott St.	7. 1036 Victoria Ave.	8. 901 Wright
9. Tower	10. 1104 Church St.	11. 933 Banta Blvd	12. Tower
13. 1111 First St.	14. 740 Scott	15. 1036 Victoria Ave.	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:**

- Oct. 02<sup>nd</sup> - power outage generator started automatically
- Oct. 04<sup>th</sup> - calibrated the dist CL2 analyzer
- Oct. 6<sup>th</sup> - cleaned top and bottom tanks on the poly unit  
cleaned all 4 check valves on the poly unit
- Oct. 13<sup>th</sup> - began to disassemble Sunny Cove Water System,
- Oct. 25<sup>th</sup> - worked on Filter No. 2 Influent valve
- Oct. 26<sup>th</sup> - replaced solenoid on Alum Valve
- Oct. 28<sup>th</sup> - cleaned top and bottom tanks on the poly unit.  
- cleaned all four (4) check valves on poly unit.

8) **Water Complaints:**

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

9) **Other Miscellaneous Information:**

- Oct. 03<sup>rd</sup> - Routine Micro Sample Collection
- Oct. 04<sup>th</sup> - Propane Training for WTP staff
- Oct. 05<sup>th</sup> - Lead Sampling program
- Oct. 06<sup>th</sup> - Lead Sampling program
- Oct. 11<sup>th</sup> - Lead Sampling program  
Routine Micro Sample Collection  
Took Grab samples off the filters
- Oct. 12<sup>th</sup> - Lead Sampling program
- Oct. 17<sup>th</sup> - Routine Micro Sample Collection
- Oct. 24<sup>th</sup> - Routine Micro Sample Collection
- Oct. 31<sup>st</sup> - Routine Micro Sample Collection  
- Quarterly DWSP samples taken.

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 - Water treatment Plant - Water Works # 220000978  
Monitoring Record  
October 2016

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	10^3 M^3	17	5.79	5.40	5.50	5.59	5.54	5.63	5.59	5.46	5.72	5.42	5.62	5.51	5.59	5.55	5.37	5.69	5.59	5.55	5.54	5.54	5.56	5.77	5.58	5.26	5.55	4.89	5.59	5.52	5.44	5.58	5.59	171.52	5.53
Peak Instantaneous - Raw Water	L/s	n/a	65.56	65.40	65.73	65.40	65.33	65.21	65.11	65.05	64.98	64.96	65.15	64.93	64.91	64.90	64.86	64.88	64.91	64.81	64.81	64.75	64.86	64.73	64.83	64.73	64.71	64.71	65.21	64.86	64.82	64.75	64.71	2014.56	64.99
Treated Water	10^3 M^3	17	3.21	3.20	2.98	3.44	3.01	4.65	3.33	3.17	3.18	3.29	3.18	3.40	3.03	3.93	2.76	3.39	3.28	3.13	3.18	3.21	3.23	3.34	3.21	3.08	4.50	3.24	3.31	3.17	3.06	3.49	3.47	103.05	3.32
Peak Instantaneous - Treated Water	L/s	n/a	78.23	79.95		66.37	64.28	76.49	74.85	65.52	67.31	63.37	64.52	66.44	68.46	83.57	67.86	64.24	101.06	80.45	80.54	80.82	80.88	81.97	80.97	81.29	87.76	87.76	84.28	80.71	80.15	81.38	80.94	2302.42	76.75
BackWash Water	10^3 M^3	n/a	0.270	0.182	0.134	0.165	0.267	0.218	0.204	0.269	0.220	0.188	0.268	0.267	0.211	0.189	0.264	0.215	0.196	0.264	0.208	0.201	0.258	0.208	0.198	0.127	0.288		0.170	0.207	0.264	0.203	0.327	6.650	0.222
Fluoride Information																																			
Fluoride Residual - Treated Water	mg/l	0.5 to 0.8	0.67	0.64	0.68	0.64	0.80	0.79	0.77	0.66	0.58	0.54	0.61	0.56	0.60	0.62	0.64	0.65	0.64	0.62	0.60	0.58	0.52	0.60	0.61	0.76	0.69	0.77	0.70	0.65	0.68	0.67	0.54	20.08	0.65
Turbidity Information																																			
Raw Water	NTU	n/a	1.37	1.39	1.28	1.31	1.33	1.23	1.27	1.21	1.36	1.29	1.38	1.32	1.39	1.41	1.26	1.19	1.22	1.27	1.21	1.30	1.33	1.35	1.39	1.31	1.22	1.91	1.30	1.21	1.27	1.33	1.44	41.05	1.32
Settled Water	NTU	n/a	0.12	0.11	0.14	0.12	0.15	0.14	0.17	0.13	0.11	0.14	0.15	0.16	0.14	0.15	0.14	0.14	0.14	0.12	0.11	0.13	0.11	0.09	0.25	0.19	0.14	0.13	0.17	0.14	0.16	0.19	0.17	4.45	0.14
Treated Water	NTU	1	0.08	0.09	0.10	0.11	0.10	0.09	0.10	0.09	0.09	0.11	0.09	0.11	0.09	0.08	0.08	0.07	0.06	0.06	0.06	0.09	0.08	0.07	0.09	0.11	0.08	0.09	0.11	0.10	0.11	0.09	0.09	2.77	0.09
Other Operating Parameters																																			
pH - Treated Water	no units	6.5 to 8.5	7.19	7.21	6.88	6.99	7.10	7.17	7.18	7.25	7.14	7.18	7.17	7.14	7.16	7.22	7.19	7.21	7.22	7.19	7.20	7.15	7.13	7.15	7.17	7.17	7.20	7.28	7.20	7.18	7.19	7.15	7.19	222.15	7.17
pH - Settled water	no units	n/a	6.45	6.41	6.30	6.31	6.57	6.67	6.61	6.88	6.50	6.49	6.48	6.52	6.47	6.41	6.39	6.42	6.38	6.44	6.44	6.59	6.84	6.71	6.59	6.47	6.53	6.43	6.44	6.37	6.20	6.44	6.49	201.24	6.49
pH - Raw Water	no units	n/a	7.01	7.09	7.12	7.05	7.03	7.05	7.05	7.10	7.01	7.07	7.01	7.04	7.08	7.07	7.05	7.01	7.07	7.03	7.07	7.12	6.99	7.01	7.05	7.07	7.09	7.19	7.07	7.13	7.10	7.10	7.10	219.03	7.07
FAC - Treated Water	mg/l	0.2 to 4	2.25	2.20	2.72	2.11	2.36	2.34	2.24	2.20	2.20	2.24	2.26	2.24	2.14	2.19	1.96	2.36	2.39	2.21	2.23	2.26	2.22	2.17	2.00	2.36	2.42	2.54	2.44	2.28	2.30	2.28	2.44	70.55	2.28
Total Chlorine Residual Treated	mg/l	0.3 to 7	2.47	2.45	2.88	2.23	2.56	2.66	2.52	2.58	2.62	2.60	2.58	2.52	2.42	2.48	2.29	2.64	2.66	2.47	2.47	2.54	2.46	2.32	2.21	2.52	2.58	2.66	2.70	2.50	2.62	2.48	2.72	78.41	2.53
Temperature	C	15	15.0	15.0	15.0	15.0	15.0	15.0	15.0	14.0	14.0	14.0	13.0	13.0	12.0	12.0	12.0	12.0	11.0	11.0	11.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	377.0	12.2	
Fluoride used (Total Daily Consumption)	kg	n/a	21.0	20.0	22.0	20.0	22.0	22.0	21.0	21.0	21.0	23.0	21.0	22.0	21.0	22.0	21.0	21.0	21.0	20.0	17.0	17.0	14.0	12.0	19.0	23.0	23.0	22.0	23.0	23.0	19.0	18.0	18.0	630.0	20.3
Chlorine used (Total Daily Consumption)	kg	n/a	29.0	27.0	28.0	27.0	26.0	27.0	27.0	26.0	26.0	25.0	27.0	27.0	26.0	26.0	24.0	27.0	27.0	25.0	25.0	25.0	25.0	26.0	24.0	24.0	25.0	21.0	25.0	24.0	24.0	25.0	25.0	795.0	25.6
Soda ash (Total Daily Consumption)	kg	n/a	202.7	189.0	192.5	195.7	193.9	197.1	195.7	191.1	200.2	189.7	196.7	192.9	195.7	194.3	188.0	199.2	195.7	194.3	193.9	193.9	194.6	202.0	195.3	184.1	194.3	171.2	195.7	193.2	190.4	195.3	195.7	6003.2	193.7
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	1085.0	35.0	
Alum residual - (Total Daily Consumption)	kg	n/a	202.7	189.0	192.5	195.7	193.9	197.1	195.7	191.1	200.2	189.7	196.7	192.9	195.7	194.3	188.0	199.2	195.7	194.3	193.9	193.9	194.6	202.0	195.3	184.1	194.3	171.2	195.7	193.2	190.4	195.3	195.7	6003.2	193.7
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	1085.0	35.0	
Alum residual - Treated Water	mg/l	0.1	0.04	0.03	0.03	0.02	0.03	0.02	0.03	0.02	0.01	0.01	0.02	0.02	0.04	0.01	0.03	0.04	0.04	0.04	0.04	0.04	0.02	0.01	0.02	0.01	0.02	0.02	0.01	0.03	0.03	0.04	0.02	0.79	0.03
Poly bags added (25 kg bags )	kg					0.5	0.5					0.5		0.5						0.5								0.5		0.5				87.5	

Flow Data	October	Units	2014		2015		2016	
			Day of the Month		Day of the Month		Day of the Month	
Total Raw Water	m <sup>3</sup>		132900		170410		171520	
Raw Maximum Day	m <sup>3</sup>	Sunday 05th	4410	Saturday 24th	5730	Saturday 01st	5790	
Raw Minimum Day	m <sup>3</sup>	Monday 06th	4140	Monday 26th	5230	Monday 26th	4890	
Raw Average Daily Consumption	m <sup>3</sup>		4290		5500		5500	
Total Treated Water	m <sup>3</sup>		106970		123450		103050	
Treated Water Maximum Day Consumption	m <sup>3</sup>	Monday 27th	4020	Monday 05th	4720	Monday 06th	4650	
Treated Water Minimum Day Consumption	m <sup>3</sup>	Monday 13th	3000	Monday 26th	3210	Monday 15th	2760	
Treated Water Average Day Consumption	m <sup>3</sup>		3450		3980		3470	
Daily Average Per Household Consumption Rate	m <sup>3</sup>		0.91		1.05		0.92	
* Daily Average Per Person Consumption Rate	m <sup>3</sup>		0.43		0.50		0.43	
Monthly Averages - Operating Parameters WTP:								
FAC Residual - Treated Water	mg/L		1.92		2.16		2.28	
Total Chlorine Residual - Treated Water	mg/L		2.22		2.55		2.53	
Aluminum Sulphate - Raw Water	mg/L		36.9		35.0		35.0	
Aluminum Sulphate - Treated Water Residual	mg/L		0.04		0.03		0.03	
Fluoride - Treated Water	mg/L		0.71		0.56		0.65	
Soda Ash - Raw Water	mg/L		35.0		35.0		35.0	
PH - Adjusted	mg/L		7.19		7.20		7.17	
Temperature	C		10.9		12.0		12.2	
Quantity of Chemical Used:								
Aluminum Sulphate	kg		4906.5		5964.4		6003.2	
Polyelectrolyte	kg		50.0		62.5		87.5	
Chlorine Gas	kg		583		789		795	
Soda Ash - Used for PH Adjustment	kg		4651.5		5964.4		6003.2	
Fluoride	kg		444		492		630	

\* The Canadian Average is 450 Litres (0.45 m<sup>3</sup>) per day.

\* Population is 7986

\* Number of Households is 3783