

TO: CHAIR AND MEMBERS
ENVIRONMENT COMMITTEE

DATE: 2021 May 11

FROM: DIRECTOR CORPORATE SERVICES

DATE: 33000-10
Ref: Annual DW Report

**SUBJECT: ANNUAL DRINKING WATER QUALITY MONITORING REPORT
(2020)**

PURPOSE: To present the Committee and Council with the City's Annual Drinking Water Quality Monitoring Report for 2020.

RECOMMENDATION:

1. **THAT** the Committee recommend to Council to receive the 2020 Annual Drinking Water Quality Monitoring Report for information.
2. **THAT** a copy of this report be forwarded to Ms. Barb Harworth, Environmental Health Officer, Fraser Health Authority, Unit #207 - 2776 Bourquin Crescent West, Abbotsford, BC V2S 6A4.

REPORT

1.0 INTRODUCTION

Enclosed (under separate cover) is the City's Annual Drinking Water Quality Monitoring Report for 2020. The report provides an overview of the regulatory context, outlines the drinking water quality program undertaken by staff and includes associated sample results to provide evidence of potability and compliance with the *B.C. Drinking Water Protection Regulation*.

2.0 POLICY SECTION

The Annual Drinking Water Quality Monitoring Report for 2020 is aligned with the City of Burnaby Corporate Strategic Plan supporting the following goals and sub-goals of the plan:

Goal

- A Healthy Community
 - Healthy life – Encourages opportunities for healthy living and well-being
 - Lifelong learning – Improve upon and develop programs and services that enable ongoing learning
- A Dynamic Community
 - City facilities and infrastructure – Build and maintain infrastructure that meets the needs of our growing community

DISCUSSION

In summary, in 2020 a total of 2,636 routine drinking water samples were obtained in Burnaby for bacteriological analysis. Of these, 1,621 samples were obtained by City staff from 63 dedicated sample locations selected throughout the City's waterworks system and 1,015 samples were collected by Metro Vancouver staff from 17 locations along its transmission mains located within the City boundary. The samples collected by City staff were submitted to Metro Vancouver laboratory for analysis of Total Coliform, E. Coli (indicator of fecal contamination), Heterotrophic Plate Count (HPC - early indicator of bacterial re-growth in the water mains), and turbidity. Free chlorine residual and temperature were also measured in the field at the time of sampling. In addition, a limited number of sample locations were also used for monitoring disinfection by-products (trihalomethanes and haloacetic acid), pH, metals and vinyl chloride.

In reviewing the 2020 drinking water quality sample data, it was noted that overall the water quality continues to maintain excellence as in recent years. The bacteriological water quality complied with the *B.C. Drinking Water Protection Regulation*. There was no E.Coli detected in any of the potable water sampled. With respect to Total Coliform, four samples were found to contain Total Coliform but at no time did the percentage of samples that tested positive for Total Coliform exceed the 10% stipulated in the *B.C. Drinking Water Protection Regulations*. Furthermore, none of the four samples that tested positive for Total Coliforms was greater than 10. As a standard protocol, any sample with greater than 1 Total Coliform would result in resampling. Any sample with greater than 10 Total Coliforms would result in a follow-up with Fraser Health Authority and immediate flushing of applicable water mains and resampling.

Free chlorine residuals at sampling stations have also improved over the past years. In 2020, 96.9% of water samples obtained from the 63 sampling stations achieved the objective of 0.2mg/L or above. Sampling stations that experience temporary lower residual free chlorine are largely due to low flow/use through the distribution system and the City maintains the residual free chlorine levels in these areas by frequent flushing of the water mains to enhance flow.

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Chemical parameters pH, metals, vinyl chloride and the disinfection by-products measured as Trihalomethanes and Haloacetic Acids were generally found to be below the *Federal Guidelines for Canadian Drinking Water Quality*. For metals sampling, one out of the fourteen samples collected for metals testing showed elevated levels of iron above the Aesthetic Objective (AO) of 0.3mg/L. The Canadian Drinking Water Quality Guidelines establishes Aesthetic Objective for parameters that may impair the taste, smell, or color of water; or which may interfere with the supply of good quality water. They do not cause adverse health effects. As this parameter was not a health concern, staff continued to monitor the water in this area to determine if the water quality was affected. Staff did not receive any complaints of poor water quality in this area. Thus, the elevated iron found was likely an isolated incident and did not have any effect on the water quality.

With respect to turbidity in drinking water, 99.3% of samples had turbidity of less than 1 NTU. For those samples where turbidity was greater than 1 NTU, these may be attributed to source water conditions or other transient activities such as water main flushing, water main breaks or firefighting which cause a change in the water pressure or flow in the system. Samples with high turbidity readings are followed up with immediate flushing of applicable water main(s), and re-sampling.

CONCLUSION

Staff will be placing a notice in the local newspaper informing the public regarding the availability of this report. Limited copies of the City's Annual Drinking Water Quality Report (2020) will be available to the public at the Engineering Department and in public libraries in Burnaby. Alternately, the public can also access an electronic copy of the report or data for any of the specific sampling locations from the City's website.

This is provided for the Committee and Council's information.



Dipak Dattani
DIRECTOR CORPORATE SERVICES

EL:VW:aab

Enclosure (under separate cover)

Copied to: Acting City Manager
Director Engineering