Annual Sampling Plan for Stand-alone Distribution Systems

Submitted to Nova Scotia Environment and Climate Change on behalf of

|  |  |
| --- | --- |
|  Facility Name  |   |
|  Approval Number  |   |
|  Address  |   |
|  Contact Name  |   |
|  Telephone Number  |   |

I hereby certify that the information provided in this report is complete and accurate.

How to Use the Annual Sampling Plan Template

* The template was designed to mirror the Schedule A format for ease of reference. However, some site-specific variations in sampling requirements may exist. **It is ultimately the responsibility of the approval holder to ensure the sampling plan submitted reflects the requirements outlined in their Operating Approval**.
* If you wish to add additional information/parameters, please do so in the comments box in the relevant section or add additional information at the end of the template.
* Information in black text outlines requirements and should NOT be deleted of modified. If a parameter is not applicable, please tick the associated box.
* Information in grey text must be modified by the approval holder to indicate the site-specific sample locations and sample frequencies. Note that the sample frequencies indicated in grey outline the minimum requirements for a parameter (except where a reduced frequency was approved by the Department).
	+ If a sample frequency is the same as that indicated in grey, you are still required to retype the information in the space provided for confirmation.
	+ If the approval holder has an approved modified sample frequency that is less than the minimum outlined in the template, please indicate this in the associated comments section.
* In the comment section, if there are no comments, or if it is not applicable, please tick the appropriate boxes. This helps to confirm that you have reviewed the information.

| Stand-alone Distribution System |
| --- |
| Water Quality Parameters | Sample Location | Frequency |
| Turbidity |
| Turbidity | Distribution system sample points Insert/list sample location. | Weekly grab sample. |
| **Comments:** [ ]  No comments Insert comments here. |
| Secondary Disinfection (Parameters to be monitored depend on the disinfection method used) |
| Free Chlorine [ ]  N/A – I use chloramines |
| Free Chlorine Residual  | Water Entering Distribution System Insert/list sample location. | Continuous at no more than 5-minute intervals. |
| Storage structure outlet Insert/list sample location. | Continuous at no more than 5-minute intervals. |
| Distribution system sample points Insert/list sample location(s). | Weekly grab sample. |
| **Comments:** [ ]  No comments Insert comments here. |
| Chloramines [ ]  N/A – I use chlorine |
| Combined Chlorine Residual | Water Entering Distribution System Insert/list sample location. | Continuous at no more than 5-minute intervals. |
| Storage structure outlet Insert/list sample location. | Continuous at no more than 5-minute intervals. |
| Distribution system sample points Insert/list sample location(s). | Weekly grab sample. |
| **Comments:** [ ]  No comments Insert comments here. |
| Microbial Quality |
| Total coliforms and *E.coli* (present/absent) | Distribution system sample points Insert/list sample location(s). | Weekly grab sample. |
| Viruses[ ]  N/A | Raw water Insert/list sample location. | As requested by the Department. |
| Water distribution system Insert/list sample location. | As requested by the Department. |
| Giardia and Cryptosporidium[ ]  N/A | Raw water Insert/list sample location. | As requested by the Department. |
| Water distribution system Insert/list sample location. | As requested by the Department. |
| Corrosion Monitoring Program |
| * pH
* Alkalinity
* Conductivity
* Temperature
* Chlorine or chloramine residual
* Corrosion inhibitor residual (if used)
* Insert/list additional parameter(s)
 | Point of entry and representative locations within the distribution system based on population served:Insert/list number of required distribution sample locations based on population served:

|  |  |
| --- | --- |
| Population | # of distribution samples |
| <100 | 1 |
| 101-500 | 2 |
| 501-3,300 | 3 |
| 3,301-10,000 | 4 |
| 10,001-100,000 | 6 |
| >100, 000 | 10 |

 | Quarterly grab sample. |
| Lead & Copper | Refer to the “Requirements for Lead and Copper Management – Municipal Public Drinking Water Supplies”. | Refer to the “Requirements for Lead and Copper Management – Municipal Public Drinking Water Supplies”. |
| Process Control |
| **Water Volume** | Water entering the distribution system Insert/list sample location. | Continuous at no more than 5-minute intervals. |
| **pH** | Water entering the distribution system Insert/list sample location. | Continuous at no more than 5-minute intervals or daily grab. |
| **Free ammonia (as N) – for facilities using chloramination**[ ]  N/A | Select distribution system sample point(s). Sampling points should include distribution system storage and dead ends. Insert/list sample location(s). | Weekly |
| **Nitrate/nitrite (as N) – for facilities using chloramination**[ ]  N/A | Select distribution system sample point(s). Sampling points should include distribution system storage and dead ends.Insert/list sample location(s). | Weekly |
| Insert/list parameter(s), location(s) and frequency for additional process monitoring. |
| **Comments:** [ ]  No comments Insert comments here. |
| Disinfection By-products |
| **Total Trihalomethanes (THMs)** | Select distribution system sampling point(s) – representative of the highest levels (e.g. areas with the longest retention times).Insert/list sample location(s).  | Quarterly |
| **Haloacetic Acids (HAAs)** | Select distribution system sampling point(s) – where historical data show the highest concentrations or in the middle and extremities of the distribution system. Insert/list sample location(s).  | Quarterly |
| **Chlorate and chlorite – if water source using chlorine dioxide**[ ]  N/A | Select distribution system sample point(s) – mid-system and end locations.Insert/list sample location(s). | Quarterly |
| **Chlorate – if storing sodium hypochlorite more than 3 months**[ ]  N/A | Water entering the distribution system Insert/list sample location. | Quarterly |
| **Bromate – if water source using ozone**[ ]  N/A | Water entering the distribution system.Insert/list sample location(s). | Monthly |
| **Bromate – if storing sodium hypochlorite more than 3 months**[ ]  N/A | Water entering the distribution system Insert/list sample location. | Quarterly |
| **N-Nitrosodimethylamine (NDMA) – if using chloramines for secondary disinfection**[ ]  N/A | Water entering distribution system and far-point in distribution systemInsert/list sample location. | Quarterly |
| **Comments:** [ ]  No comments Insert comments here. |
| Guidelines for Monitoring Public Drinking Water Supplies  |
| The following parameters, **except for Manganese**, are required to be monitored at a minimum annually for distribution systems supplied by a surface water or GUDI sources OR every two-years for distribution systems supplied by non-GUDI sources.If you are supplied by non-GUDI sources, have completed this test last year, and are not planning to sample this year, select N/A and enter the date when the tests were last completed in the space below. Note that space has been provided for all parameters for those who may sample above and beyond the minimum requirements outlined in the **Guidelines for Monitoring Public Drinking Water Supplies – Part I**.[ ]  N/A this year**Date last test was completed:**Insert date of last test here. |
| **Alkalinity** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Aluminum** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Ammonia** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Antimony** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Arsenic** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Barium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Boron** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Cadmium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Calcium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Chloride** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Chromium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Colour** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Conductivity** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Copper** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Fluoride** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Hardness** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Iron**  | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Lead** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Magnesium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Manganese** | Select distribution system sample point(s)Insert/list sample locations. | Quarterly |
| **Nitrate** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Nitrite** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **pH** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Potassium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Selenium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Sodium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Strontium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Sulphate** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Total Dissolved Solids** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Total Organic Carbon** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Turbidity** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Uranium** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Zinc** | Select distribution system sample point(s)Insert/list sample location. | Enter Frequency |
| Additional sample locations. | Enter Frequency |
| **Comments:** [ ]  No comments Insert comments here. |
| Guidelines for Canadian Drinking Water Quality [ ]  N/A this has not been requested by the Department |
| **All health-related parameters in the Guidelines for Canadian Drinking Water Quality, latest version.** | As requested by the DepartmentInsert/list sample location. | As requested by the Department. |
| **Comments:** [ ]  No comments Insert comments here. |