



CLEARVIEW



Township of Clearview 2022 Drinking Water Compliance Report

Period Covering: January 1 to December 31, 2022

Stayner Drinking Water System

Annual and Municipal Summary Reports

(Prepared in accordance with Section 11 and Schedule 22 of Ontario Regulation 170/03)

TABLE OF CONTENTS

| | |
|--|----|
| INTRODUCTION _____ | 4 |
| Drinking Water System Information _____ | 4 |
| Report Content _____ | 4 |
| Report Format _____ | 5 |
| Report Availability _____ | 5 |
| QUALITY MANAGEMENT SYSTEM _____ | 6 |
| Quality Management System Policy _____ | 6 |
| Quality Management System Summary _____ | 6 |
| STAYNER DRINKING WATER SYSTEM _____ | 8 |
| System Description _____ | 8 |
| Water Treatment Chemicals _____ | 8 |
| Major Expenses Incurred within the Drinking Water System _____ | 9 |
| OPERATIONAL CHECKS, SAMPLING AND TESTING _____ | 9 |
| Operational Checks _____ | 9 |
| Table 1: Schedule 7 Operational Checks Summary _____ | 9 |
| Microbiological Testing _____ | 10 |
| Table 2: Schedule 10 Microbiological Testing Results _____ | 10 |
| Chemical Testing _____ | 10 |
| Table 3: Chemical Sampling Frequency _____ | 10 |
| Table 4: Trihalomethanes (THMs) and Haloacetic Acids (HAAs) _____ | 11 |
| Table 5: Nitrite and Nitrate _____ | 11 |
| Table 6: Sodium and Fluoride _____ | 11 |
| Table 7: Schedule 23 - Inorganics _____ | 11 |
| Table 8: Schedule 24 – Organics _____ | 12 |
| Table 9: Other Sampling Conducted Outside O. Reg. 170/03 _____ | 13 |
| Community Lead Testing Program _____ | 13 |
| Table 10: Schedule 15.1 - Lead _____ | 13 |
| Adverse Water Quality Incidents _____ | 13 |
| REGULATORY COMPLIANCE SUMMARY _____ | 14 |
| Safe Drinking Water Act & Associated Regulations _____ | 14 |
| Municipal Drinking Water Licence & Drinking Water Works Permit _____ | 14 |

| | |
|--|----|
| Permit to Take Water _____ | 14 |
| Provincial Orders _____ | 14 |
| SYSTEM CAPACITY _____ | 15 |
| Allowable Capacities _____ | 15 |
| Table 11: Allowable Capacities _____ | 15 |
| 2022 Flow Summary _____ | 15 |
| Figure 1: Monthly Flow Totals _____ | 15 |
| Table 12: Monthly Flows _____ | 16 |
| Figure 3: System Capacity _____ | 16 |
| Figure 3: 2022 Daily Flows _____ | 17 |
| Figure 4: Five-year Total Flow Comparison _____ | 18 |
| Figure 5: Committed Development Flow Projections _____ | 19 |

INTRODUCTION

This report has been prepared by the Township of Clearview to satisfy the requirements of Section 11: Annual Report and Schedule 22: Summary Reports for Municipalities of Ontario Regulation 170/03 (O. Reg 170/03).

The report covers the period from January 1 to December 31, 2022, for the following municipally owned and operated drinking water system:

- Stayner Drinking Water System

Drinking Water System Information

| | |
|--|--|
| Drinking Water System Number: | 220001138 |
| Drinking Water System Category: | Large Municipal Residential |
| Drinking Water System Classification: | Water Supply and Distribution Class 2 |
| Municipal Drinking Water Licence Number: | 099-106, Issued June 25, 2020 |
| Drinking Water Works Permit Number: | 099-206, Issued June 25, 2020 |
| Permit to Take Water: | P-300-6059698529, Issued June 11, 2020 |

Report Content

Under Section 11 of O. Reg 170/03, the Owner of a drinking water system is required to prepare an annual report covering the period of January 1 to December 31 by February 28th of the following year.

The annual report must contain the following information:

- A brief description of the drinking water system, including a list of water treatment chemicals used.
- A summary of any reports made to the Ministry of Environment, Conservation and Parks (MECP) pertaining to Adverse Water Quality Incidents (AWQI).
- A summary of test results required under O. Reg. 170/03, or by an approval, the municipal drinking water licence or an order, including an Ontario Water Resources Act order, if tests were not required during this period, a summary of the most recent test results.
- A description of corrective actions taken in accordance with Schedule 17 or 18 of O. Reg. 170/03.
- A description of any major expenses incurred to install, repair or replaced required equipment.
- A statement of where a report prepared under Schedule 22 will be available for inspection by the public, without charge.

Schedule 22 of O. Reg 170/03 requires that an Annual Summary Report for Municipalities be provided to Council by March 31st each year. The report summarizes at a high level, the

regulatory activity of the drinking water system for the preceding year. It must contain the following information:

- List of requirements of the Act, regulations, the system's approval, drinking water works permit, municipal drinking water licence, and any orders applicable to the system that were not met at any time during the period covered by the report and specify the duration of the failure and describe the measures taken to correct the failure.
- A summary of quantities and flow rates of the water supplied during the period covered by the report, including monthly average and maximum daily flows.
- A comparison of the summary of quantities and flow rates to the rated capacity and flow rates approved in the system's approval, drinking water works permit or municipal drinking water licence.

Report Format

This report provides details on measures taken by staff to ensure compliance with Terms and Conditions of the control documents, Act, Regulations, or any orders the system may have been under during the reporting period.

Rated capacities and flows approved in the system's certificates are summarized. There are discrepancies between the capacities allowed in some control documents. Exceeding the Drinking Water Licence or Permit to Take Water flow rates can be considered a contravention of legislation. For this reason, we strive to keep the flow rates below the lower of the control document limits.

A summary of quantities and flow rates including monthly averages and maximum daily flows are included. This flow comparison is to allow for a basic overview of the system's performance and allows for review and planning of possible future expansions if required. The actual pumping capacity has been used to calculate the percentage of overall capacity because in some cases actual capacity has decreased over time and is not represented realistically by the system control documents.

Report Availability

In accordance with Section 11 of O. Reg. 170/03, a copy of the report is available to the public, free of charge, at the following locations:

- Township of Clearview's website www.clearview.ca
- By request at the Township Administration Building, located at 217 Gideon St., Stayner.
- By request at the Township Public Works Building, located at 5833 County Road 96, Stayner.

The public is advised of the report's availability, without charge, and how a copy may be obtained via local newspaper ads, the Township of Clearview's website and social media feeds by February 28th.

QUALITY MANAGEMENT SYSTEM

Quality Management System Policy

Township of Clearview Water Department Quality Management System Policy Statement

It is Clearview Township's aim to ensure safe drinking water to the end user within all Township - operated water systems. Through this policy the Township commits to follow all applicable legislation & regulations that are associated with the safety and the delivery of Drinking Water. Through maintenance and continual improvement to the Quality Management System the Township is identifying, measuring, controlling and improving the various core water works processes that will ultimately lead to improved water works performance.

Adopted by Council Resolution April 8, 2019

Quality Management System Summary

Clearview's Quality Management System (QMS) is legislated under the Drinking Water Quality Management Standard (DWQMS) through the Safe Drinking Water Act. It utilizes a set of coordinated activities to direct and control the department to continually improve the effectiveness of its performance.

The annual Management Review meeting was held to evaluate the continuing suitability, adequacy, and effectiveness of the QMS. The meeting occurred on March 29, 2022, and a subsequent report to council was prepared and submitted for information.

Internal audits were conducted by trained waterworks employees to ensure that the QMS conforms to the requirements of the Township's Operational Plan and the DWQMS. These requirements include ensuring that the QMS has been effectively implemented and properly maintained. The 2022 audit was conducted between February 1 – 15, 2022. Four Opportunities for Improvement (OFI) were noted in the report.

Since 2012, SAI Global has been retained to provide external auditing services of the DWQMS for Clearview. The 14-page, S2 Surveillance Audit report was received on May 4, 2022, with one OFI identified. The purpose of this audit was to determine whether the drinking water QMS conforms to the requirements of the DWQMS and that it has been effectively implemented and maintained. The result was that The Corporation of the Township of Clearview's QMS is considered effectively

implemented and meets all the requirements of the standard relative to the scope of certification and it was recommended that certification as an operating authority be continued. The current Certificate of Accreditation for conforming with the requirements of Drinking Water Quality Management Standard Version 2 – 2017 was issued to the Township on July 10, 2020.

The Safe Drinking Water Act and regulations call for water works owners to continually monitor water works performance, and review levels of treatment versus current standards. The public expects that responsible owners will be diligent in their duty to care for public water supplies.

Section 19 of the Safe Drinking Water Act (Standard of Care) became effective December 31, 2012. After election of a new Council, members are invited to attend a facilitated training session to understand their responsibilities under the Act.

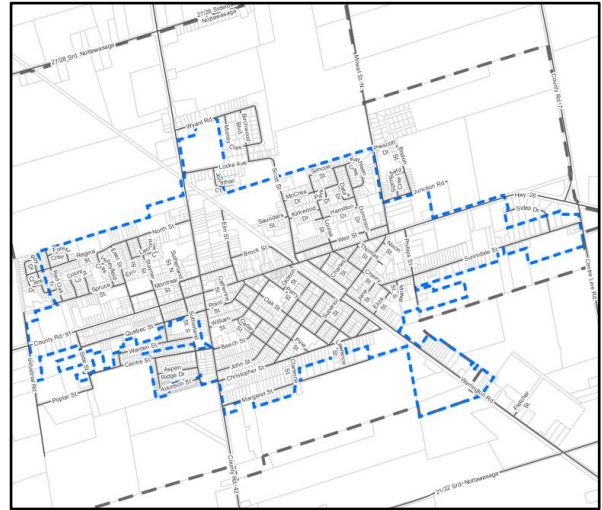
The Township is well organized to manage the water works system. Further, staff have been proactive to ensure all necessary measures are taken to achieve compliance with Regulations and various control documents.

STAYNER DRINKING WATER SYSTEM

System Description

The Stayner Drinking Water System is in the middle of the Township of Clearview. There are three pumphouses between two sites, 297 Sunnidale Street, and 1485 County Road 42. The system also features an above ground reservoir at 1882 County Road 42.

The facilities are owned and operated by the Corporation of the Township of Clearview in accordance with the licence and permits issued by the Ontario Ministry of Environment, Conservation and Parks (MECP) and all other applicable legislation.



Source water for the Stayner drinking water system is provided by four groundwater wells. Water is drawn from the wells on the pumphouse property where it is treated with sodium hypochlorite for primary and secondary disinfection. ClearHib5, blended polyphosphate, is also added to the water for iron sequestering. The well pumps are used to convey the treated water to the two glass-lined steel above ground water storage tanks with a combined total capacity of approx. 7,100 m³. The reservoir provides system pressure from the elevation of the tanks and water storage for firefighting needs. The distribution system is comprised of approx. 51 km of various sized watermain, with 256 fire hydrants for fire protection. At the end of 2022, there were 1,810 active service connections, translating to an approx. population of 4,525 people.

A computerized Supervisory Control and Data Acquisition (SCADA) system is used to continuously monitor the drinking water system and alert a certified operator should it detect a potential problem. A 100 kW standby generator provides backup power to Pumphouse # 2 and its treatment equipment in the event of a power failure.

Water Treatment Chemicals

Chemicals used for drinking water treatment include:

- 12% Sodium Hypochlorite
- ClearHib 5 polyphosphate

Major Expenses Incurred within the Drinking Water System

- Observation wells water level data logger replacement (2) - \$2,000
- Sodium Hypochlorite chemical feed pump replacement (4) - \$19,040
- Addition of standby generator to reservoir site - \$14,000
- Main valve replacements, Huron and Superior (2) - \$10,000
- Locke Avenue watermain replacement - \$393,995

OPERATIONAL CHECKS, SAMPLING AND TESTING

All operational checks and sampling were conducted at the required frequency and locations as per Schedule 6 of O. Reg. 170/03 during the reporting period. All samples were collected by certified operators and analysis performed by accredited laboratories. No additional testing and sampling were necessary due to any requirements of an approval, order, or other legal instrument.

Operational Checks

Operational checks including, treated water and distribution water free chlorine residuals, as well as source water raw turbidity are required under Schedule 7 of O. Reg. 170/03. Raw water turbidity samples are collected and analyzed monthly from each production well. The free chlorine residual in the treated water leaving the pumphouse is continuously monitored by an online analyzer connected to the SCADA system for data logging and alarming. Grab samples from various locations in the distribution system are collected twice a week and analyzed for free chlorine. Table 1 below summarizes the results for the reporting period.

Table 1: Schedule 7 Operational Checks Summary

| Parameter | Number of Samples | Min. | Max. | Unit |
|---|-------------------|------|------|------|
| Raw Turbidity – Well # 1 | 12 | 0.54 | 1.63 | NTU |
| Raw Turbidity – Well # 2 | 12 | 0.38 | 1.30 | NTU |
| Raw Turbidity – Well # 3 | 12 | 0.36 | 0.97 | NTU |
| Raw Turbidity – Well # 4 | 12 | 0.24 | 0.91 | NTU |
| Treated Water Free Chlorine – Pumphouse # 1 | 8760* | 0.32 | 1.62 | mg/L |
| Treated Water Free Chlorine – Pumphouse # 2 | 8760* | 0.67 | 2.01 | mg/L |
| Treated Water Free Chlorine – Pumphouse # 3 | 8760* | 0.34 | 1.66 | mg/L |
| Distribution Water Free Chlorine | 416 | 0.29 | 1.43 | mg/L |

*8760 is the number used for continuous monitoring equipment.

Microbiological Testing

Microbiological testing of raw source water and distribution water samples is required by Schedule 10 of O. Reg. 170/03 for large municipal residential drinking water systems. Raw water samples from each production well, a treated water sample and four distribution samples are collected on a weekly basis. Laboratory results for all samples analyzed for E. coli, Total Coliforms, Background and Heterotrophic Plate Count (HPC) met the requirements and did not exceed the applicable standards set out in O. Reg. 169/03. On rare occasions, untreated raw water samples indicated the presence of bacteria. Table 2 below summarizes the microbiological and bacteriological sample results for the reporting period.

Table 2: Schedule 10 Microbiological Testing Results

| Sample Type / Source | Number of Samples | E.coli CFU/100 mL | | Total Coliform CFU/100 mL | | Number of HPC Samples | HPC CFU/100 mL | |
|----------------------|-------------------|-------------------|------|---------------------------|------|-----------------------|----------------|------|
| | | Min. | Max. | Min. | Max. | | Min. | Max. |
| Raw – Well # 1 | 52 | 0 | 0 | 0 | 1 | NR | - | - |
| Raw – Well # 2 | 52 | 0 | 0 | 0 | 0 | NR | - | - |
| Raw – Well # 3 | 52 | 0 | 0 | 0 | 0 | NR | - | - |
| Raw – Well # 4 | 52 | 0 | 0 | 0 | 0 | NR | - | - |
| Treated – Well # 1 | 52 | 0 | 0 | 0 | 0 | 52 | < 10 | 80 |
| Treated – Well # 2/4 | 52 | 0 | 0 | 0 | 0 | 52 | < 10 | 20 |
| Treated – Well # 3 | 52 | 0 | 0 | 0 | 0 | 52 | < 10 | 20 |
| Distribution | 208 | 0 | 0 | 0 | 0 | 52 | < 10 | 90 |

Chemical Testing

Testing performed under Schedule 13 of O. Reg. 170/03. The tables 4 through 8 below summarize the sample results for the reporting period or provide the most recent results if samples were not required to be collected during the reporting period. All sampling is of treated drinking water leaving the pumphouse, except for THM and HAA samples that are collected from the distribution system.

Table 3: Chemical Sampling Frequency

| Parameter | Required Sampling Frequency |
|-------------------|--|
| THMs | Every Calendar Quarter, calculated as running annual average |
| HAAs | Every Calendar Quarter, calculated as running annual average |
| Nitrite & Nitrate | Every 3 months |
| Sodium | Every 60 months |

| | |
|--------------------------|-----------------|
| Fluoride | Every 60 months |
| Schedule 23 – Inorganics | Every 36 months |
| Schedule 24 - Organics | Every 36 months |

ODWS MAC – Ontario Drinking Water Standard Maximum Allowable Concentration. Where two numbers are listed in this column the first is the aesthetic objective and the second is the maximum allowable under O. Reg. 169/03.

Table 4: Trihalomethanes (THMs) and Haloacetic Acids (HAAs)

| Parameter | Running Annual Average | ODWS MAC | Unit | Exceedance |
|-----------|------------------------|----------|------|------------|
| THMs | 11.3 | 100 | ug/L | No |
| HAAs | 6.9 | 80 | ug/L | No |

Table 5: Nitrite and Nitrate

| Parameter | Date Sampled | Result Well # 1 | Result Well # 2/4 | Result Well # 3 | ODWS MAC | Unit | Exceedance |
|-----------|--------------|-----------------|-------------------|-----------------|----------|------|------------|
| Nitrite | 19 Jan 2022 | < 0.1 | < 0.1 | < 0.1 | 1 | mg/L | No |
| | 20 Apr 2022 | < 0.1 | < 0.1 | < 0.1 | 1 | mg/L | No |
| | 18 Jul 2022 | < 0.1 | < 0.1 | < 0.1 | 1 | mg/L | No |
| | 21 Oct 2022 | < 0.1 | < 0.1 | < 0.1 | 1 | mg/L | No |
| Nitrate | 19 Jan 2022 | 0.2 | 6.8 | 0.2 | 10 | mg/L | No |
| | 20 Apr 2022 | 0.4 | 7.0 | 0.2 | 10 | mg/L | No |
| | 18 Jul 2022 | 0.3 | 7.1 | 0.3 | 10 | mg/L | No |
| | 21 Oct 2022 | 0.4 | 6.9 | 0.3 | 10 | mg/L | No |

Table 6: Sodium and Fluoride

| Parameter | Date Sampled | Result Well # 1 | Result Well # 2/4 | Result Well # 3 | ODWS MAC | Unit | Exceedance |
|-----------|--------------|-----------------|-------------------|-----------------|----------|------|------------|
| Sodium | 9 Sept 2022 | 8.8 | 7.5 | 7.1 | 20, 200 | mg/L | No |
| Fluoride | 18 Jul 2022 | < 0.1 | < 0.1 | < 0.1 | 1.5 | mg/L | No |

Table 7: Schedule 23 - Inorganics

| Parameter | Date Sampled | Result Well # 1 | Result Well # 2/4 | Result Well # 3 | ODWS MAC | Unit | Exceedance |
|-----------|--------------|-----------------|-------------------|-----------------|----------|------|------------|
| Antimony | 6 Dec 2022 | < 0.0001 | < 0.0001 | 0.0001 | 0.006 | mg/L | No |
| Arsenic | 6 Dec 2022 | 0.0005 | 0.0001 | 0.0006 | 0.01 | mg/L | No |
| Barium | 6 Dec 2022 | 0.077 | 0.042 | 0.072 | 1 | mg/L | No |
| Boron | 6 Dec 2022 | 0.019 | 0.010 | 0.020 | 5 | mg/L | No |
| Cadmium | 6 Dec 2022 | < 0.000010 | < 0.000010 | 0.000153 | 0.005 | mg/L | No |
| Chromium | 6 Dec 2022 | < 0.002 | < 0.002 | < 0.002 | 0.05 | mg/L | No |
| Mercury | 6 Dec 2022 | < 0.00002 | < 0.00002 | < 0.00002 | 0.001 | mg/L | No |

| | | | | | | | |
|----------|------------|---------|---------|---------|------|------|----|
| Selenium | 6 Dec 2022 | < 0.001 | < 0.001 | < 0.001 | 0.05 | mg/L | No |
| Uranium | 6 Dec 2022 | 0.00060 | 0.00084 | 0.00062 | 0.02 | mg/L | No |

Table 8: Schedule 24 – Organics

| Parameter | Date Sampled | Result Well # 1 | Result Well # 2/4 | Result Well # 3 | ODWS MAC | Unit | Exceedance |
|--|--------------|-----------------|-------------------|-----------------|----------|------|------------|
| Alachlor | 8 Feb 2021 | < 0.3 | < 0.3 | < 0.3 | 5 | ug/L | No |
| Atrazine + N-dealkylated metabolites | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 5 | ug/L | No |
| Azinphos-methyl | 8 Feb 2021 | < 1 | < 1 | < 1 | 20 | ug/L | No |
| Benzene | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 1 | ug/L | No |
| Benzo(a)pyrene | 8 Feb 2021 | < 0.006 | < 0.006 | < 0.006 | 0.01 | ug/L | No |
| Bromoxynil | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 5 | ug/L | No |
| Carbaryl | 8 Feb 2021 | < 3 | < 3 | < 3 | 90 | ug/L | No |
| Carbofuran | 8 Feb 2021 | < 1 | < 1 | < 1 | 90 | ug/L | No |
| Carbon Tetrachloride | 8 Feb 2021 | < 0.2 | < 0.2 | < 0.2 | 2 | ug/L | No |
| Chlorpyrifos | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 90 | ug/L | No |
| Diazinon | 8 Feb 2021 | < 1 | < 1 | < 1 | 20 | ug/L | No |
| Dicamba | 8 Feb 2021 | < 10 | < 10 | < 10 | 120 | ug/L | No |
| Dichlorobenzene, 1,2- | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 3, 200 | ug/L | No |
| Dichlorobenzene, 1,4- | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 1, 5 | ug/L | No |
| Dichloroethylene, 1,1- | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 14 | ug/L | No |
| Dichloroethane, 1,2- | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 5 | ug/L | No |
| Dichloromethane (Methylene Chloride) | 8 Feb 2021 | < 5 | < 5 | < 5 | 50 | ug/L | No |
| Dichlorophenol, 2,4- | 8 Feb 2021 | < 0.2 | < 0.2 | < 0.2 | 0.3, 900 | ug/L | No |
| Dichlorophenoxy acetic acid, 2,4-(2,4-D) | 8 Feb 2021 | < 10 | < 10 | < 10 | 100 | ug/L | No |
| Diclofop-methyl | 8 Feb 2021 | < 0.9 | < 0.9 | < 0.9 | 9 | ug/L | No |
| Dimethoate | 8 Feb 2021 | < 1 | < 1 | < 1 | 20 | ug/L | No |
| Diquat | 8 Feb 2021 | < 5 | < 5 | < 5 | 70 | ug/L | No |
| Diuron | 8 Feb 2021 | < 5 | < 5 | < 5 | 150 | ug/L | No |
| Glyphosate | 8 Feb 2021 | < 25 | < 25 | < 25 | 280 | ug/L | No |
| Malathion | 8 Feb 2021 | < 5 | < 5 | < 5 | 190 | ug/L | No |
| MCPA | 8 Feb 2021 | < 10 | < 10 | < 10 | 100 | ug/L | No |
| Metolachlor | 8 Feb 2021 | < 3 | < 3 | < 3 | 50 | ug/L | No |
| Metribuzin | 8 Feb 2021 | < 3 | < 3 | < 3 | 80 | ug/L | No |
| Monochlorobenzene (Chlorobenzene) | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 80 | ug/L | No |
| Paraquat | 8 Feb 2021 | < 1 | < 1 | < 1 | 10 | ug/L | No |
| Pentachlorophenol | 8 Feb 2021 | < 0.2 | < 0.2 | < 0.2 | 30, 60 | ug/L | No |
| Phorate | 8 Feb 2021 | < 0.3 | < 0.3 | < 0.3 | 2 | ug/L | No |
| Picloram | 8 Feb 2021 | < 15 | < 15 | < 15 | 190 | ug/L | No |
| Poly-Chlorinated Biphenyls (PCB's) | 8 Feb 2021 | < 0.05 | < 0.05 | < 0.05 | 3 | ug/L | No |

| | | | | | | | |
|--------------------------------|------------|-------|-------|-------|--------|------|----|
| Prometryne | 8 Feb 2021 | < 0.1 | < 0.1 | < 0.1 | 1 | ug/L | No |
| Simazine | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 10 | ug/L | No |
| Terbufos | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 1 | ug/L | No |
| Tetrachloroethylene | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 10 | ug/L | No |
| Tetrachlorophenol, 2,3,4,6- | 8 Feb 2021 | < 0.2 | < 0.2 | < 0.2 | 1, 100 | ug/L | No |
| Triallate | 8 Feb 2021 | < 10 | < 10 | < 10 | 230 | ug/L | No |
| Trichloroethylene | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 5 | ug/L | No |
| Trichlorophenol 2,4,6- | 8 Feb 2021 | < 0.2 | < 0.2 | < 0.2 | 2, 5 | ug/L | No |
| Trifluralin | 8 Feb 2021 | < 0.5 | < 0.5 | < 0.5 | 45 | ug/L | No |
| Vinyl Chloride | 8 Feb 2021 | < 0.2 | < 0.2 | < 0.2 | 1 | ug/L | No |

Table 9: Other Sampling Conducted Outside O. Reg. 170/03

| Parameter | Date Sampled | Result Well # 1 | Result Well # 2/4 | Result Well # 3 | Unit |
|-----------|--------------|--------------------|----------------------|--------------------|------|
| Chloride | 9 Sep 2022 | 9.9 | 11.9 | 8.0 | mg/L |
| Hardness | 28 Aug 2019 | 294 | 296 | 289 | mg/L |

Community Lead Testing Program

Historical low level lead sample results have qualified Clearview for the reduced sampling program under Schedule 15.1 of O. Reg. 170/03. Clearview is exempt from sampling private residences as less than 10% of plumbing samples exceeded the standard for two consecutive periods. Samples from the distribution system are collected during two sampling periods. Winter (Dec. 15 to Apr. 15) and Summer (June 15 to Oct. 15). Alkalinity and pH samples are analyzed in each sampling period, while lead is only required to be tested for every 3 years. Table 10 below summarizes the lead testing program sample results for the reporting period.

Table 10: Schedule 15.1 - Lead

| Parameter | Number of Samples | Min | Max | ODWS MAC | Unit |
|------------|----------------------|---------|---------|-------------|------------------------------|
| Lead | 6 | 0.00004 | 0.00013 | 0.010 | mg/L |
| Alkalinity | 6 | 233 | 251 | 30 - 500* | mg/L as CaCO ₃ |
| pH | 6 | 7.15 | 7.47 | 6.5 - 8.5* | - |

*Operational Guidelines

Adverse Water Quality Incidents

There were no Adverse Water Quality Incidents (AWQIs) in 2022.

REGULATORY COMPLIANCE SUMMARY

Safe Drinking Water Act & Associated Regulations

No non-compliances were identified during this reporting period.

Municipal Drinking Water Licence & Drinking Water Works Permit

No non-compliances were identified during this reporting period.

Permit to Take Water

No non-compliances were identified during this reporting period.

Provincial Orders

No provincial orders were issued during this reporting period.

SYSTEM CAPACITY

Allowable Capacities

Allowable capacities are imposed on the drinking water system by several legal instruments issued by the Ministry of Environment, Conservation and Parks. They are summarized in Table 11 below.

Table 11: Allowable Capacities

| Instrument | Unit | Well # 1 | Well # 2 | Well # 3 | Well # 4 |
|----------------------------------|---|---|----------|----------|----------|
| Permit to Take Water | L/min | 909 | 1,818 | 1,818 | 1,500 |
| | m ³ /day | 1,309 | 2,618 | 2,618 | 2,160 |
| | Total from all wells m ³ /day | 6,545 Wells 2 & 4 combined limited to 1,818 L/min and 2,618 m ³ /day | | | |
| Drinking Water Works Permit | L/sec | 15.15 | 25 | 30.3 | 25 |
| Municipal Drinking Water Licence | Total supplied to distribution system m ³ /day | 1,309 | 2,619 | 2,619 | 2,160 |
| | | Well pumps 2 & 4 can be operated individually or simultaneously, however, the combined pumping capacity shall not exceed 2,619 m ³ /day. | | | |

2022 Flow Summary

The table and charts below summarize the 2022 flow data for the Stayner drinking water system. This data is a general overview and can be utilized to analyze system performance and the potential need for upgrades.

Figure 1: Monthly Flow Totals

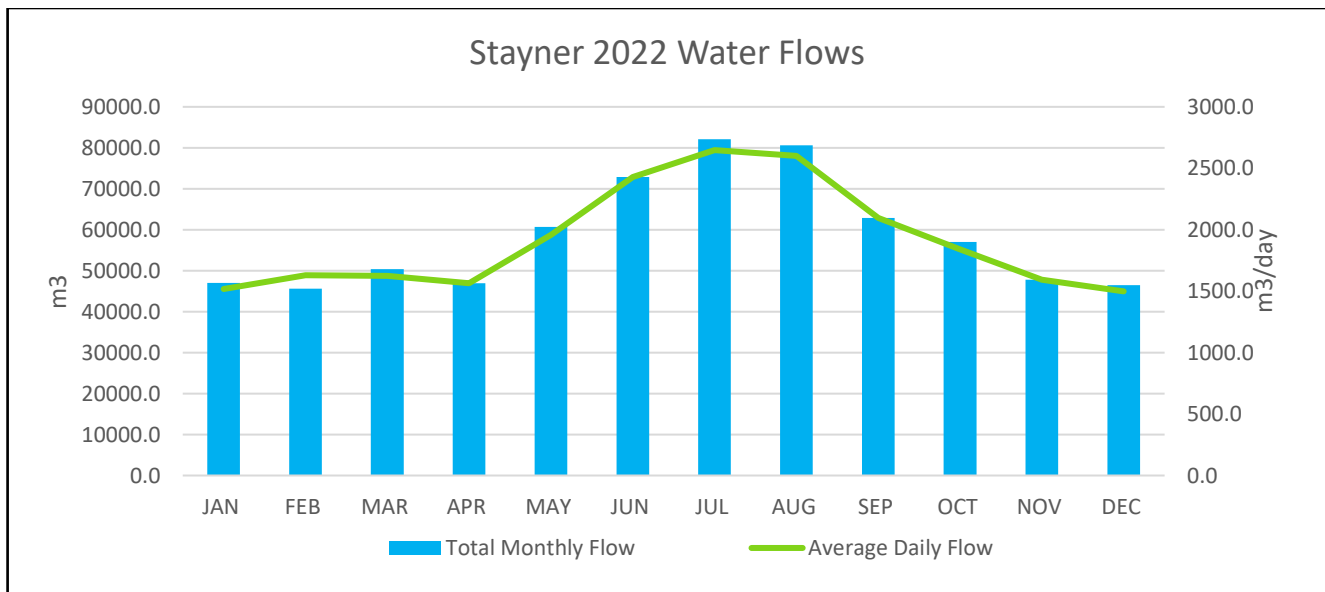
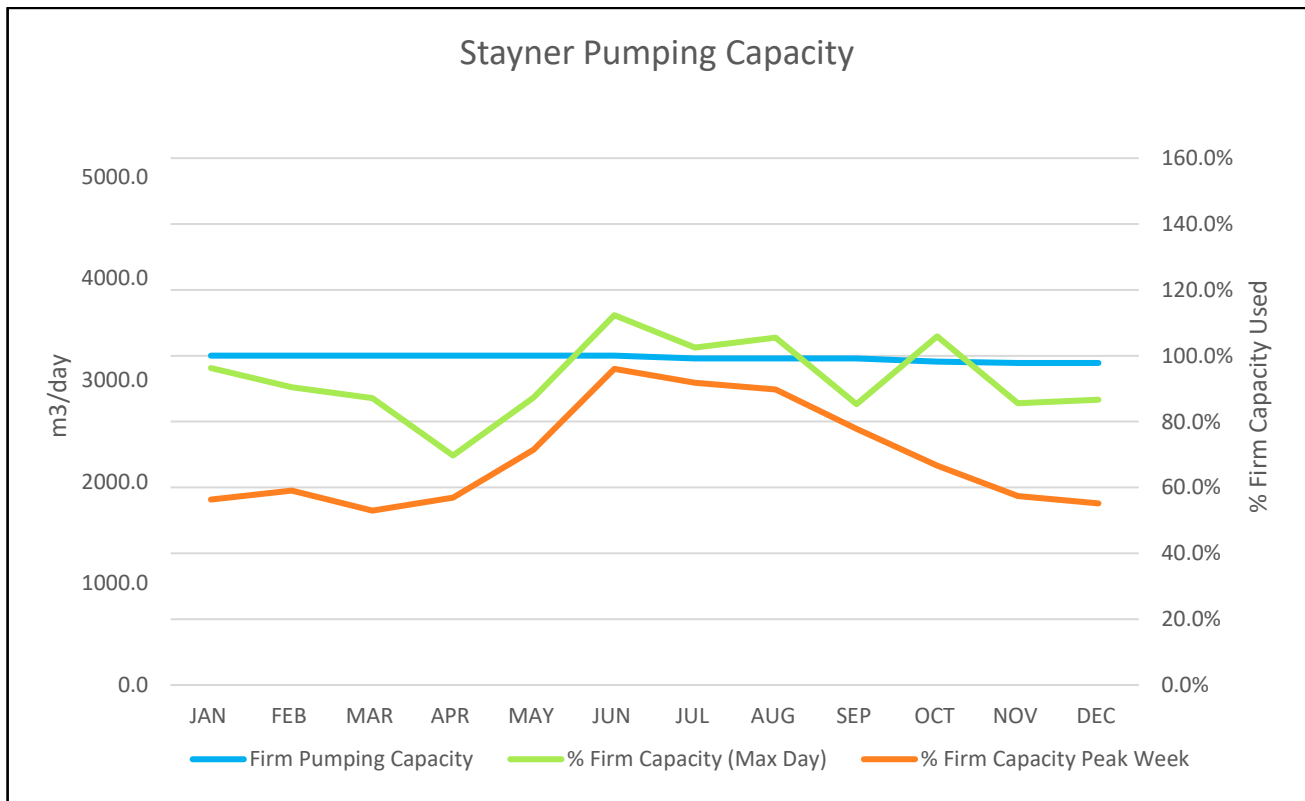


Table 12: Monthly Flows

| 2022 | Total Flow m ³ | Average Daily Flow m ³ /d | Max Daily Flow m ³ /d | Firm Pumping Capacity m ³ /d | Actual Well Pumping Capacity m ³ /d | % Firm Capacity (MDD) | % Capacity (MDD) | Max 7-day average (PEAK WEEK) m ³ /d | % Firm Capacity PEAK WEEK | % Capacity PEAK WEEK |
|-------------------|---------------------------|--------------------------------------|----------------------------------|---|--|-----------------------|------------------|---|---------------------------|----------------------|
| JAN | 47021.7 | 1516.8 | 3118.2 | 3240.0 | 5688.0 | 96.2% | 54.8% | 1825.0 | 56.3% | 32.1% |
| FEB | 45632.6 | 1629.7 | 2930.8 | 3240.0 | 5688.0 | 90.5% | 51.5% | 1912.9 | 59.0% | 33.6% |
| MAR | 50356.3 | 1624.4 | 2821.8 | 3240.0 | 5688.0 | 87.1% | 49.6% | 1715.9 | 53.0% | 30.2% |
| APR | 46973.1 | 1565.8 | 2258.0 | 3240.0 | 5688.0 | 69.7% | 39.7% | 1842.8 | 56.9% | 32.4% |
| MAY | 60706.2 | 1958.3 | 2830.6 | 3240.0 | 5688.0 | 87.4% | 49.8% | 2317.3 | 71.5% | 40.7% |
| JUN | 72874.0 | 2429.1 | 3638.8 | 3240.0 | 5688.0 | 112.3% | 64.0% | 3110.7 | 96.0% | 54.7% |
| JUL | 82090.6 | 2648.1 | 3289.7 | 3211.2 | 5659.2 | 102.4% | 58.1% | 2946.2 | 91.7% | 52.1% |
| AUG | 80650.5 | 2601.6 | 3386.6 | 3211.2 | 5659.2 | 105.5% | 59.8% | 2880.7 | 89.7% | 50.9% |
| SEP | 62901.7 | 2096.7 | 2737.5 | 3211.2 | 5659.2 | 85.2% | 48.4% | 2497.6 | 77.8% | 44.1% |
| OCT | 57043.0 | 1840.1 | 3368.6 | 3182.4 | 5630.4 | 105.9% | 59.8% | 2118.8 | 66.6% | 37.6% |
| NOV | 47773.5 | 1592.5 | 2712.4 | 3168.0 | 5328.0 | 85.6% | 50.9% | 1817.1 | 57.4% | 34.1% |
| DEC | 46456.4 | 1498.6 | 2745.3 | 3168.0 | 5328.0 | 86.7% | 51.5% | 1747.0 | 55.1% | 32.8% |
| Total/ Yr. | 700479.7 | 1919.1 | 3638.8 | | | | | | | |

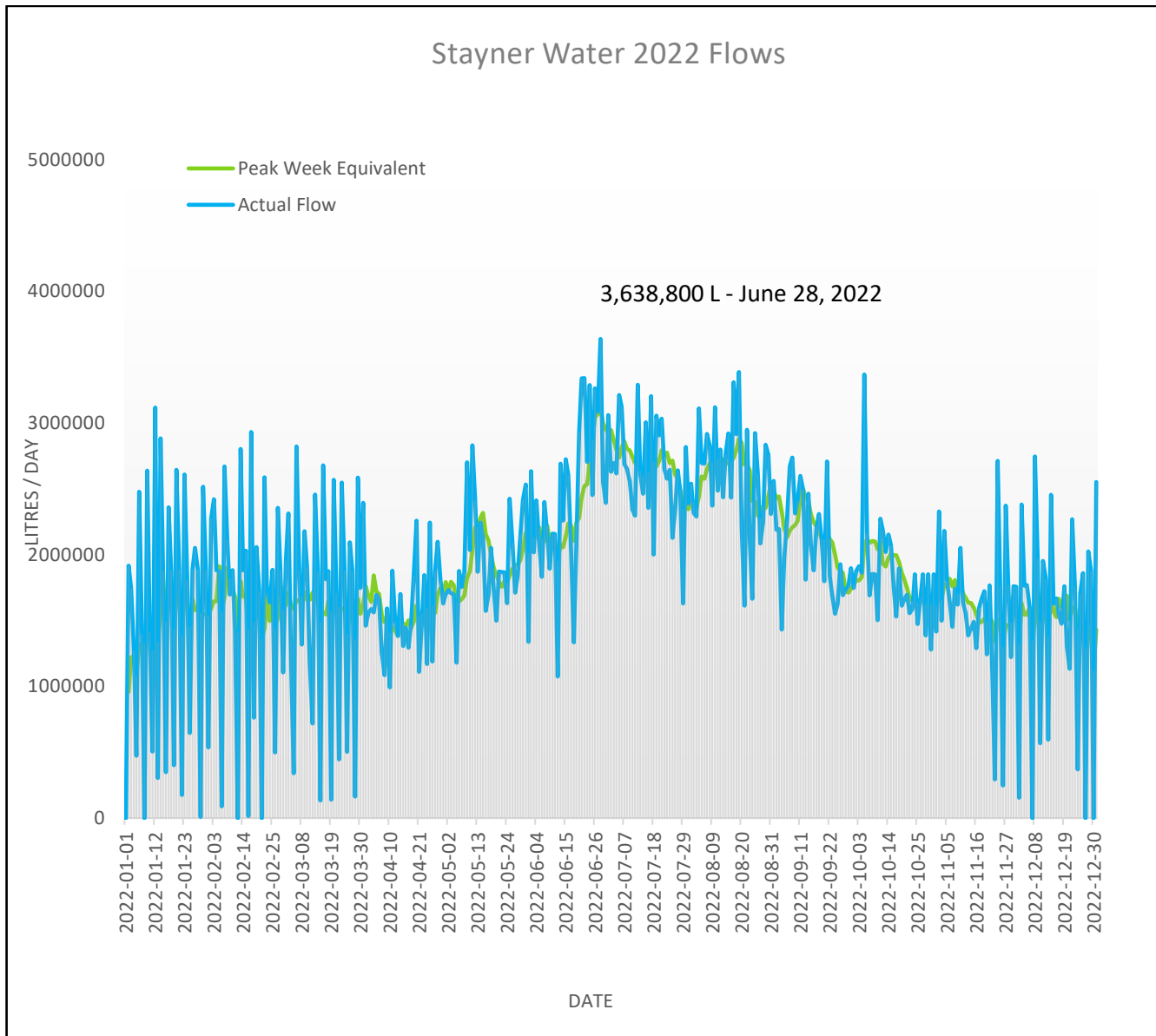
Note: All capacity values used are based on actual pump outputs and flow rates. Firm pumping capacity is the available flow with the largest pump out of service.

Figure 3: System Capacity



In 2022, the day with the largest volume of water produced was June 28th with 3,639 m³. The peak week (where reservoir capacity is being used to average out peak daily flows) occurred during the same time period with an average of 3,111 m³/day of water being produced between June 22nd and June 28th. Figure 3 below depicts the total daily raw water flow and treated water flow for the system.

Figure 3: 2022 Daily Flows



Flows for the Stayner drinking water system show an increasing trend over the last five years, although total flow for the system was down 2.35% in 2022 from 2021. The decrease in 2022 can be attributed to a decrease in consumption by the large industrial user served by the drinking water system. When this user is not considered, flows to the rest of the distribution system saw an increase of 2.58% from 2021. At the end of 2022, the system had 1,810 active service connections with numerous projects at various stages of the building process. In order for the drinking water system to serve future planned development, additional capacity must be added to the system. Figure 4 below shows the total annual flow trend for the drinking water system over the last five years. Figure 5 on the following page illustrates the anticipated flows for the system when current committed development projects have been completed.

Figure 4: Five-year Total Flow Comparison

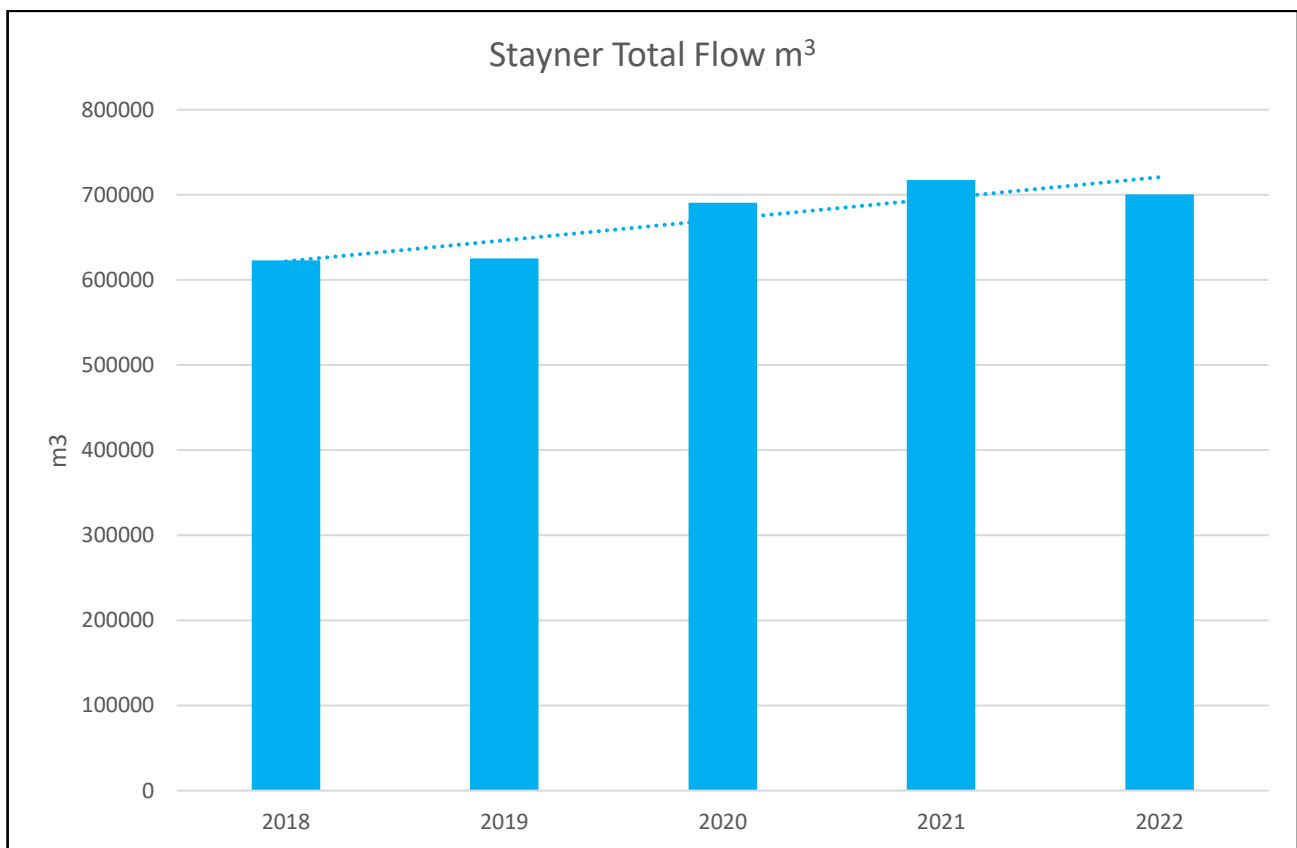
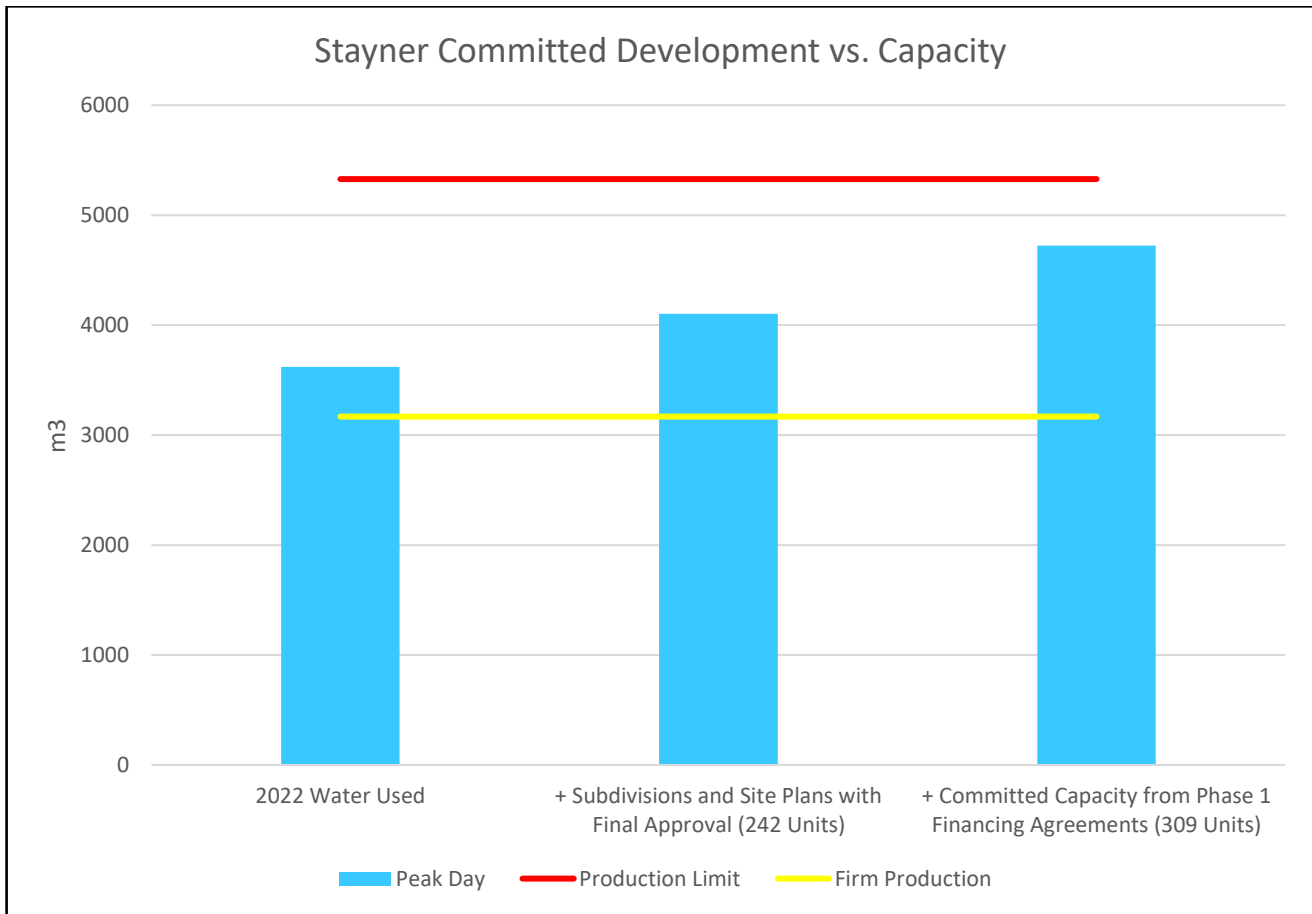


Figure 5: Committed Development Flow Projections



After committed capacity is accounted for, 606 m³/day is available until we hit the capacity production limit.