

Vankleek Hill Drinking Water System

Waterworks # 260002395
System Category – Large Municipal Residential

Annual Water Report

Prepared For: Champlain Township

Reporting Period of January 1st – December 31st 2020

Issued: January 22nd, 2021

Revision: 0

Operating Authority:



This report has been prepared to satisfy the annual reporting requirements in O.Reg 170/03 Section 11 and Schedule 22

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Report Availability

This system does not serve more than 10,000 residence and the annual reports will be available to residents on the Champlain Township website.

Compliance Report Card

Compliance Event	# of Events
Ministry of Environment Inspections	1
Ministry of Labour Inspections	0
QEMS External Audit	1
AWQI's/BWA	0
Non-Compliance	1
Community Complaints	3
Spills	0
Watermain Breaks	2

System Process Description

Treatment & Distribution

The Vankleek Hill Water Distribution System is a standalone distribution system, receiving treated water from the Hawkesbury Water Treatment Plant.

The system consists of the following:

- A booster station located at the junctions of Highways #34 and #17, housing two horizontal water pumps rated at 32.1 L/s (pumping water to Vankleek Hill), a dual chloramination system, online total and free analyzers with chart recorder, flow measurement and related electrical and instrumentation
- A booster station located at the standpipe in Vankleek Hill houses two vertical water pumps rated at 143 L/s (for fire protection), flow control and related electrical and instrumentation; a 10 km 400 mm transmission line with 16 valve chambers
- A 2,270 m³ standpipe
- Approximately 14.6 km of watermains, ranging from 150 mm to 300 mm and approximately 85 hydrants.
- Standby power is provided at the Highway 34 booster station, which maintains standpipe water level and town pressure.

This booster station, transmission line, and stand pipe operate under Drinking Water License Number 174-102 & Drinking Water Works Permit Number 174-202.

Treatment Chemicals used during the reporting year:

Chemical Name	Use	Supplier
Sodium Hypochlorite	Disinfection	Brenntag
Ammonium Sulphate	Disinfection	Canada Colours & Chemicals

Summary of Non-ComplianceAdverse Water Quality Incidents

Date	AWQI #	Location	Problem	Legislation	Corrective Action Taken
There were no adverse water quality incidents reported during the reporting period.					

Non-Compliance

Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
There were no non-compliance issues reported during the reporting period.				

Non-Compliance Identified in a Ministry Inspection:

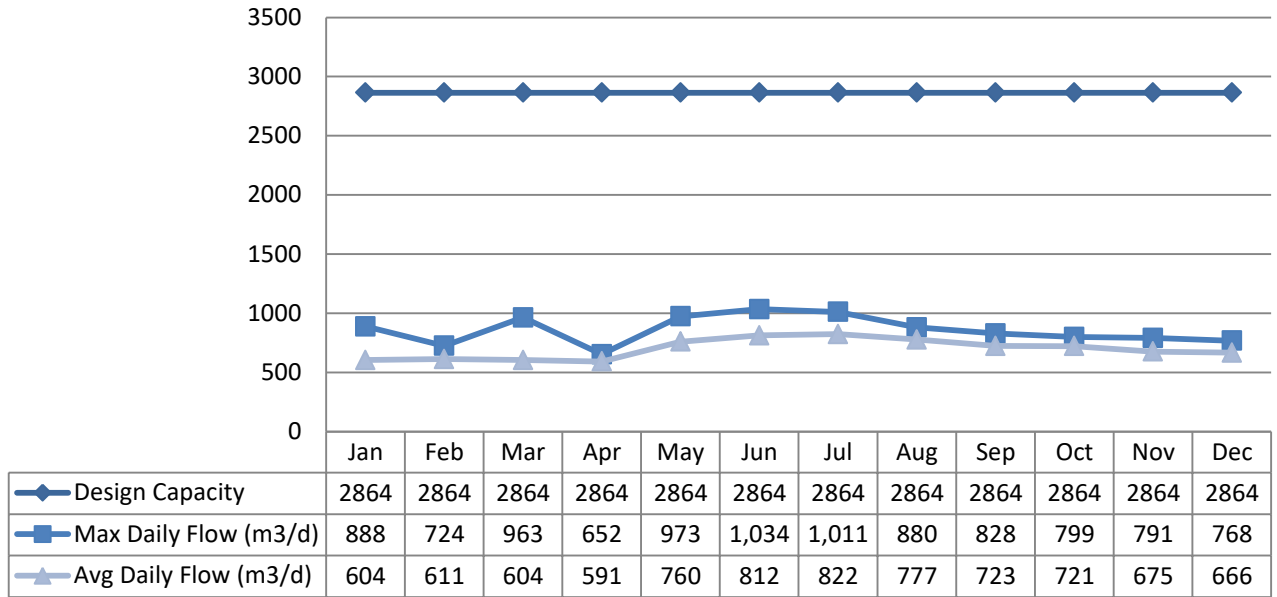
Legislation	requirement(s) system failed to meet	duration of the failure (i.e. date(s))	Corrective Action	Status
DWWP	Subsection 3.3.1 of the DWWP defines that it be recorded on a Form 1 prior to the addition modification or replacement or extension being placed into service.	A Form 1, dated December 13, 2019 was created after the watermain replacement between Main Street (County Road 10 and the south Vankleek Hill village limits and all side street within the High Street right-of-way	OCWA was aware and met with the Owner to review the DWWP condition 3.3.1 to ensure all Form 1 requirements are met prior to a watermain addition, modification, replacement or extension being placed into service.	Complete

Flows

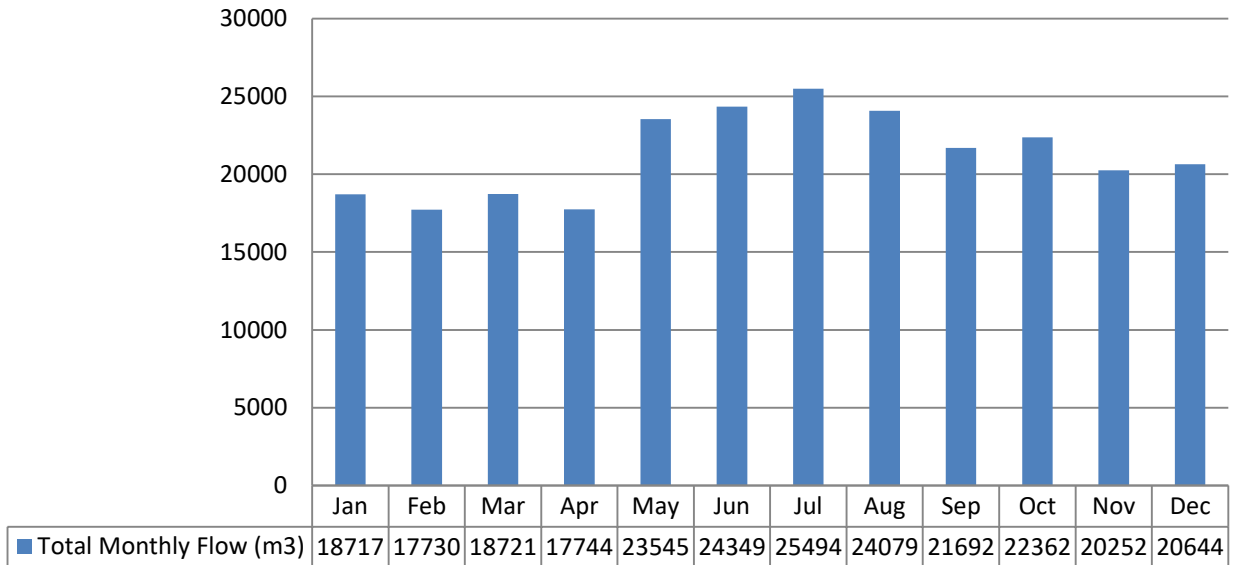
With a 2020 annual average day flow of 698 m³/d, the Vankleek Hill Water Distribution System is operating at approximately one quarter of its design capacity of 2864 m³/day.

Distribution Water Flows

Monthly Flows



Monthly Total Flow Comparison



Regulatory Sample Results Summary

Microbiological Testing

	No. of Samples Collected	Range of E.Coli Results		Range of Total Coliform Results		No. of Samples Collected	Range of HPC Results	
		Min	Max	Min	Max		Min	Max
Distribution Water	157	0	0	0	0	52	<2	72

Operational Testing

	No. of Samples Collected	Range of Results	
		Minimum	Maximum
Free Chlorine Residual, On-Line (mg/L) - DW	8760	0.93	2.59
Free Chlorine Residual, DW Field (mg/L) Lab Upload - DW	157	1.31	2.52

NOTE: spikes recorded by on-line instrumentation were a result of power flicks and various maintenance/calibration activities. All spikes are reviewed for compliance with O.Reg 170/03

Schedule 15 Sampling:

The Schedule 15 Sampling is required under O.Reg 170/03. This system is under reduced sampling. No plumbing samples were collected.

Distribution System	Number of Sampling Points	Number of Samples	Range of Results		MAC (ug/L)	Number of Exceedances
			Minimum	Maximum		
Alkalinity (mg/L)	2	4	18	31	N/A	
pH	2	4	7.7	8.4	N/A	
Lead (mg/L)	2	4	N/A	N/A	0.01	N/A

Organic Parameters

This parameter was tested quarterly as a requirement under O.Reg 170/03.

	Most Recent Sample Date (yyyy/mm/dd)	4Q Running Average	MAC	Number of Exceedances	
				MAC	1/2 MAC
Distribution Water					
Trihalomethane: Total (ug/L) Annual Average - DW	2020/10/13	44.0	100	No	No
Haloacetic Acids: Total (ug/L) Annual Average – DW	2020/10/13	44.3	80	No	Yes

MAC = Maximum Allowable Concentration as per O.Reg 169/03

BDL = Below the laboratory detection level

Additional Legislated Samples

There was no additional sampling required.

Major Maintenance Summary

Distribution Maintenance

Date	Location Reference	Details
11-Feb-20	1023 Pleasant Corner Rd.	Repair compression fitting that let go from service line with Coal Water Excavation.
25-Feb-20	Booster Station	Replace cracked compression fittings on chlorination system.
02-Mar-20	Union/Mill St.	Replace broken hydrant cap.
03-Mar-20	176 Main St. E.	Replace broken hydrant cap.
22-Apr-20	Stand Pipe	Repair safety ladder security gate restraint.
May/Jun-20	WDS	Semi-annual flushing of distribution system fire hydrants.
09-Jun-20	Main St. E.	Locate/verify curb stops in preparation for sidewalk replacement.
16-Jun-20	Main St. E.	Replace/repair stand posts and rods as required prior to sidewalk replacement.
Jul-20	WDS	Hydra Spec onsite to perform fire hydrant inspections.
27-Jul-20	Stand Pipe	Landmark onsite to perform stand pipe inspection.
Aug-20	WDS	ZT Restorations onsite to paint fire hydrants.
04-Aug-20	121 Stanley St.	Replace stand post and rod.
19-Aug-20	Booster Station	Communication failure between stand pipe and booster station. Operate booster pumps manually, based on stand pipe level until Bell repaired communication issues on August 21.
27-Aug-20	Stand Pipe	Replace sump pump in valve chamber.
30-Sep-20	29 Hamil St.	Replace stand post and rod with Coal Water Excavation.
02-Oct-20	Home Ave.	Supervise/inspect valve connection and stand post installation.
05-Oct-20	6034 Newton Rd.	Replace stand post and rod with Coal Water Excavation.
22-Oct-20	255 Main St. E.	Marathon onsite at with OCWA, Cliftdale and Lascelle Engineering to perform directional boring under Main Street for the purpose of installing the watermain to Cliftdale's new subdivision.
23-Oct-20	255 Main St. E.	During the installation of Cliftdale's trench box, a metal plate went through the 6 inch lateral water line connected to the fire hydrant located at the excavation site. Once an air gap had been achieved, OCWA isolated the watermain, and a Robar clamp was used to temporarily fix the leaking lateral. The system was thoroughly flushed once water was turned back on.
27-Oct-20	Stanley Ave.	While installing a new service connection, Coal Water excavation accidentally struck the watermain. With assistance from OCWA, the section of watermain was isolated and an emergency repair was completed. Repair was completed the following day with the appropriate Hymax coupling. To facilitate repair, water to the street was shut down and then thoroughly flushed post-repair.
30-Oct-20	255 Main St. E.	Coal Water excavation, with assistance from OCWA, onsite to complete full repair of hydrant lateral. A section of the AC watermain upstream and downstream of the hydrant was removed, and was replaced with two new "T" connections, the

		first for the fire hydrant and the second for the new watermain crossing the street supplying Clifftondale's subdivision.
23-Nov-20	Booster Station	Install, with Prescott Motors, new motors on both booster pumps. During the night of the 23 rd , the new motor for pump #2 failed and the following day Prescott Motors returned to install the old motor temporarily until a replacement motor could be ordered and hence installed.
24-Nov-20	Booster Station	Troubleshoot ammonia pump failure. A burnt relay in the pump control panel caused a loss of communication/programming. Switch control wiring to an unused relay and have Jean-Louis Laplante, Capital Control, restore programming.
Nov/Dec-20	WDS	Semi-annual flushing and winterization of distribution system fire hydrants.
02-Dec-20	Booster Station	Prescott Motors onsite to install replacement motor for booster pump #2.
08-Dec-20	High St.	Verify condition and operation of street valves on newly paved section in front of Tim Hortons.
08-Dec-20	WDS	Hydra Spec onsite to complete fire hydrant repairs.