



2018 Water Works Summary Report

**Large Municipal
Residential Systems**

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Executive Summary

The production and delivery of potable water in Ontario is regulated by the Drinking Water Systems Regulation Ontario Regulation (O.Reg.) 170/03 governed by the Ministry of the Environment, Conservation and Parks (MECP) under the Safe Drinking Water Act, 2002, S.O. 2002, c. 32.

Among other obligations the O.Reg.170/03 prescribes the need for all owners of licensed water works to produce an Annual Water Works Summary Report as indicated in Schedule 22 for the previous calendar year from January 1st through to December 31st. The report must contain the following information:

- A brief description of the operations of the treatment systems along with any major expenses incurred during the period covered by the report;
- A summary of reports of any corrective actions needed due to adverse water quality reports or non compliance events during the period covered by the report;
- A summary of lead sampling programs;
- A summary of quantities and flow rates of the water supplied during the reporting period, including monthly averages and maximum daily flows and
- A comparison of the quantities and flow to the rated capacities approved in the systems approval document the municipal Drinking Water License (MDWL).

An Annual Water Quality Report fulfilling Section 11 of Ontario Regulation 170/03, has been completed separately and details the drinking water quality of all of the City of Greater Sudbury (CGS) owned and operated drinking water systems during the same time frame. This annual report is available for viewing on the municipal website (<https://www.greatersudbury.ca/live/water-and-wastewater-services/projects-plans-reports-and-presentations/drinking-water-quality-reports/>). Notices have been posted in local newsprint informing residents of the report and how one can be accessed at any of the CGS Citizen Service Centers for electronic viewing.

The CGS is listed as the Owner of five large municipal, residential drinking water systems and one independent distribution system. Table 1 below provides a quick overview of each.

Table 1 - Overview of the City's Water Systems

Drinking Water System	Type of Facility	Source of Water	Community Served
Sudbury Drinking Water System - Wanapitei	Class IV Surface water conventional treatment plant and Class IV Distribution system	Wanapitei River	Sudbury, Coniston, Wanapitei, Markstay, Garson
Sudbury Drinking Water System - David	Class III Surface water Membrane Filtration Plant and Class II Distribution system	Ramsey Lake	Sudbury (West and South sections)
Sudbury Drinking Water System - Garson	Class I Wells and Class II Distribution system	Groundwater	Garson (east of Penman Dr.)
Dowling Drinking Water System	Class I Wells and Class I Distribution system	Groundwater	Dowling
Valley Drinking Water System	Class I Wells and Class II Distribution system	Groundwater	Valley East, Azilda, Chelmsford & Capreol
Falconbridge Drinking Water System	Class I Wells and Class II Distribution system	Groundwater	Falconbridge
Onaping /Levack Drinking Water System	Class I Wells and Class II Distribution system	Groundwater	Onaping & Levack
Vermilion Distribution System	Class II Distribution System	Vermilion River WTP Owned and Operated by Vale	Lively, Naughton, Whitefish, Copper Cliff, Walden Industrial Park

The water works owned and operated by CGS have been managed with the standard of care expected by the public and as legislated by the government. The MECP is the governing body which enforces drinking water regulations. To achieve this MECP Inspectors conduct annual announced and/or unannounced inspections of all of our individual systems. MECP inspections “rating” are received within a report informing of any non compliances requiring corrective actions, Adverse Water Quality Incidents (AWQI) and recommendations for improvements. An AWQI can range from an operational error, malfunctioning instruments, human error, erroneous laboratory results, equipment maintenance or actual adverse water quality. During this period there have been 10 reports filled that involved four water systems. The reports filled with MECP and the Public Health Sudbury & District (PHSD) ranged from laboratory testing error and analytical equipment readings. None of the incidences caused advisories nor

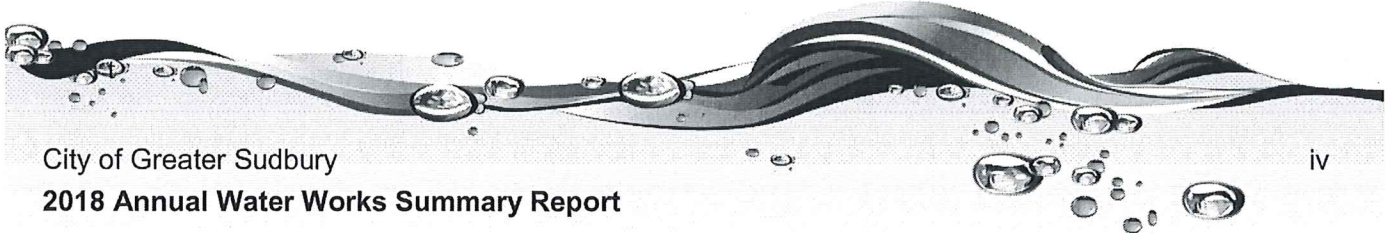
did they cause harm to the public. These will be detailed further in the report. In 2018 MECP has rated the CGS ground water

systems at 100%. We are anticipating the 2018 results of the Wanapitei and David Surface Water Treatment Plant's MECP inspections which are currently in progress. The last average rating received in 2017 for the surface water plants was 95%.

The Community Lead Testing Initiative was mandated by the MECP in 2007 and falls under O. Reg. 170/03, Schedule 15.1. The City has completed twenty four periods of lead sampling to date. Results have been positive and demonstrated that lead is not a concern for the municipality. The annual testing is conducted in two periods being December 15 of 2017 to April 15 of 2018 and June 15 of 2018 to October 15 of 2018. There have been a combined total of 150 private residences, commercial establishments and distribution samples analyzed in the 2018 programs. Within this round of sampling there have been no samples that were found to be in excess of the standard. The lead sampling initiative will continue into the foreseeable future. The City has been able to act on legislative provisions stating that systems demonstrating less than 10% of half the Maximum Allowable Concentration (MAC) over six rounds of lead sampling will no longer be required to test in private residents or commercial establishments. The Onaping/Levack system has seen considerable improvement and CGS has applied for such relief. Drinking Water Systems that have a population over 50,000 will continue to be required to test for Lead, but at a reduced number, providing the same criteria as listed above for half MAC have been met. The two surface water plants fall within this criteria.

All necessary upgrades that have been completed, being planned and implemented are done in accordance with all applicable standards. Upgrades performed at CGS water works facilities are necessary to reduce the risk of potable water contamination, ensure the integrity and the progression with modernization of assets. Within the last year upgrades have occurred within the water facilities and various sections of the distribution systems. These will be listed within each systems specified section.

Total drinking water production for combined CGS systems in 2018 totalized at 20 056 428 m³/Day; less than a two percent increase from the 2017 production. The surface plants are producing on average 69.5% of their permits and the ground water production ranges from 18.4% to 82.8% of their allowable permit.



Reviewed by:

March 29, 2019

Julie Friel

Date

Manager Water Treatment

Approved by:

29 MARCH 2019

Mike Jensen

Date

**Director, Water/Wastewater Treatment &
Compliance**

Section 1 – Legislative and Regulatory requirements

Regulated water systems must meet the requirements of Ontario's *Safe Drinking Water Act, 2002*. Most notably, the Drinking Water Systems Regulation O. Reg. 170/03 as it sets out treatment and testing requirements for all categories of regulated water systems.

CGS systems are classified as Class I to Class IV and therefore require the Operators to abide to the highest classification for training requirements. Related regulations made under the Act:

1.1 O.Reg. 128/04 Certification of Drinking-Water System Operators and Water Quality Analysts

Section 29 lists Operator training requirements and the number of training hours required for operators. Class IV Water Treatment Operators will require 14 hours of continuing education with an additional 36 hours of on-the-job practical training, for a minimum of 50 hours total of annual training. The continuing education that is used to meet the training requirements must be approved by the MECP Director using criteria which includes the following:

- The training course must have documented learning objectives that cover subject matter directly related to the duties typically performed by an operator;
- be planned and be provided by a qualified training provider that include a means to verify that the participants have learned the material covered;

The on-the-job practical training that is used to meet the training requirements must meet a criterion that includes the following:

- The training must have documented learning objectives and
- Provided by a trainer with expertise in the subject matter that is directly related to the duties typically performed by an operator.

Table 1 provides details on training requirements dependent on the type and class of a water treatment (WT), water distribution (WD) or water distribution and supply (DS)

Table 1: Annual Training for Operators

Type and Class of Subsystem	Training Requirements Mandated per Operator's	Minimum Total Hours
Class I WT or Class I WD or Class I DS	7 hours or more of continuing education (CEU), with the remaining hours as on-the-job practical training (OJPT)	30
Class II WT or Class II WD or Class II DS	12 hours or more of CEUs, with the remaining hours OJPT	35
Class III WT or Class III WD or Class III DS	14 hours or more of CEUs, with the remaining hours OJPT	40
Class IV WT or Class IV WD or Class IV DS	14 hours or more of CEUs, with the remaining hours OJPT	50

O. Reg. 128/04, s. 29, Table 1

Note: The annual number of hours of training set out in Table 1 may be averaged over the three years during which an operator's certificate is valid and must follow requirements for the highest system Class. CGS Operators must follow requirement for Class IV

1.2 O. Reg. 242/05 Compliance and Enforcement

This Regulation (Last amendment: O.Reg. 328/08) lists the requirements for inspections. What to do when deficiencies and contraventions are found. This regulation also deals with enforcement, investigations and notices required once investigations have been completed.

1.3 O. Reg. 172/03 Definitions of "Deficiency" and "Municipal Drinking-Water System"

Ontario Regulation 172/03 (Last Amendment: O.Reg. 329/08), provides definitions of words and expressions within the Safe Drinking Water Act and associated Regulations.

1.4 O. Reg. 171/03 DEFINITIONS of Words and Expressions Used in the Act

Ontario Regulation 171/03 (Last amendment: O.Reg. 336/13) - Provides definitions of words and expressions within the Safe Drinking Water Act and associated Regulations.

1.5 O. Reg. 170/03 Drinking Water Systems

This Regulation was filed in 2004 (Last amendment: O.Reg. 374/15). This regulation outlines the requirements for:

- Types of Drinking Water Systems;
- Required reports and retention time;
- Types of treatment, equipment requirements, maintenance and operational Checks,
- Sampling, testing and use of accredited laboratories;
- Reporting adverse test results and corrective actions and
- Engineers' Reports;

1.6 O. Reg. 248/03 Drinking Water Testing Services

Ontario Regulation 248/03 (Last amendment: O.Reg. 508/17) - Drinking-Water Testing Services is the regulation governing accredited laboratories that came into effect October 31, 2004.

- Lists systems that do not require drinking-water testing license;
- Lists prescribed tests of the Safe Drinking Water Act;
- Lists person(s) to do water quality analysis;
- Lists the types of tests that can be conducted for the sole purpose of carrying out research or Criteria for drinking-water testing services;
- Conditions of drinking-water testing license and
- Handling samples, testing records and laboratory qualifications and accreditation.

1.7 O. Reg. 169/03 Ontario Drinking Water Quality Standards

Ontario Regulation 169/03 (Last amendment: O.Reg 457/16). This regulation sets out standards in Schedules 1, 2 and 3 as prescribed drinking-water quality standards. Included in this regulation are the compliance standards.

1.8 O. Reg. 453/07 FINANCIAL plans

Ontario Regulation 169/03 (Last amendment: O.Reg 69/08). This regulation sets out the requirement to produce and have approved by council of the municipality a financial plan. Included in this regulation are the requirements of the financial plan for license renewals. Financial plans must be approved by a resolution that is passed by a council, must apply to a period of at least six years and available to the public free of charge.

Financial plans must include:

1. Details of the proposed or projected financial position of the drinking water system itemized by,
 - total financial assets and total liabilities,
 - net debt,
 - non-financial assets that are tangible capital assets, tangible capital assets under construction, inventories of supplies and prepaid expenses, and
 - changes in tangible capital assets that are additions, donations, write downs and disposals.

2. Details of the proposed or projected financial operations of the drinking water system itemized by,
 - total revenues, further itemized by water rates, user charges and other revenues,
 - total expenses, further itemized by amortization expenses, interest expenses and other expenses,
 - annual surplus or deficit, and
 - accumulated surplus or deficit.

3. Details of the drinking water system's proposed or projected gross cash receipts and gross cash payments itemized by,
 - operating transactions that are cash received from revenues, cash paid for operating expenses and finance charges,
 - capital transactions that are proceeds on the sale of tangible capital assets and cash used to acquire capital assets,
 - investing transactions that are acquisitions and disposal of investments,
 - financing transactions that are proceeds from the issuance of debt and debt repayment,
 - changes in cash and cash equivalents during the year, and
 - cash and cash equivalents at the beginning and end of the year.

Details of the extent to which the information described in subparagraphs 1,2 and 3 relates directly to the replacement of lead service pipes as defined in section 15.1- 3 of Schedule 15.1 to Ontario Regulation 170/03 (Drinking Water Systems), made under the Act.

Section 2 - Plant specific review

2.1 Plant Specific Requirements

This Section of the report provides details on measures taken by the City to ensure compliance with Terms and Conditions of the Municipal Drinking Water Licenses, Drinking Water Works Permits, Acts, Regulations or any MECP orders the systems may have been under during the reporting period. This section of the report also provides details on the specifics of the systems, any non-compliance issues along with actions taken by the City to rectify the situations, as well as flow data with comparison to

allowable limits. This flow comparison is to allow for a basic overview of the systems performance and allows for review and planning of possible future expansions if required.

A more detailed description of the water works is provided at the start of each sub-section. The description is provided for reference purposes only, and to ensure that the compliance measures remain in context. All non-compliance items and the corrective actions taken are summarized in table format and appended to the particular plant section in this report. The most recent Municipal Drinking Water License and Drinking Water Works Permit that was valid at the time of this report is also listed in the particular plant section.

Sudbury Drinking Water System - Wanapitei DWS# 210001111

Municipal Drinking Water License: 016-106
Issue Number: 4
December 12, 2017
Drinking Water Works Permit: 016-206
Issue Number: 5
May 24, 2017

The Wanapitei WTP is a surface water plant which draws water from the Wanapitei River. Proportionally, the plant supplies approximately 60% of the water for Sudbury; however, most of the water produced is delivered to New Sudbury, Coniston, Wanapitei, Markstay, and parts of downtown. Garson, west of Falconbridge Rd. and O'Neil Dr., is also supplied by this plant. The plant was constructed in the 1970's at the onset of Regional Government. Since the original construction, the plant has undergone upgrading to enhance treatment efficiency, increase production, and to reduce energy costs. Completed projects in 2018 and the associated approximate costs included:

- Replacement of an electrical Automatic Transfer switch \$28 194;
- Replacement to emergency safety showers \$15 481;
- Transformer upgrades \$99 655;
- Filter blower replacement \$16 602 and
- Plant operations repairs \$69 298.

The raw water supply for this plant is the Wanapitei River. The raw water quality is reasonably reliable but is, however, subject to some change, which is typical of most rivers. The watershed area for the Wanapitei River is vast with much in its natural state.

The river water quality varies depending on seasonal changes, upstream operations of dams, and local weather patterns. Some process parameters affected by these changes include: temperature, turbidity, organics and color. The changing raw water quality requires careful observation by the water plant

operators to ensure necessary process and chemical adjustments are made to effectively treat the water and optimize the plants performance.

The Wanapitei WTP incorporates conventional technologies to treat the water. The raw water undergoes initial treatment with chlorine dioxide for taste and odor control and/or chlorine for pre-disinfection. Raw water is further subjected to chemical coagulation with alum to form a floc, hydrated lime to maintain pH and a polymer as a weighing agent. The coagulated water passes through one of two settling tanks, referred to as reactivators, for the flocculation and sedimentation process. The processed water then passes through one of four, dual media, filter beds. The filtered water is then treated with hydrated lime for pH/alkalinity adjustment; with chlorine to maintain disinfection; with fluoride to comply with PHSD requirements; and with polyphosphate to reduce corrosion in the distribution system. The final process the finished water undergoes is irradiation by ultraviolet light. The plant is designed to be capable of achieving, at all times, at least 99.99% removal or inactivation of viruses by the time water enters the distribution system. The distribution system incorporates a large diameter concrete pressure pipe to deliver water to Sudbury, Coniston and the town of Markstay. The communities are networked with an extensive distribution system including numerous booster stations. The system pressure is regulated by the water level in the Ellis Water Reservoir. Most of the pipes in the distribution system are less than 50 years old and much of the system is plastic pipe.

Non-Compliance with Act, Regulations, Order or Approvals

Table 2 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2018 reportable period. Since we are presently waiting for the 2018 inspection results this table is left blank.

Table 2: MECP Inspection

Item	Non-Compliance	Measure Taken to Ensure Compliance
MECP Inspection Issues	In Progress	
MECP Orders		

2018 Adverse Water Quality Incident Report

Table 3 provides details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre and the PHSD. The Total Coliforms AWQI results for 2018 were determined to be a sampling error or lab error after further investigation since the chlorine residual for the samples were adequate and subsequent

samples from the same location along with upstream and downstream detected no presence of E.Coli or Total Coliforms. The Lead results were determined to be due to the installed household tap and not from the water system itself

Table 3: Adverse Water Quality Incidents

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
139208	5/1/2018	Sodium	24.5	mg/L	resample, and no adverse	5/7/2018
139423	5/25/2018	Lead	0.012	mg/L	resample, was issue with residents tap	5/31/2018
141158	7/29/2018	Total Coliforms	2	CFU/100 mL	Resample, no adverse sampling error	7/29/2018
141369	8/4/2018	Total Coliforms	123	CFU/100 mL	Resample, no adverse sampling error	8/7/2018
144214	12/1/2018	Total Coliforms	1	CFU/100 mL	Resample, no adverse sampling error	12/3/2018

Annual Flow Summary

Table 4 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Municipal Drinking Water License during the 2018 reportable period.

Table 4: Annual Flow Summary (Sudbury Surface Plants)

Flow m ³ /Day	David St. WTP	Wanapitei WTP	System Total
January	473,951.82	772,228.31	1,246,180.13
February	408,586.50	705,229.65	1,113,816.15
March	441,145.94	751,537.11	1,192,683.05
April	507,720.46	672,767.18	1,180,487.64
May	456,820.41	786,817.14	1,243,637.55
June	496,418.46	813,415.65	1,309,834.11
July	569,243.73	846,959.97	1,416,203.70
August	486,141.36	858,380.31	1,344,521.67
September	453,826.64	810,643.45	1,264,470.09
October	435,489.10	810,699.25	1,246,188.35
November	438,474.36	776,106.84	1,214,581.20
December	423,948.87	791,856.36	1,215,805.23
Annual Total	5,591,767.66	9,396,641.22	14,988,408.88
Daily Max	33,778.25	31,572.89	65,351.14
MDWL Daily Max Permitted	40,000.00	54,000.00	94,000.00
% Usage	84%	58%	70%

Sudbury Drinking Water System - David Street DWS# 220003537

Municipal Drinking Water License: 016-106
Issue Number: 4
December 12, 2017
Drinking Water Works Permit: 016-206
Issue Number: 5
May 24, 2017

The David St. WTP is a surface water plant, which draws water from Ramsey Lake. Proportionally, the plant services approximately 40% of Sudbury, however, most of the water produced at the David St. WTP is normally delivered to the south, west and downtown areas of Sudbury. The plant was originally over 100 years old but has undergone numerous upgrades to meet changing needs. The plant completed retrofits with Zenon membrane ultra filtration technologies and ultraviolet irradiation in 2004 to ensure the treatment system meets the requirements in O. Reg. 170/03. The plant is designed to be capable of achieving, at all times, at least 99.99% removal or inactivation of viruses by the time water enters the distribution system.

The raw water supply for the David St. WTP is Ramsey Lake. Under the Clean Water Act and careful review by the Source Water Protection Committee and City staff, provisions have been established to maintain and improve the source water quality.

The City is planning to have the David St. plant remain an integral part of the water works system for many years. The portion of the distribution system supplied by the David Street WTP includes parts of downtown Sudbury, the south and west ends of Sudbury. In addition, the Ellis Reservoir is part of the distribution network for Sudbury. The Ellis Reservoir is a 36.4 million liter, dual cell, water storage facility that is also fed by the treated potable water produced at the Wanapitei WTP. As is common with many older distribution networks, the Sudbury pipe system is prone to line breaks, complaints of discolored water and difficulties maintaining adequate chlorine residual. Projects completed for 2018 and the associated approximate costs included watermain lining within the distribution system at an approximate cost of \$136,483.

Non-Compliance with Act, Regulations, Order or Approvals

Table 5 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2018 reportable period and we are currently waiting for the inspection results from the MECP..

Table 5: David Street Water Treatment Plant

Item	Non-Compliance	Measure Taken to Ensure Compliance
MECP Inspection Issues	In progress	
MECP Orders		

2018 Adverse Water Quality Incident Report

Table 6 provides details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre and the PHSD. The Total Coliforms AWQI results for 2018 were determined to be a sampling error or lab error after further investigation since the chlorine residual for the samples were adequate and subsequent samples from the same location along with upstream and downstream detected no presence of E.Coli or Total Coliforms.

Table 6 : Adverse Water Quality Incidents

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
140420	7/7/2018	Total Coliforms	33	CFU/ 100 mL	Resample/Retest	7/12/2018

Sudbury Drinking Water System - Garson
DWS# 220003485

Municipal Drinking Water License: 016-106
 Issue Number: 4
 December 12, 2017
 Drinking Water Works Permit: 016-206
 Issue Number: 5
 May 24, 2017

The Garson water works is a communal groundwater system consisting of three wells, and servicing the community of Garson east of Penman Ave and O'Neil Dr East. The three wells are:

- Garson Well No.2;
- Garson Well No.1; and
- Garson Well No.3.

Garson Well No.2 is situated within a pump house on the east side of Falconbridge Highway at Spruce Street. The system includes a Variable Frequency Drive (VFD) vertical turbine well pump, disinfection with sodium hypochlorite and fluoride injection as mandated by the PHSD. There is no standby power at Garson Well No. 2. The City of Greater Sudbury operated the well pump house on behalf of Vale and now, as the sole owner/operator, the water is directly connected to the public distribution network.

The other two wells in Garson, No.'s 1 and 3, are situated on the south side of Falconbridge Road at Orell Street. The two wells are in close proximity to each other but are housed in separate buildings, both of which contain the vertical turbine well pumps. The discharges from the well pumps enter a common building which houses the disinfection and fluoride injection equipment. The well supply historically provided very good quality water with no record of bacteriological contamination. During preparation of the First Engineers' Report, in March 2001, a hydrogeological assessment was made of each of the wells. It was concluded that it is unlikely that any of the wells are under the direct influence of surface water. The raw water was therefore found to be in general conformance with the ODWS. Notwithstanding the historical good water quality, the aquifer used in the Garson well supply has a recharge area which includes the developed area of Garson. With direction and consultation from the PHSD and the Ministry of the Environment, Conservation and Parks (MECP), the CGS committed to undertaking a Groundwater Monitoring Program for Tetrachloroethylene (TCE). Although TCE levels found during audit sampling are well below regulatory limits, the City is proactively sampling and monitoring these levels. In 2012, four monitoring wells were drilled in the area and sampling and graphing of results is completed regularly by staff to augment historical data. Review of all data is undertaken by staff to ensure the safety of the water source and public. In 2017 CGS retained a consultant to provide feasibility options for treatment of TCE and the possibility of feeding this system directly from the two surface plants. We are currently in the research stage of this project. Maintenance completed for 2018 and the associated approximate costs included well pump rehabilitation at and well rehabilitation at an approximate cost of:

- Garson Well 2 \$60,966
- Garson Well 3 \$54,032

The community of Garson extends from Skead Road at the north to Garson-Coniston Road at the south. The pipe network is connected to the water supply from Sudbury at the intersection of Falconbridge Road and O'Neil Drive West, therefore the community is serviced from the Sudbury Distribution system West of

Penman Avenue. In the event that all of the three wells were to fail, the Garson system is connected to the Sudbury Distribution System by way of a pressure valve and would have water supplied from Sudbury. The pipe network is a combination of new and older pipes and frost penetration can be an issue in Garson.

Non-Compliance with Act, Regulations, Order or Approvals

Table 7 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2018 reportable period.

Table 7 - Garson Wells and Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MECP Inspection Issues	NONE	N/A
MECP Orders	NONE	N/A

2018 Adverse Water Quality Incident Report

Table 8 provides details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre and the PHSD. The AWQI results for 2018 were determined to be a sampling error or lab error after further investigation since the chlorine residual for the samples were adequate and subsequent samples from the same location along with upstream and downstream detected no presence of E.Coli or Total Coliforms.

Table 8 - Adverse Water Quality Incidents

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
142014	8/22/2018	Total Coliforms	2	CFU/100ml	Resample/Retest	8/24/2018

Annual Flow Summary

Table 9 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Municipal Drinking Water License during the 2018 reportable period.

Table 9: Flow Summary (Garson Wells)

Flow m³/Day	Garson #1 Well	Garson #2 Well	Garson #3 Well	System Total
January	8,616.37	18,948.89	7,355.60	34,920.86
February	7,031.17	20,657.39	3,598.16	31,286.72
March	7,322.98	28,550.54	16,613.80	52,487.32
April	7,765.67	26,184.23	1,395.53	35,345.43
May	9,768.88	6,118.23	24,822.82	40,709.93
June	10,452.50	700.44	32,700.61	43,853.55
July	8,054.45	32,421.15	6,181.65	46,657.25
August	5,589.39	34,271.18	8,059.39	47,919.96
September	7,076.46	26,125.26	2,003.48	35,205.20
October	6,146.15	26,271.67	852.79	33,270.61
November	7,926.86	24,062.89	1,214.00	33,203.75
December	8,774.24	19,614.91	4,596.81	32,985.96
Annual Total	94,525.11	263,926.78	109,394.65	467,846.54
Daily Max	737.59	1,923.80	2,100.49	4,761.89
MDWL Daily Max Permitted	1,572.00	2,981.00	3,275.00	7,828.00
% Usage	47%	65%	64%	61%

Dowling Wells and Distribution System DWS# 210001665

Municipal Drinking Water License: 016-103
Issue Number: 3
May 24, 2017
Drinking Water Works Permit: 016-203
Issue Number: 4
May 24, 2017

The Dowling water works is a communal groundwater system, which supplies water to the community of Dowling. The water works includes two wells with well pump houses, a distribution network of in-ground piping and an elevated water storage tank. The entire water system was developed with subsidy from the MECP in the 1970's. The ownership and operation of the water works was transferred to the Regional Municipality of Sudbury and it is now owned and operated by the City of Greater Sudbury.

The Riverside well and pump house includes a vertical turbine supply pump, disinfection with gas chlorine, ultraviolet irradiation along with fluoride injection as mandated by the PHSD. The Lionel well and pump house has similar facilities plus a diesel generator for standby power. Both facilities have automatic valving to waste raw water for a few minutes upon start-up of a well pump.

The water supply source for the Dowling wells is an unconfined aquifer of sand and gravel deposits located within the Onaping river watershed. Due to the unconfined nature of the soils and the proximity to the river, the MECP has characterized the water source as groundwater potentially under the direct influence of surface water.

Studies were conducted in 2002 with the resulting submission of a Ground Water Under Direct Influence of surface water (GUDI) study on July 1, 2002. This study was reviewed and accepted by the MECP and as a result, both wells were deemed to be GUDI with effective in situ filtration. As such, additional treatment and disinfection would be required. The prior recommendations of the consultant included that, while the wells have met the MECP criteria for "potentially under the influence of surface water", adequate natural filtration of the water exists. Based on the conclusions by the MECP, the well systems have had ultraviolet irradiation added to enhance disinfection to comply with the treatment requirements of the ODWS.

The distribution network in Dowling has been relatively reliable and is not exposed to as severe frost depths as other areas of the City. Further, the elevated water storage provides a measure of security to the water system in the event of power interruptions and watermain breaks. Projects completed for 2018 and the associated approximate costs included:

- Riverside well rehabilitation \$50,440 and
- Lionel well rehabilitation \$94,819.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 10 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during 2018 reportable period.

Table 10: Dowling Wells and Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MECP Inspection Issues	NONE	N/A
MECP Orders	NONE	N/A

2018 Adverse Water Quality Incident Report

Table 11 provides details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre and the PHSD.

Table 11: Adverse Water Quality Incidents

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NONE						

Annual Flow Summary

Table 12 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Municipal Drinking Water License during the 2018 reportable period.

Table 12: Flow Summary (Dowling Wells)

Flow m³/Day	Lionel Well	Riverside Well	System Total
January	0.00	10,888.33	10,888.33
February	0.00	8,458.05	8,458.05
March	2,407.97	6,843.91	9,251.88
April	8,035.30	2,802.95	10,838.25
May	7,803.60	5,348.96	13,152.56
June	8,117.81	5,781.38	13,899.19
July	4,665.69	9,581.27	14,246.97
August	7,477.01	6,455.51	13,932.52
September	4,190.68	5,332.17	9,522.85
October	4,962.85	5,272.69	10,235.54
November	5,341.96	5,091.34	10,433.30
December	7,374.61	4,132.87	11,507.48
Annual Total	60,377.49	75,989.44	136,366.93
Daily Max	668.01	670.77	1,338.78
MDWL Daily Max Permitted	3,640.00	3,640.00	7,280.00
% Usage	18%	18%	18%

Bleazard Valley/Capreol Drinking Water System
DWS# 210000737

Municipal Drinking Water License: 016-105
Issue Number: 4
May 24, 2017
Drinking Water Works Permit: 016-205
Issue Number: 3
May 24, 2017

In 2010, the Bleazard Valley and Capreol well supply systems were considered to be one complete system as both of the systems are connected. As such, one Drinking Water System (DWS) number and one Municipal Drinking Water License and Works Permit has been assigned to the entire system. This report will identify the works by geographical area where appropriate.

The Bleazard Valley portion of the system is a multi-well groundwater system servicing the communities of Hanmer, Bleazard Valley, Val Caron, McCrea Heights, Azilda and Chelmsford. Eleven groundwater wells are situated throughout the Valley and each are located in well pump houses. The communities are interconnected with distribution piping and three water storage tanks located in each of Val Caron, Azilda and Chelmsford.

The water works were originally constructed by the MECP in the 1970's then transferred to the Regional Municipality of Sudbury. With amalgamation, the ownership was transferred to the City of Greater Sudbury. All upgrades from the original MECP system were constructed by the City.

Each well pump house contains a vertical turbine well pump, gas chlorine disinfection equipment and fluoride injection equipment as mandated by the PHSD. Some of the well pump houses incorporate standby diesel generators, summarized as follows:

- Deschenes;
- Kenneth;
- Philippe;
- Frost;
- Notre Dame;
- Chenier; and
- R Well.

The water supply source is a common groundwater aquifer characterized as a shallow sand and gravel aquifer. This well field extends approximately 7.5 km (west to east) from Val Therese to Hanmer. A preliminary hydrology study performed during the preparation of the First Engineers' Report classified all of the wells as not under the direct influence of surface water. Due to the shallow nature of the aquifer and the lack of a confining clay layer the MECP requested further study.

The GUDI study was submitted in August of 2002. An amended PTTW was received on February 23, 2003. The amended PTTW acknowledged the opinion of the hydrogeology study, which states that the wells are not GUDI. As such, no additional filtration is required and the wells may supply water provided they meet MECP Procedures for Disinfection of Drinking Water.

The wells in the Valley system did not meet chemical disinfection CT (Concentration (mg/L) x Time (minutes)) requirements, therefore, all the wells were upgraded in 2007 to incorporate ultraviolet irradiation to deal with CT issues.

As previously noted, the Valley well system is a relatively shallow aquifer and the community has developed extensively around the wells. Some of the wells are located immediately adjacent to residential homes, commercial establishments and major arterial roadways. Two new water wells were developed (Wells Q and R) and commissioned in 2012, increasing the capacity to supply the additional demands in Blezard Valley.

The distribution system in the Valley is very extensive and contains many areas with dead-ends. System pressure is regulated by the level of the three storage tanks situated in Azilda, Chelmsford and Val Caron. During the reporting period the City operated the distribution system with good control of the chlorine residuals. This is due in part to the age of the distribution network, and the good source of raw water quality.

The Capreol Well portion of the system draws water from two (2) wells to service the community of Capreol. The wells include:

- Well J and
- Well M.

In the event that these two wells fail and due to the fact that Capreol does not have backup water storage facilities, the Blezard Valley wells can supply water through the Capreol Boosters located on site at M well. This system, started in 2004, was completed and commissioned in 2007, ensuring a continued water supply to Capreol.

The source of water for the Capreol wells is groundwater. Wells J and M draw from a common unconfined aquifer comprised mostly of sands and gravels. Although neither of the wells have any record of bacteriological contamination, the unconfined nature of the aquifer required these wells to be characterized as potentially groundwater under the influence of surface water (potentially GUDI).

Wells J and M are located within approximately 30 meters of each other on the east side of Greens Lake and west of MR 84. Wells J and M are housed in separate well houses and have vertical turbine well pumps. A common discharge from the wells undergoes treatment in the form of disinfection by gas

chlorination, ultraviolet irradiation, and fluoridation, as mandated by the PHSD. Corrosion control for the system is accomplished with the addition of a polyphosphate. Both facilities have automatic valving to waste raw water for a few minutes upon start-up of a well pump. Standby power with an automatic transfer switch for Wells J and M is available from a diesel generator located in Well M pump house.

A previous PTTW for Capreol required further hydrogeological studies to be conducted in Capreol to determine if the wells were in fact under influence of surface water. The results of the study were necessary to determine if a filtration system would be required to ensure that the water quality remains in compliance with the ODWS at all times. The studies, referred to as GUDI studies, were completed for Wells M and J and submitted to the MECP on June 30, 2002. The response from a review by MECP found these wells to be potentially under influence of surface water with effective in situ filtration and as such required upgrades to meet the ODWS disinfection and log removal criteria. Upgrades have been completed and the system achieves the required log removals and enhanced the disinfection process.

The distribution system in Capreol was developed in conjunction with the growth of the industrial development. Some of the pipe network is therefore, relatively old. The frost depths in Capreol extend to extreme depths during cold winters, which impose additional stresses on the integrity of the distribution system. A second line was added to the distribution system so now two 350 mm water mains run in parallel along MR84 to the Town of Capreol. The distribution system is comprised of PVC, cast iron and ductile piping and serves approximately 3300 residents. Completed projects in 2018 and the associated approximate costs included:

- J well rehabilitation \$103,987;
- M well rehabilitation \$59,995;
- Kenneth well rehabilitation \$86,846;
- Deschenes well rehabilitation \$21,150;
- Philippe well motor repairs \$3,105;
- Michelle well rehabilitation \$49,530;
- Notre Dame well rehabilitation \$59,520;
- Linden well rehabilitation \$44,290;
- Chenier well rehabilitation \$40,330;
- Notre Dame well rehabilitation \$59,520 and
- Pharand well motor repairs \$8,245.

Non-Compliance with Act, Regulations, Order or Approvals

Table 13 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2018 reportable period.

Table 13: Blezard Valley/Capreol Wells Supply

Item	Non-Compliance	Measure Taken to Ensure Compliance
MECP Inspection Issues	NONE	N/A
MECP Orders	NONE	N/A

2018 Adverse Water Quality Incident Report

Table 14 provides details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre and the PHSD. The Total Coliforms and EC/TC AWQI results for 2018 were determined to be a sampling error or lab error after further investigation since the chlorine residual for the samples were adequate and subsequent samples from the same location along with upstream and downstream detected no presence of E.Coli or Total Coliforms. Fluoride result was due to equipment maintenance and caused not ill effect to the drinking water system.

Table 14: Adverse Water Quality Incidents

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
139312	5/14/2018	Fluoride	1.77	mg/L	Resample/Retest	5/14/2018
139682	6/7/2018	EC/TC	NDOGT	Non detect, overgrown	Resample/Retest	6/8/2018
142015	8/22/2018	Total Coliforms	86		Resample/Retest	2018/0824

Annual Flow Summary

Tables 15 to 17 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Municipal Drinking Water License during the 2018 reportable period for the Blezard Valley Wells.

Table 15: Annual Flow Summary (Valley Wells)

Flow m ³ /Day	Kenneth Well	Philippe Well	Deschenes Well	Frost Well
January	10,838.94	10,481.75	12,734.56	15,594.85
February	1,720.68	10,581.73	8,208.97	10,154.93
March	7,914.84	10,083.64	9,272.88	13,256.09
April	9,837.75	12,556.57	9,824.55	13,522.16
May	16,100.95	21,586.47	17,965.46	24,809.03
June	16,872.86	22,646.72	19,012.32	26,941.70
July	16,717.09	26,056.50	9,323.46	13,493.15
August	11,631.16	18,602.86	191.26	11,426.81
September	10,769.80	14,846.70	12,653.20	16,937.90
October	10,328.34	15,454.67	11,549.24	18,396.74
November	5,821.80	22,120.35	17,369.77	23,971.78
December	7,896.74	13,710.37	11,916.94	15,764.56
Annual Total	126,450.96	198,728.33	140,022.62	204,269.68
Daily Max	1,034.64	1,737.99	1,023.64	1,818.11
MDWL Daily Max Permitted	2,288.00	2,288.00	1,798.00	2,288.00
% Usage	45%	76%	57%	79%

Table 16: Annual Flow Summary (Valley Wells) continued

Flow m ³ /Day	Michelle Well	Notre Dame Well	Linden Well	Pharand Well
January	14,554.21	18,170.98	45,552.22	16,179.20
February	8,667.68	33,474.10	47,996.63	9,747.06
March	9,388.41	13,885.99	61,786.35	11,015.40
April	10,201.37	15,222.90	52,123.51	13,226.11
May	16,529.82	31,251.27	4,924.69	21,799.22
June	19,389.79	38,251.65	284.19	23,498.60
July	16,442.19	31,270.41	46,476.32	22,924.09
August	16,372.74	26,904.20	51,460.95	18,061.99
September	11,461.30	27,677.64	55,734.82	15,606.82
October	13,860.07	31,472.41	56,358.95	16,618.24
November	17,868.42	21,140.38	65,792.57	22,084.72
December	11,927.54	21,417.29	56,258.51	15,386.31
Annual Total	166,663.53	310,139.20	544,749.69	206,147.76
Daily Max	1,634.46	2,566.21	2,508.31	1,410.26
MDWL Daily Max Permitted	2,290.00	3,105.00	3,269.00	2,290.00
% Usage	71%	83%	77%	62%

Table 17 – Annual Flow Summary (Valley Wells) continued

Flow m ³ /Day	Chenier Well	R-Well	I-Well	System Total
January	45,060.25	76,778.25	0.00	265,945.21
February	47,555.75	49,086.00	0.00	227,193.53
March	46,312.75	58,993.25	0.00	241,909.60
April	51,212.25	65,030.00	0.00	252,757.16
May	55,293.75	69,546.50	0.00	279,807.16
June	51,558.50	72,740.00	0.00	291,196.33
July	51,591.00	63,194.50	0.00	297,488.71
August	47,336.00	58,718.50	0.00	260,706.48
September	20,414.25	52,410.25	0.00	238,512.66
October	0.00	71,961.00	0.00	245,999.65
November	106.50	63,900.75	0.00	260,177.03
December	32,280.75	56,431.25	0.00	242,990.25
Annual Total	448,721.75	758,790.25	0.00	3,104,683.78
Daily Max	1,902.25	2,702.25	0.00	18,338.12
MDWL Daily Max Permitted	2,333.00	3,162.00	1,974.00	27,085.00
% Usage	82%	85%	0%	68%

NOT IN USE

Tables 18 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Municipal Drinking Water License during the 2018 reportable period for the Capreol Wells.

Table 18 - Annual Flow Summary (Capreol Wells)

Flow m ³ /Day	J-Well	M-Well	System Total
January	19,778.17	17,956.60	37,734.78
February	11,654.55	20,666.10	32,320.65
March	166.56	46,247.69	46,414.25
April	9,231.97	29,630.79	38,862.75
May	20,317.13	17,944.01	38,261.14
June	16,112.73	26,968.43	43,081.16
July	9,352.76	34,911.07	44,263.83
August	0.00	30,301.05	30,301.05
September	0.00	13,385.84	13,385.84
October	5,730.48	17,839.74	23,570.22
November	8,116.63	7,558.98	15,675.61
December	42,687.05	22,533.72	65,220.77
Annual Total	143,148.03	285,944.04	429,092.07
Daily Max	2,384.11	2,137.77	4,521.88
MDWL Daily Max Permitted	3,273.00	3,927.00	7,200.00
% Usage	73%	54%	63%

Falconbridge Drinking Water System DWS# 24000020

Municipal Drinking Water License: 016-101
Issue Number: 3
May 24, 2017
Drinking Water Works Permit: 016-201
Issue Number: 3
May 24, 2017

In April 2009, the City of Greater Sudbury purchased the Falconbridge Wells and Storage Tank from Xstrata. The Falconbridge well system consists of 3 drilled wells:

- Falconbridge Well No. 5
- Falconbridge Well No. 6, and
- Falconbridge Well No. 7

Each well is equipped with a submersible pump. All three wells share a common treatment building that includes stand-by power, chlorine gas for disinfection, and a corrosion inhibitor. The wells are located north of the Sudbury Airport and were developed by Xstrata, now called Glencore. Water is supplied south to the Town of Falconbridge and north via the Western Main to the Greater Sudbury Airport and Glencore's Nickel Rim Mine reservoir. There is a booster pump for supplying water to Nickel Rim reservoir when a well pump is not operating. The City sells water to Glencore and two industrial clients along the South transmission line and fluoridates the water, as mandated by the PHSD, before it enters the Falconbridge Municipal distribution system.

The distribution network in Falconbridge is relatively old and exposed to severe frost depths. Further, the elevated water storage provides a measure of security to the water system in the event of power interruptions and watermain breaks but its future is being explored. Other components of the distribution system include a fluoridation building, booster pumping station and a pressure regulating valve.

Completed projects in 2018 and the associated approximate costs included:

- #7 well rehabilitation \$59,425.

Non-Compliance with Act, Regulations, Order or Approvals

Table 19 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during 2018 reportable period.

Table 19: Falconbridge Wells

Item	Non-Compliance	Measure Taken to Ensure Compliance
MECP Inspection Issues	NONE	N/A
MECP Orders	NONE	N/A

2018 Adverse Water Quality Incident Report

Table 20 provides details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre and the PHSD.

Table 20 : Adverse Water Quality Incidents

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NONE						

Annual Flow Summary

Table 21 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Municipal Drinking Water License during the 2018 reportable period.

Table 21: Annual Flow Summary (Falconbridge Wells)

Flow m ³ /Day	Well 5	Well 6	Well 7	System Total
January	9,958.81	9,994.30	11,220.98	31,174.09
February	7,955.85	10,300.31	9,230.71	27,486.87
March	11,903.12	10,625.01	9,133.75	31,661.88
April	2,716.05	1,558.29	24,387.23	28,661.57
May	859.24	11,241.83	15,632.73	27,733.80
June	3,223.68	6,251.03	18,604.70	28,079.42
July	6,312.90	6,179.56	17,436.77	29,929.23
August	176.76	12,207.77	14,457.51	26,842.04
September	12,592.74	6,871.37	8,459.73	27,923.84
October	19,682.38	6,663.22	60.28	26,405.88
November	18,970.04	0.00	5,944.59	24,914.62
December	18,148.65	0.00	12,112.33	30,260.98
Annual Total	112,500.22	81,892.68	146,681.32	341,074.22
Daily Max	1,215.66	1,067.13	1,236.76	3,519.55
MDWL Daily Max Permitted	1,417.00	1,417.00	1,417.00	4,251.00
% Usage	86%	75%	87%	83%

Onaping/Levack Drinking Water System DWS# 220003519

Municipal Drinking Water License: 016-102
Issue Number: 3
May 24, 2017
Drinking Water Works Permit: 016-202
Issue Number: 3
May 24, 2017

In 2010, the Onaping well supply system, Onaping distribution and Levack distribution were considered to be one complete system as all of the systems are connected. As such, one Drinking Water System (DWS) number and one Certificate of Approval had been assigned to the entire system. The CofA has since been changed to the listed Drinking Water License and Works Permits. This report will identify the works by geographical area where appropriate.

The Onaping Potable Water System was constructed in 1971 and owned by Xstrata. In 2009 the City of Greater Sudbury purchased the system from Xstrata and completed all major upgrades required to supply potable water to the communities of Onaping and Levack. The system was commissioned in November of 2009. The new Onaping/Levack system includes three drilled wells:

- Onaping Well No. 3,
- Onaping Well No. 4, and
- Onaping Well No. 5

Onaping Wells 3 and 4 are housed in a single pump house and Onaping Well 5 is in a separate building, but all feed into a common treatment building. The treatment building houses one well (Well 5) and provides chlorine gas injection for disinfection, fluoridation, as mandated by the PHSD, chemical addition for corrosion control and stand-by power. An elevated storage tank with re-chlorination capabilities, a Pressure Control/Booster building with stand-by power, a Pressure control facility on Fraser Crescent and the distribution piping complete the system.

The Levack distribution system was a recipient of water from the Vale wells in the Levack area but that changed with the acquisition of the Onaping wells and commissioning in November 2009. Water is no longer supplied from Vale and the connection has been terminated. Water is entirely provided by the Onaping wells and both Onaping and Levack distribution systems are connected.

Completed projects in 2018 and the associated approximate costs included:

- #3 well rehabilitation \$62,058;
- #4 well rehabilitation \$43,850;
- #5 well rehabilitation \$58,025 and
- Corrosion control upgrades \$8,331.

Water quality throughout the distribution system is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 22 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2018 reportable period.

Table 22: Onaping/Levack Wells

Item	Non-Compliance	Measure Taken to Ensure Compliance
MECP Inspection Issues	NONE	N/A
MECP Orders	NONE	N/A

2018 Adverse Water Quality Incident Report

Table 23 provides details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre and the PHSD.

Table 23: Adverse Water Quality Incidents

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NONE						

Annual Flow Summary

Table 24 provides a summary of the quantities of flow rates with a comparison to rated capacities as listed in the systems Municipal Drinking Water License during the 2018 reportable period.

Table 24: Annual Flow Summary (Onaping/Levack Wells)

Flow m³/Day	Well 3	Well 4	Well 5	System Total
January	0.00	376.73	53,520.21	53,896.94
February	10,664.55	0.00	37,297.25	47,961.81
March	32,115.82	100.42	20,298.33	52,514.56
April	10,748.89	0.00	40,980.86	51,729.75
May	29,205.84	6,701.01	23,085.90	58,992.75
June	19,504.24	18,492.49	12,338.40	50,335.13
July	18,553.77	5,386.51	20,136.60	44,076.88
August	5,722.85	9,956.83	28,321.78	44,001.46
September	12,647.86	7,288.33	29,126.36	49,062.54
October	11,975.03	5,910.58	28,244.99	46,130.60
November	7,693.47	9,022.74	27,455.63	44,171.85
December	7,288.91	10,225.37	28,566.74	46,081.01
Annual Total	166,121.22	73,461.02	349,373.03	588,955.27
Daily Max	2,237.36	2,005.09	2,299.38	6,541.83
MDWL Daily Max Permitted	5,184.00	5,184.00	5,184.00	15,552.00
% Usage	43%	39%	44%	42%

Vermilion Distribution System

DWS# 260006789

Municipal Drinking Water License: 016-104
Issue Number: 3
May 24, 2017
Drinking Water Works Permit: 016-204
Issue Number: 4
May 24, 2017

The Vermilion distribution system is a standalone distribution system that receives water from a “donor” system. The City of Greater Sudbury purchases water from Vale, the owner of the Vermilion water treatment facility, which acts as the donor for the CGS Vermilion distribution system. Vale has responsibility for the treatment facility and must also comply with O. Reg. 170/03. The Vale water treatment facility is not the subject of this report. The City owns and operates the distribution network in the communities of Copper Cliff, Lively, Naughton and Whitefish. The system also includes the Walden Water Storage Tank and Walden Metering Chamber. Additional service was provided in 2005 to supply Atikameksheng Anishnawbek, formerly known as the Whitefish Lake First Nation Reserve. The City has obligations to test, maintain and report on this distribution system as part of the MECP regulations. Projects undertaken in 2018 were watermain lining at the approximate cost of \$150,316. Water quality throughout the distribution systems is monitored through regular sampling in accordance with O. Reg. 170/03.

Non-Compliance with Act, Regulations, Order or Approvals

Table 25 provides a summary of any requirements of the Act, Regulations, Orders, or Approval that the system failed to meet during the 2018 reportable period.

Table 25: Vermilion Distribution System

Item	Non-Compliance	Measure Taken to Ensure Compliance
MECP Inspection Issues	NONE	N/A
MECP Orders	NONE	N/A

2018 Adverse Water Quality Incident Report

Table 25 provides details on the notices submitted in accordance with subsection 18(1) of the Safe Drinking-Water Act or section 16-4 of Schedule 16 of O.Reg.170/03 and reported to Spills Action Centre and the PHSD.

Table 26: Adverse Water Quality Incidents

AWQI #	Incident Date	Parameter	Result	Unit of Measure	Corrective Action	Corrective Action Date
NONE						

Annual Flow Summary – N/A