

District of Barriere

REPORT TO COUNCIL

Request for Decision

Date: November 17, 2025	File: 5d
To: Council	From: Chief Administrative Officer
Re: Water Regulations Bylaw No. 265	
Recommendation: THAT Council gives first three readings to Water Regulations Bylaw No. 265.	

Purpose

For Council to consider implementing an updated Water Regulations Bylaw for the District.

Background

As part of the ongoing review of our utility bylaws and processes, District staff have been working on new and updated bylaws to ensure compliance with legislation is achieved and best practices are codified.

At the October 6, 2025, Regular Meeting, Council already adopted a new Utility Billing Bylaw No. 260 which now provides regulations regarding the overall customer accounts. The following bylaws are also being worked on at this point and will be presented to Council over the next few months to ensure alignment across all utility related functions of the District:

1. Solid Waste Regulation Bylaw – needs to be updated and greatly expanded upon.
2. Wastewater Regulations Bylaw – there is currently no bylaw in place that governs wastewater. A bylaw is needed to appropriately regulate our wastewater utility, especially as the service area is expanded further in the future.
3. Streetlighting Bylaw (and related fees and charges) – The bylaw needs to be repealed for 2026. Any potential reduction in revenue needs to be balanced from another source (i.e. property taxation). – Draft Bylaw and report are on this agenda.

Instead of simply amending, adding, or repealing the bylaws, staff used a holistic approach to review other strategies to reduce potential long-term challenges when working with the public in regard to utility billing, account setup, disconnects, etc. For example, there would be sections in each of these individual bylaws that are related, and which should be identical throughout and apply to all rate payers alike.

Since the establishment of the new Utility Billing Bylaw, the Water Regulations Bylaw contemplated in this report can now be updated to meet the needs of the District going forward.

Staff have prepared the attached draft Water Regulations Bylaw as a second step to streamline these various utility bylaws. Several sections have been moved into the Utility Billing Bylaw and are no longer needed; however, there were also some other opportunities to include updated language and variations to current practices that may be more beneficial to the District at this time. Staff have also removed redundant and duplicated language where possible.

Proposed Changes

The Bylaw has received a thorough cleanup and consolidation, including two amendments. At the same time, sections within the Bylaw were consolidated based on topic to enhance readability for the end user, for example Cross Connection Control and Backflow Prevention sections were combined. Over time, additional cleanup and amendments may still be needed, but substantial work has now been complete.

Significant contextual changes are listed below and are highlighted in Yellow in the Draft Bylaw:

1. General Provisions (S.3 – primarily S.3.10 and 3.11) –
S.3.10 aligns with feedback received from some of the Official Community Plan discussions and would provide direction to Staff not to allow new private wells on properties where District water systems are readily available. Staff would be authorized to make some exceptions for properties over 1 acre in size and where the water source would be used for agricultural purposes only, but subject to health authority approval. Existing wells would be grandfathered.

S.3.11 – hydrants must remain unobstructed. This is necessary as several properties within the District have planted trees and shrubs to “beautify” the hydrants in front of their property. Staff will try to work with the individual property owners to correct these obstructions.
2. Fees and Charges (S. 5.1) – provided clarity around mobile home parks user accounts. The Owner of the park would be considered the customer for utility billing and account purposes.
3. Standards (S. 7.4) – the minimum depth for water service pipes was adjusted to 1.8m from 2.0 meter based on current practices.
4. Disconnection of Service / Temporary Turn Off (S. 10) – Sections 10.6 to 10.9 were added to provide clear authority to Staff to disconnect or temporarily turn off a water service in certain circumstances, including to perform repairs. It also outlines notification expectations if such a disconnect or turn off must occur.
5. Water Conservation (S. 12) – this section received a full re-write and removes the conservation stages from the main body of the Bylaw while moving them to a Schedule A. This will allow for easier replacement of the Schedule over time as the needs of the District change. In addition, the stages are renamed, starting with a Normal year-round conservation Stage, allowing for automatic transitions to Stage 1-3 based on Provincial drought levels and other environment conditions, and including a Stage 4 for critical system failures. Staff would also be authorized to adjust the stages based on the parameters listed in this section without the need for a Council resolution but rather following the Provincial drought guidelines, requests, or orders. By October 15 of each year, the conservation stage would return to the Normal Stage automatically and no additional notices would be required (unless it's due to a system failure as we experienced this year). Additional information is included below for the Conservation Stage Schedule A.

6. Offenses and Penalties (S. 13) – this section received updates to align with general enforcement practices.
7. Conservation Stages (Schedule A) – Also please see attached visual overview
Normal Stage – adjusted to spell out 3 specific days of the week instead of every second day. The intent is that as Stage 1 is needed, end users only have to remove one day out of their routine instead of adjusting to an entirely new and different schedule. This further works with Stage 2 as another day drops off. In return, an additional hour of watering was included in the draft bylaw per day to make up for the 1 day of allowed watering lost over a 2-week span. Automatic sprinkling was moved to the same days as what the house number aligns with which will help education and enforcement efforts throughout the Normal Stage and Stages 1 and 2. Public School properties have been relabeled as Institutional which now would also apply to other entities (medical, library, etc.), while District properties are shifted to “Following Standard Practices” compared to fixed dates and times. Due to the increase in park spaces that the District manages, the District was already outside of the bylaw to maintain our own parks, trees, etc. needing to water across the week to maintain a reasonable standard that protect our natural assets.

Stage 1 – Provincial Drought Level 3 – primarily due to 30% reduction request from the Province being received – adjustments to 2 days of the week and times as indicated above under the Normal Stage. This also includes underground sprinkling systems. Previous Stage 1 did not articulate restrictions on Institutions, District properties, or Agricultural users, as such, a new section was created to include 30% reduction in water uses for Institutions and the District, and 20% reduction for agricultural users on the District Water System.

Stage 2 – Provincial Drought Level 4 – primarily due to 50% reduction request from the Province being received – adjustments to 1 day of the week and times as indicated above under the Normal Stage. This also includes underground sprinkling systems. Previous Stage 2 did not articulate restrictions on Institutions, District properties, or Agricultural users, as such, a new section was created to include 50% reduction in water use for Institutions and the District, and 35% reduction for agricultural users. In addition, language was added that would allow the public to continue using water in certain circumstances to wash driveways, sidewalks, parking lots, or building exteriors; for example, if these are required to meet other health and safety regulations, laws, or an order of a regulatory authority having jurisdiction (i.e. WorksafeBC, public health inspector, etc.)

Stage 3 – Provincial Drought Level 5 – 90% reduction order from the Province is received – adjustments to very limited hand watering on same days as under Stage 1 of trees, shrubs, vegetable gardens. Washing of vehicle lights, windshields, and licence plates is also permitted, besides the washing of exterior surfaces if these are required to meet other health and safety regulations, laws, or an order of a regulatory authority having jurisdiction (i.e. WorksafeBC, public health inspector, etc.). Previous Stage 3 did not articulate restrictions on Institutions, District properties, or Agricultural users, as such, a new section was created to include 90% reduction in water use for Institutions and the District, and maximum reduction for agricultural users but to ensure that livestock and fruit trees / crops are not neglected.

Stage 4 – Systems Failure – This was previously Stage 3 and has been moved to Stage 4 due to the 3 additional provincial stages that were added. This Stage 3 is intended to only be used in circumstances when there is a water shortage due to a systems failure such as a well being inoperable. No outdoor water use is allowed. Livestock and fruit trees / crops would be allowed to be watered on a limited basis for the agricultural users.

The table below summarizes the proposed Stages and adjustments based on Provincial requests (which generally would be the main reason to change stages):

Provincial Level	Provincial Level Name	Provincial Reduction	District Conservation Stage
0	Green – Non Drought	0%	Normal
1	Yellow – Dry	0%	Normal
2	Peach – Very Dry	0%	Normal
3	Orange – Severely Dry	30% - voluntary	Stage 1
4	Red – Extremely Dry	50% - voluntary	Stage 2
5	Maroon – Exceptionally Dry	Maximum - voluntary	Stage 2, if voluntary Stage 3, if mandated by Province

District Conservation Stage 4 would only be used when a major District water systems failure occurs.

Other Bylaw Sections

Although some of the language in the sections listed below may be new or updated, in general, there are no significant context changes compared to how we either currently operate or what the intent of the current bylaws are.

Definitions (S. 2)

General Definitions that apply throughout the bylaw. Some definitions were removed and some were added compared to the original bylaw.

Conditions (S. 4)

This section speaks to the conditions of the water system and the services it provides. For example, S. 4.2 “The District does not guarantee the supply, quality, or pressure of water, but must make reasonable efforts to supply high quality water in sufficient quantities.”

Fees and Charges (S. 5)

This section provides the linkage to the District’s Fees and Charges Bylaw and the previously adopted Utility Billing Bylaw.

Applications and Permits (S. 6)

This section speaks to what type of items are required for an application to connect the physical water service. It also provides direction to utilize construction materials that comply with the Bylaw and the BC Plumbing Code for example (S. 6.7).

Water Meter (S. 8)

This section highlights the requirement for water meters to be installed at the owner’s expense and as applicable to District standards. The property owner will continue to be responsible for the water meter after installation and will be required to replace it over time as it ages out. Depending on the specific circumstances, the District may install an exterior meter pit at the property line. This often can be the preferred solution, especially with larger installations such as a mobile home park or other large multi end-user facility.

Cross Connection Control (S. 9)

As mentioned in the report, this section combines the cross flow connection section and the backflow prevention section from the original bylaw as these items are closely linked.

Inspection (S. 11)

General language that's similar in all bylaws that may require an inspection and to provide authority to staff to enter onto a property for such inspection at all reasonable times.

Schedules, General, and Repeal (S. 14, S. 15, and S.16)

These are general statement required for the bylaw and to include the Schedule A as part of the bylaw. S.16 also repeals the previous bylaw and any amendments thereto.

Summary

In summary, the proposed bylaw captures current District practices and further codifies industry standards in relation to Water Regulations. Next steps would see the remaining utility related bylaws being brought to Council to equally align those with current standards.

Benefits or Impact

General

The proposed bylaw provides clear guidance to staff and the public in relation to the District's Water Utility.

Finances

N/A

Strategic Impact

Priority #3: Create Opportunities for Community Growth

Goal 3. Complete critical Utility Bylaw and Utility Master Plan revisions

Actions to get us there:

- a. Develop a new Wastewater Regulations Bylaw.
- b. Update the Water Regulations Bylaw to include provisions that address mobile home parks and other emerging items.

The Results We Want to See:

- a. Present a Wastewater Bylaw for Council consideration in 2025.
- b. Present a Water Bylaw update for Council consideration in 2025.

Risk Assessment

Compliance: Community Charter, specifically S. 194 and S. 12

Risk Impact: Low

Internal Control Process:

Thorough in-house review and collection of best practice from other municipalities in relation to the overall utility related bylaws being proposed for updates.

Next Steps / Communication

- If given first three readings, the bylaw would be presented for final reading on December 15, 2025.
 - Most of the utility-related bylaws should be adopted by early 2026 to align with the budget cycle.
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Attachments

- Draft Bylaw No. 265 – Water Regulations Bylaw
- Current Bylaw No. 189 – Water Systems Bylaw, and amendments.
- Water Conservation Stages – Visual Overview.
- August 2022 – Province of BC – Dealing With Drought Handbook

Recommendation

THAT Council gives first three readings to Water Regulations Bylaw No. 265.

Alternative Options

1. Council could amend the bylaw.
2. Council could choose not to implement an updated bylaw at this time. This is not recommended as a utility billing bylaw was established recently, and this bylaw needs to be amended/replaced to ensure that there is no conflicting language in place and current best practices are codified.

Prepared by:

D. Drexler, Chief Administrative Officer

DISTRICT OF BARRIERE
DRAFT BYLAW NO. 265

A BYLAW TO REGULATE, PROHIBIT, AND IMPOSE REQUIREMENTS IN RELATION
TO CONNECTION TO AND USE OF THE WATERWORKS SYSTEM WITHIN THE
DISTRICT OF BARRIERE

The Council for the District of Barriere, in open meeting lawfully assembled, **ENACTS** as follows:

1. Title

1.1 This bylaw may be cited as the “*Water Regulations Bylaw No. 265*”.

2. Definitions:

2.1 In this bylaw, unless the context requires otherwise:

“**Agricultural Irrigation**” shall mean a system of irrigation involving the controlled delivery of water for the purpose of cultivating crops and/or livestock;

“**Applicant**” shall mean any owner or their agent making an application for service, service connection, or the Turn On or Turn Off of water;

“**Approved Backflow Prevention Assembly**” shall mean a backflow preventer that is designed to be tested and repaired in-line and meets the design and installation criteria requirement of the Canadian Standards Association (CSA) standards B.64.10-07/Series 01 (or the most current) and the USC FCCCHR approval criteria;

“**Auxiliary Water Source**” shall mean any water supply on or available to the premises other than the District of Barriere’s approved public water supply;

“**Backflow**” shall mean flow of water or other liquids, gases or solids from any source back into the Customer’s plumbing system or the Waterworks system;

“**Backflow Assembly Test Report**” shall mean a form provided by or approved for use by the District of Barriere to be used when testing backflow assemblies to record all pertinent information and test data;

“**Backflow Assembly Tester**” shall mean a person holding a valid certificate from the American Water Works Association – British Columbia Section, for testing backflow prevention assemblies.

“**Backflow Preventer**” shall mean a mechanical apparatus installed in a water system that prevents backflow of Contaminants into the Waterworks system;

“**Bylaw Notice Enforcement Bylaw**” means the District’s current Bylaw Enforcement Bylaw No. 95, as amended or replaced from time to time.

“Bylaw Enforcement Officer” means an RCMP Officer, peace officer, and/or any of the following District of Barriere staff or their designate:

- Chief Administrative Officer
- Bylaw Enforcement Officer
- Utilities Manager
- Utilities Staff (Operators)
- Building Inspector

“Commercial User” shall mean any user other than domestic user;

“Connection or Connect” shall mean tying into, tapping or otherwise connecting to the waterworks system of the District by means of pipes, valves, fittings or other apparatus;

“Conservation Stage” means restrictions and conservations on water use as specified in Schedule A of this bylaw;

“Contaminant” shall mean any physical, chemical, biological or radiological substance or matter in water which may render the water non-potable, according to regulations of the Province of British Columbia Drinking Water Protection Act & Regulations, or other applicable legislation of the day;

“Council” shall mean the Council of the District of Barriere;

“Curb Stop” shall mean the valve on a service pipe located on the street or lane at or near an Owner’s parcel boundary;

“Customer” shall mean the registered Owner or agent for the Owner of any property served by the District’s Waterworks System, and also any person who is the occupier of any such premises, and also any person who obtains water from a fire hydrant or by any service from the waterworks system;

“Cross Connection” means any actual or potential physical connection whereby the District’s Waterworks System is connected, directly or indirectly, with any non-potable or unapproved private water system, sewer, drain, conduit, well, pool, storage reservoir, plumbing fixture, or any other device which contains, or may contain contaminated water, liquid, gases, sewage, or other waste, or unknown or unsafe quality which may be capable of imparting contamination to the public water supply as a result of backflow;

“Cross Connection Control Program” means the District of Barriere Cross Connection Control Program and Guidelines which provide further reference and direction, standard operating procedures, bulletins and other program updates relevant to this bylaw;

“CSA” is the abbreviation for the Canadian Standards Association;

“Discontinue” means to terminate the arrangement between the District of Barriere and the Customer for the supply of water and to Turn Off the service pipe, disconnect it, or remove it;

“Disconnection” shall mean the turning off or complete removal of a water connection;

"District" means the District of Barriere.

"Domestic Use" means the use of water for normal operation of a residential home;

"Domestic User" shall mean any Owner of land connected to the Waterworks system using water for residential household requirements, sanitation, fire prevention, or lawn and garden irrigation purposes;

"Drip Irrigation" means a system of irrigation involving the controlled delivery of minimal water directly to individual plants through a network of tubes or pipes;

"Duly Authorized Agent" includes a person, firm or corporation authorized to act either on behalf of an Owner or the District as specified;

"Dwelling Unit" shall mean a building or portion of a building where one or more rooms with self-contained cooking, eating, living, sleeping and sanitary facilities are used or intended to be used as a single residential unit for one or more persons.

"Fees and Charges Bylaw" means the current Fees and Charges Bylaw No.73, as amended or replaced from time to time;

"Fill" means to fill more than 15% of the total capacity of a swimming pool, wading pool, hot tub, garden pond or decorative fountain or water feature;

"Fire Hydrant Use Permit" means a permit used by the District of Barriere for any person requesting water from a Fire Hydrant for purposes other than emergency fire protection;

"Meter Pit" shall mean a chamber installed below or above ground over a residential or irrigation water service for the purpose of installing a Water Meter;

"Occupier" has the same meaning as in the *Community Charter*, as amended or replaced from time to time.

"Owner" has the same meaning as in the *Community Charter*, as amended or replaced from time to time.

"Potable Water" means water that is fit for human consumption as defined in the Drinking Water Protection Act and Regulations;

"Premises" means land, a building, or a structure or a part of land, a building, or a structure or a combination of these used or occupied by a Customer.

"Private Water system" shall mean any privately owned pipe and fittings intended for the delivery or distribution of water within a premise or to a property and includes any domestic use, irrigation system, green house and hydroponics system, and any other use of water supplied by the Waterworks System;

“Reduced Pressure Backflow Assembly” a backflow preventer consisting of a mechanically independent acting, hydraulically dependent relief valve located in a chamber between two independently operating, force-loaded check valves, the intermediate chamber pressure always being lower than the supply pressure when there is a positive pressure on the supply side. The unit includes properly located resilient-sealed test cocks and tightly closing resilient-seated shut-off valves at each end of the assembly. This device is designed for use under continuous pressure;

“Service” shall mean the supply of water from the District of Barriere Water System to any property and shall include all pipes, taps, valves, connections and other things necessary to supply or actually used for the purpose of such supply;

“Service Connection” shall mean the connecting line from the Waterworks System to the parcel boundary and includes all related pipes, shut-off valves and other appurtenances;

“Soaker Hose” shall mean is a porous flexible tube that looks like a garden hose;

“Staff” means Chief Administrative Officer or designate.

“Top-up” shall mean less than 15% of the total capacity of a swimming pool, wading pool, hot tub, garden pond or decorative fountain or water feature;

“Turn-Off” shall mean to discontinue the Water Service to any Owner or any lot by closing a Curb Stop or by such other means as the District finds appropriate;

“Turn-On” shall mean to commence the service to any owner or any lot by opening a Curb Stop or by such other means as the District finds appropriate;

“Used Water” means any potable water which is no longer in the waterworks distribution system including potable water that has moved downstream or past the service connection (curb stop) and/or the property line to the private water system;

“Utility Billing Bylaw” means the District's current Utility Billing Bylaw, as amended or replaced from time to time.

“Water Connection” shall mean a connection to a main supply line and extending to the property line of the owner for the purpose of conveying water to the said owner;

“Water Meter” means an apparatus or device used for measuring the volume of water passing through it and includes any accessories such as remote reader device and connection cable;

“Water Service” means and includes the supply of water to any Owner or any lot and all the pipes, valves, fittings, meters, connections and other components necessary for the purpose of such supply;

“Watering System” means a watering system which may include in-ground, automated or drip systems, hoses or sprinklers, that supply domestic use water outdoors and which consumes less than 12 imperial gallons per minute and operates at less than 65psi.

“Waterworks System” shall mean the entire water system operated by the District, including, without limitation, the distribution systems and the intake, any water treatment facilities, pipes, valves, meters, transmission and distribution lines, pumping equipment, reservoir and the like from the source of water up to and including the individual Service Connection, but does not include water servicing on individual properties.

3. General Provisions:

- 3.1. To the extent that the District has not already established the service of water supply, the District hereby establishes the service of supplying water to all local service areas that provide a Water Service in the District through the Waterworks System and operating, constructing, maintaining, and regulating the Waterworks System.
- 3.2. **Staff manages the Waterworks System.**
- 3.3. All water pipes, connections, appurtenances or facilities required for water supply to the Owner's property line which are constructed, whether at the Owner's expense or the District's expense, in present or future public highways or within the District right-of-way property shall be the property of the District.
- 3.4. All building plumbing systems shall conform to the appropriate District regulations and the British Columbia Plumbing Code. Notwithstanding this provision, plumbing systems that pre-exist this bylaw and which do not conform to the appropriate regulations shall be required to conform should the plumbing system be renovated or replaced or should the system fail to withstand the normal water pressure of the water system.
- 3.5. A person must maintain the portion of a Water Service on their property in good repair and must immediately advise the District of any defect in their Water Service.
- 3.6. All persons using water shall protect their service pipes, shut-off valves, meters and other fixtures from frost and other damage at their own risk and expense. When any premises are vacated in the winter, the buildings' shut-off valve shall be turned off.
- 3.7. The District is not responsible for frozen water lines or the cost of thawing or repairing frozen water lines on private property.
- 3.8. The District shall be responsible for the maintenance of the Water Service from connection at the center of Curb Stop to the District's water main. The property owner shall be responsible for the maintenance of the Water Service on their property, from the center of Curb Stop to their building.
- 3.9. The District may impose minimum standards that must be met and satisfied relating to the type of Backflow Preventer and the installation and maintenance of the same as specified by the District Cross Connection Control Program.
- 3.10. **Owners shall not establish a private water source for any purposes on their Premises if District Waterworks Services are available within a reasonable distance, as determined by Staff. Exceptions may be made by Staff if the Premises are larger than one (1) acre in size and the Private Water Source is only used for Agricultural Irrigation purposes or a specific institutional,**

commercial, or industrial function that requires a substantial amount of water, subject to Provincial and/or Health Authority approval. All other domestic water uses must be from the District's Waterworks System.

3.11. Hydrants must remain unobstructed by having a clear space of:

- a. at least 91.5cm (36") around the circumference of the fire hydrant; and
- b. at least 1.525m (60") in front of each hydrant connection;

unless otherwise required or approved by Staff.

4. **Conditions:**

- 4.1. The District retains the right to adjust the water supply pressure or change the flow or to interrupt the water supply due to emergency conditions or for the purpose of repairing, upgrading, or carrying out general maintenance. Where it is practical and time permits, notice shall be given to all Customers affected where alterations of pressure, quality, or interruption of service are to take place.
- 4.2. The District does not guarantee the supply, quality, or pressure of water, but must make reasonable efforts to supply high quality water in sufficient quantities.
- 4.3. The District, its officers, employees, or agents will not be held liable for any damage incurred as a result of a change or interruption in water supply, quality, pressure, or water containing sediments or other foreign matter, or a failure of the Waterworks System in any way.
- 4.4. Customers depending on a continuous or uninterrupted supply of water or having processes or equipment that require particularly clear or pure water shall provide emergency storage or other means for continuous and adequate supply of water suitable to their requirements at their own expense.
- 4.5. The District reserves the right to refuse to make any water distribution system extensions and/or install water service pipe to any property line under adverse conditions or if any sections of this bylaw have previously been violated.
- 4.6. Any water connection, pipe, apparatus, fitting, or fixture that is not in accordance with the requirements of this Bylaw or which would cause noises, pressure surges, disturbances which may result in annoyance to other customers, damage to the Water System or which may in any way contribute to a potential contamination of the District's Water System shall not be connected to, or allowed to remain connected to, the Waterworks System.
- 4.7. No connection shall be installed or maintained whereby water from an Auxiliary Water Source may enter the District's Water System or Private Water System unless such Auxiliary Water Source and the method of connection and use of such system conforms to the requirements under this Bylaw.
- 4.8. Where steam or hot water boilers or other equipment is fed with water by pressure directly from the Waterworks System, the District shall not be liable for any injury or damage which may result from such pressure or from lack of such pressure or any injury or damage resulting from the improper installation of a Backflow Preventer.

5. Fees and Charges:

- 5.1. The District may charge applicable fees in the Fees and Charges Bylaw and invoice the Customer in accordance with the Utility Billing Bylaw. For mobile home parks, the Owner of the mobile home park property shall be the customer for utility billing and account purposes.
- 5.2. A person must pay the applicable fees and charges in the Fees and Charges Bylaw.
- 5.3. The District may charge a fee to any property adjacent to the Waterworks System that can be serviced regardless of the existence of a Service Connection.
- 5.4. A person is responsible for all costs associated with extending the District's Waterworks System to service their property including, but not limited to, the cost of installing a Water Service, and any upgrades to or extensions of other parts of the Waterworks System.
- 5.5. A person is responsible for all costs associated with disconnecting a Water Service.

6. Applications and Permits:

- 6.1. The District reserves the right to refuse any application for Water Connection because of water supply and distribution reasons or because of unpaid fees or costs due.
- 6.2. An Owner or an Owner's Duly Authorized Agent must make an application to the District to install a Service Connection from the Waterworks System to the Owner's parcel boundary and a Water Connection from the Curb Stop to their private property and shall submit the associated application and sign-off of understanding that no municipal infrastructure can be exposed or worked on without written authorization from Staff in a form and process approved by the District. Prior to work commencing, the Owner shall pay to the District all the applicable fees for this connection as set out in the Fees and Charges Bylaw. The Owner shall pay the applicable cost to the District for an approved Water Meter and required valves that must be installed in or at the building that the Water Service is to be connected to. No application shall be considered approved until it has been signed by Staff.
- 6.3. The application to the District for Water Service is subject to the following:
 - a. The application shall provide the legal description and civic address of the property to be served, the intended use of the building, the requested size, including if applicable to size necessary for a fire sprinkler system, the purpose for which the water is to be used and all other information that may be required.
 - b. If the statement given is not accurate, any additional charge required to be made by reason that the statement is inaccurate shall be payable forthwith.
 - c. Upon receipt of such application, and provided a District water main is laid the full length of the Customer's property lines, the District will tap into the main and lay and install the service pipe to the Curb Stop at the property line.

- 6.4. Water Service supplied by the District's Waterworks System to a Customer shall only be provided where, in the opinion of the District, the Waterworks System has been effectively protected from any actual or potential Cross Connections existing at or within the Customer's Private Water System.
- 6.5. Where the application for Water Service has been made in accordance with this Bylaw and it is found that no water main extends 3 meters past the full length of the applicant's property, the applicant may have the option to:
- a. Pay for the construction of extra water main or Water Service which is required, providing an extension is approved by the District; or,
 - b. Accept a full return of monies they paid at the time of service application.
- 6.6. Where a specific size of Water Service has been requested and where the District cannot or will not readily supply such Service, the applicant may have the option to:
- a. Accept the size of Water Service as determined by the District;
 - b. Pay the appropriate cost of upgrading the District's water mains to meet the specific request; or,
 - c. Accept a full return of monies they paid at the time of service application.
- 6.7. All building water services shall be constructed and maintained by the property Owner at their expense, to the requirements of this Bylaw and those of the British Columbia Plumbing Code. Permit applications for such construction must be made to the District Building Department on the appropriate forms provided. Such application shall be supplemented by any plans, specifications or other information considered pertinent by the Building Department. No occupancy can occur until all permits have been approved and the necessary requirements adhered to.

7. Standards:

- 7.1. Staff must approve parts and materials used in Water Services, and a Water Service connected to the District's Waterworks System must conform to the Master Municipal Construction Documents as amended or replaced from time to time.
- 7.2. A person must construct or disconnect a Water Service in compliance with the District's standards.
- 7.3. Staff must approve a person or a company constructing or disconnecting a Water Service.
- 7.4. A minimum of **1.8 meters** of cover will be required over all service pipes including that portion of the service pipe between the Owner's property line and the Premises.
- 7.5. Each single-family Dwelling unit and each Dwelling unit of a semi-detached duplex or townhome shall have an individual Water Service Connection at least 19 millimeters (3/4 inch) in diameter or as specified in the British Columbia Plumbing Code.

- 7.6. The District may require that the diameter of water service connections be determined by a qualified engineer but the determination is subject to approval by the District, and in no case shall be less than 19 millimeters (3/4 inch) in diameter.

8. Water Meter:

- 8.1. Each property Owner with a Water Connection must at their own expense provide and install a shut-off valve, a pressure reducing valve, a radio frequency Water Meter and appropriate valves all to specifications set by the District.
- 8.2. The Owner owns the Water Meter installed on the Water Service and is responsible for all replacement and repair costs outside of the Water Meters standard warranty regulations.
- 8.3. In the case of property Owners refusing installation of a Water Meter within or under their Dwelling, a note from a physician certifying a health issue relating to the sensitivity of radio frequency (RF) is required.
- 8.4. If an Owner does not have a functional Water Meter on their Water Service, the District may, upon giving thirty days' notice to the Owner, install a Meter Pit and Water Meter at the property line at the sole cost of the Owner.
- 8.5. Property Owners without a Water Meter will be subject to a water rate fee as indicated in the Fees and Charges Bylaw.

9. Cross Connection Control:

- 9.1. Subject to provisions of this Bylaw, no person shall create a Cross Connection by Connecting, causing to be connected or allowing to remain connected to the District's Waterworks System any device, piping, fixture, fitting, container, appliance or any other chattel or thing which may under any circumstances allow non-potable water, used water, wastewater or any chemical, liquid, gas or other substance to enter the waterworks system.
- 9.2. Where Staff determines that there exists a Connection or Cross Connection prohibited by this Bylaw and/or the District's Cross Connection Control Program, written notice may be given to the Customer to correct the Connection or Cross Connection at the expense of the Customer within the time specified in the notice.
- 9.3. A Customer to whom notice has been given under this section shall correct the connection or cross connection by installing an Approved Backflow Prevention Assembly conforming to the CSA Standards B64.10-01/B64.10.1-01 or most current edition, for the selection, installation, maintenance and field testing of backflow preventers and as described in the District's Cross Connection Control Program.
- 9.4. In compliance with the BC Building Code, the property Owner will provide the District, within thirty (30) days of initial installation, repair or relocation of an approved backflow prevention assembly, a Backflow Assembly Report from a certified Backflow Assembly Tester confirming the following:
- a. The installation date of the Approved Backflow Prevention Assembly;

- b. The specific location of the assembly and what cross connection or hazard it is intended to isolate;
 - c. The manufacturer, model, size and serial number of the Backflow Preventer installed; and
 - d. That it is an Approved Backflow Prevention Assembly, installed correctly and in proper operating condition.
- 9.5. Approved Backflow Prevention Assemblies are required to be inspected and tested by a certified backflow assembly tester at least once in every twelve (12) month period or more often if requested by the District.
- 9.6. Where a Customer fails to have an Approved Backflow Prevention Assembly tested, the District may notify the Customer that the backflow assembly must be tested within seventy-two (72) hours. If the Customer fails to comply with such notice, the District or Duly Authorized Agent may discontinue the service or services and the Customer may be subject to penalties in the Bylaw Notice Enforcement Bylaw.
- 9.7. Where there is a visible or other indication that a Backflow Preventer is malfunctioning, it is the responsibility of the Customer to immediately notify the District and further, to stop using the Private Water System until the Backflow Preventer is replaced or repaired and retested. This includes but is not limited to damage by freezing, hot water, fire or due to neglect.
- 9.8. The Owner or Customer shall install a type of Backflow Preventer commensurate to the degree of hazard and that is approved by the District on the Private Water System at the location of the service Connection from the Waterworks System or other location(s) approved by the District.
- 9.9. Notwithstanding anything contained herein if, in the opinion of the District, the configuration of any water connection that creates a high risk of contamination to the Waterworks System, the Customer, shall install on the Private Water System at the location of the assembly, in addition to any Backflow Preventers installed in the Customer's Private Water System at the source of the potential contamination.
- 9.10. The failure to be sent a notice(s), or the failure to receive a notice(s), shall not excuse the mandatory duty of the Premise Owner or other responsible party to comply with this Bylaw and/or the District's Cross Connection Control Program and all other applicable bylaws.
- 9.11. Where any condition is found to exist which, in the opinion of the District, constitutes a Cross Connection with the Waterworks System, Staff shall either:
 - a. Turn Off the water supply services(s) to the Premises and notify the Owner or Customer that an Approved Backflow Prevention Assembly(s) shall be properly installed and tested at the expense of the Owners or Customer prior to the water service(s) being turned on;
 - b. Give notice to the Owner or Customer to correct the Cross Connection(s) at the expense of the Owner or Customer within a specified period. If the notice

is not complied with, the District may then discontinue water service or services;

- c. Install an Approved Backflow Prevention Assembly at the Service Connection with all costs being charged to the Owner or Customer.

- 9.12. Any person whose water has been turned off pursuant to this Bylaw shall not have the water from the District's Waterworks System turned on until all requirements of the District have been met and the Owner or Customer has paid to the District all costs associated with the Turn Off/Turn On of water service, the cleanup of contamination and the Customer's default under this section has been remedied.

Commercial and Agricultural Irrigation Use and Turn On

- 9.13. Where a Cross Connection exists between the District's Waterworks System and a Private Water System, in addition to the general provision stated in this bylaw, the owner or Customer shall also comply with the following:

- a. No person except for Staff shall Turn on an Agricultural Irrigation system.

- 9.14. Prior to commencement of operation of the Private Water System in each irrigation season, the Owner or any person operating a Commercial or Agricultural Irrigation shall have the Approved Backflow Prevention Assembly inspected and tested, at the Customer's expense, by a certified Backflow Assembly Tester. A copy of the test report shall be provided to the District within thirty (30) days of completion of the test.

- 9.15. An Approved Reduced Pressure Backflow Assembly (RPBA) shall be used whenever fertilizers, chemicals or any other substance detrimental to health are introduced to a Private Water System.

10. Disconnection of Service / Temporary Turn Off:

- 10.1. Application for Disconnection or Turn Off/Turn On shall be made to the District office by the Owner, either in person, by phone, fax, or email.
- 10.2. A person may request from Staff a temporary Turn Off of their Water Service for up to thirty days.
- 10.3. Staff may consider a temporary Turn Off of a Water Service a Disconnection if a part of the Water Service is changed or if the Water Service is Turned Off for more than thirty days.
- 10.4. Once an application is made for water Turn off, and the water has been turned off by Staff, the Owner shall remain responsible for the water line from the property line to their building, including drainage of same.
- 10.5. If a service line is found to be turned on and no record of the Turn-on exists in the District files, it will be deemed appropriate to have the owner excavate the installation and all connections for inspection by the District and charge any rates, rents, and charges retroactive to the time when the District determines that the Connection was made.

10.6. Staff are authorized to temporarily Turn Off a Water Service for any reasonable cause including, but not limited to:

- a. maintaining, repairing, replacing, disinfecting, or otherwise operating the water system;
- b. stopping a continuous leak on private or public property;
- c. an emergency;
- d. shortage of water supply.

10.7. Staff must give notice of not less than two days for any non-emergency or scheduled shut off of the water system.

10.8. Staff may disconnect a service if:

- a. it jeopardizes the Waterworks System's quality or performance because of its construction;
- b. a property Owner requests a Disconnection;
- c. a person contravenes a provision of this bylaw.

10.9. Where water supply is to be disconnected, the regulations as set out in the Utility Billing Bylaw will apply, unless an immediate disconnect is required to maintain the integrity of the Waterworks System.

11. Inspection:

11.1. Any person authorized by the District to enforce this bylaw shall have free access to all parts of every building in which water is delivered and consumed after reasonable notice has been given and request made to inspect all pipes, taps and fixtures used for distributing water. If defects are found, or if any wastage of water is found to exist, notice will be given to have the defect remedied.

11.2. The Bylaw Enforcement Officer has the authority to enter at all reasonable times on any property that is subject to this bylaw to ascertain whether the requirements of this bylaw are being met or the regulations in this bylaw are being observed.

11.3. Except in the case of an emergency, the Staff must take reasonable steps to advise the Owner of their intent to enter a property.

11.4. The Bylaw Enforcement Officer or a Duly Authorized Agent of the District shall be entitled, at their determination to:

- a. Access the Private Water System located on private property at all reasonable hours in order to carry out inspections and surveys of the premises to determine the existence of connections or cross connections prohibited by this bylaw and as stated in the District's Cross-Connection Control Program.

- b. Impose minimum standards that must be met and satisfied relating to the type of Backflow Preventer and the installation and maintenance of the same as specified by the District's Cross Connection Control Program.
- c. Inspect the type of Backflow Preventer, the installation and state of maintenance and repair of the same.

12. Water Conservation:

- 12.1. The Conservation Stage "Normal", as defined in "Schedule A – Water Use Conservation Stages" is active year-round except when a higher Conservation Stage has been declared in accordance with this Bylaw.
- 12.2. Staff is authorized to issue Conservation Stage notices in accordance with this Bylaw. Conservation Stage notices are in effect until another Conservation Stage notice is issued.
- 12.3. Factors Staff may consider when issuing Conservation Stages include, but are not limited to, weather, overall water consumption, environment factors (i.e., drought conditions, river levels, and wildfire risks), emergency requirements, infrastructure conditions (i.e.: equipment breakdown, reduction of capacity), reservoir levels, and pumping station and well capacity. At a minimum, Staff will follow Provincial drought guidelines when reducing water consumption. (Drought Level 3 = Stage 1 – 30% Reduction, Drought Level 4 = Stage 2 – 50+% Reduction, Drought Level 5 = Stage 3 – 90% Reduction)
- 12.4. When changes to the Water Use Conservation Stage can be anticipated or planned for, notice of up to 7 days will be provided. Staff may provide such notice using the local newspaper, the local radio, the District's website, or any other means deemed practicable by Staff.
- 12.5. Should urgent or emergency needs demand a quicker change to the Water Conservation Stage, Staff will provide as much advance notice as is reasonably practicable.
- 12.6. Water use restriction will automatically revert to Conservation Stage "Normal" after October 15th of any year unless conservations are required to remain in effect.
- 12.7. A person will follow the water use conservations and prohibitions as defined in Schedule A – Water Use Conservation Stages.

- 12.8. Although Staff will be reducing the overall municipal watering consumption as defined in Schedule A, Staff shall prioritize and protect District assets including, but not limited to, Feadar and Community Park, boulevards, trees, and planters that provide other community and economic benefits over other grassy spaces.
- 12.9. The Emergency Services / Fire Department must limit water use for training and non-essential tasks during a Stage 2 Conservation Stage. During a Stage 3 Conservation Stage water use for training and non-essential tasks are prohibited.

13. Offenses and Penalties:

- 13.1. Any person who contravenes any of the provisions of this Bylaw, or who suffers or permits any act or thing to be done in contravention of any provision of this Bylaw, or who neglects to do or refrains from doing anything to be done by any provision of this Bylaw, commits an offence against this Bylaw and is subject to and or all of the below:
- a. Paying all or part of the costs of remediation, repair and/or replacement of any part of the Waterworks System resulting from such contravention;
 - b. A fine in accordance with the most recent Bylaw Notice Enforcement Bylaw, if information with regard the infraction is laid by means of a Notice;
 - c. Upon summary conviction, a minimum fine of not less than One Thousand Dollars (\$1,000.00) and a maximum fine of Ten thousand Dollars (\$10,000.00) and the cost of prosecution. Every day during which there is an infraction of this Bylaw shall constitute a separate offence.

13.2. A person must not:

- a. allow a water leak on their property to continue more than forty-eight hours;
- b. connect, cause to be connected, or allow to remain connected to any other source of water a building on a property where the building is already connected to the Waterworks System;
- c. connect, cause to be connected, or allow to remain connected to the Water System any pipe, fixture, fitting, container, appliance, or apparatus, which could cause or allow a part of the Waterworks System to become contaminated or otherwise harmed;
- d. allow the introduction of any Contaminant or foreign matter whatsoever into any Private Water System that is connected to the Waterworks System;
- e. sell, dispose of, or otherwise give away water from the District's Waterworks System unless a written request is approved by Council by resolution which may be arbitrarily withheld;
- f. cause, permit or allow any device or apparatus of any kind to be or remain connected to the Waterworks System or allow it to be operated in such a manner as to cause sudden large demands for water or otherwise affect the stability of water pressure in the Waterworks System and, for the purposes of this section, such prohibited devices and apparatuses include, but are not limited to:

- i. booster pumps;
- ii. quick opening valves or quick closing valves;
- iii. flush meters;
- iv. rod hopper water closets;
- v. water-operated pumps or siphons;
- vi. standpipes;
- vii. large outlets;

g. destroy, injure, obstruct access to, or tamper with any hydrant, valve, curb stop, pipe, pump, or other fixture of the Waterworks System;

h. make any additions, alterations, or other changes to the Waterworks System or the Water Service;

i. use water from the Waterworks System unless that usage is recorded by a properly functioning Water Meter that is installed and maintained in accordance with this bylaw;

j. install any piping or other works designed to allow water from the Waterworks System to be used without that usage being recorded by a Water Meter.

13.3. A person may apply to Staff in writing for permission to connect a prohibited device or apparatus to the Waterworks System.

13.4. Upon receiving permission from Staff, a person may connect a prohibited device or apparatus to the Waterworks System, subject to any terms and conditions imposed by Staff (e.g. Backflow Preventer for Fire Hydrant use), and in such a way that it does not harm the Waterworks System.

13.5. No person shall obstruct or interfere with Staff or a Bylaw Enforcement Officer in the performance of their duties or the exercise of their powers.

13.6. No person shall use water provided from the District Waterworks System for any purpose other than domestic use as outlined in this bylaw.

13.7. No person shall damage or allow the deterioration of any device or mechanism through which water is piped or used for a domestic or commercial purpose, which will result in a waste of water.

13.8. No person shall cause the Waterworks System to fail an Interior Health Authority or any other permit requirement.

13.9. A person must not connect a Water Service to the District's Waterworks System, or Turn on, Turn Off, or disconnect a Water Service connected to the District's Waterworks System without authorization from Staff.

13.10. No person shall use a Soaker Hose for the purpose of irrigation.

13.11. No person shall take, consume or use water from the Waterworks System, without first obtaining permission to do so and making arrangements for payment of same. This also applies to all fire hydrants, standpipes and any other appurtenances connected to the District Waterworks System.

- 13.12. No person shall Turn On a water valve to provide service to the occupants of any newly renovated or constructed or reconstructed Premise(s) until the Private Water System in such Premise(s) has been inspected for Cross Connections and approved by the District.
- 13.13. No person, except the Duly Authorized Agents of the District shall tap, uncover, or make any Connection to use, alter, or disturb any water mains, fire hydrants, standpipes, or Curb Stops.
- 13.14. No Customer shall install water dependent cooling systems in commercial, industrial, institutional, or residential applications without first receiving approval from the District.
- 13.15. No pump, booster, or other device shall be employed by any Customer or Owner without permission in writing from the District for the purpose of or having the effect of increasing water pressure in service lines to a higher pressure than the normal water pressure in the said service lines, and the District may, without notice, discontinue service to any owner employing such pump, booster or other device.
- 13.16. No device designed to introduce another substance into the water in the connection between the building and the water supply main shall be installed without permission of the District who, in consultation with the Health Inspector, shall ensure that the device is designed and installed that such substances cannot be introduced into the District's works.
- 13.17. No owner, occupier, tenant or person shall:
- a. dispose of any water, or permit same to be carried away, or use water or allow it to be used on a lot other than that lot for which the service connection has been provided without obtaining permission from the District.
- 13.18. No Owner to whose Premises water is supplied shall make, or permit to be made, any additional Connection to their service of either temporary or permanent nature, for the purpose of supplying water to another building on their property without permission from the District.

14. Schedules:

- 14.1. "Schedule A – Water Restriction Stages" is attached to this bylaw and will form part of the Bylaw once adopted.

15. General

- 15.1. Any enactment referred to herein is a reference to an enactment of British Columbia and regulations thereto, as amended, revised, consolidated or replaced from time to time.
- 15.2. If any section, paragraph or phrase of this bylaw is for any reason held to be invalid by a decision of a Court of competent jurisdiction, such decision will not affect the validity of the remaining portions of this bylaw.

16. Repeal

16.1. The “*District of Barriere Water Systems Bylaw No. 189*”, and all amendments thereto are hereby repealed. This includes but is not limited to the following Bylaws:

- a. *District of Barriere Water System Bylaw No. 189, Amendment Bylaw No. 219.*
- b. *District of Barriere Water System Bylaw No. 189, Amendment Bylaw No. 240.*

Read a first, second, and third time this _____ day of _____, 20____.

Finally adopted this _____ day of _____, 20____.

Mayor – Rob Kerslake

Corporate Officer – Tasha Buchanan

Schedule A – Water Conservation Stages

NORMAL STAGE – Year Round – 3 Days Per Week

During the Normal Stage, no person shall use a watering system to water a lawn, garden, or landscaped area on a property with:

- an even numbered address, except on Tuesdays, Thursdays, and Saturdays between the hours of 6:30am to 9:00am and 6:30pm to 9:00pm.
- an odd numbered address, except on Mondays, Wednesdays, and Fridays, between the hours of 6:30am to 9:00am and 6:30pm to 9:00pm.

During the Normal Stage, Domestic Use property Owner or Occupier using an underground, automatic watering system, may water on their dedicated day of the week based on their address listed above between the hours of 3:30am – 6:00am.

During the Normal Stage a person may:

- water gardens, trees, shrubs, flowers and vegetables if watering is done by a drip-irrigation system as defined under this bylaw;
- water gardens, trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle;
- water newly planted lawns, gardens, trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle during installation and for the following 24 hours if prior approval of the District of Barriere is received;
- water new sod or newly seeded lawn during the first 7 days after installation on any day but only during the prescribed Normal Stage watering hours if prior approval of the District of Barriere is received;
- wash a vehicle with water using a handheld container or hose equipped with a shut-off nozzle;
- wash sidewalks, driveways, parking lots or exterior building surfaces including windows using a handheld container or hose equipped with a shut-off nozzle; and,
- Fill a swimming pool, wading pool, hot tub, garden pond or decorative fountain.

During the Normal Stage the following uses may irrigate as follows:

- Institutional properties – Tuesdays and Thursdays between the hours of 12:00am to 5am.
- District owned properties – Following standard practices.

STAGE 1 – Low Water Supply Conditions or Provincial Drought Level 3 – 30+% reduction in total and peak use as prescribed by Provincial orders

During Stage 1, no person shall use a watering system to water a lawn, garden, or landscaped area on a property with:

- an even numbered address, except on Tuesdays and Saturdays between the hours of 6:30am to 9:00am and 6:30pm to 9:00pm.
- an odd numbered address, except on Mondays and Fridays, between the hours of 6:30am to 9:00am and 6:30pm to 9:00pm.

During Stage 1, Domestic Use property Owner or Occupier using an underground, automatic watering system, may water on their dedicated day of the week based on their address listed above between the hours of 3:30am – 6:00am.

During Stage 1, a person may:

- water trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle;
- water trees, shrubs, flowers, and vegetables if watering is done by a drip irrigation system as defined in this bylaw;
- water newly planted trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle during installation and for the following 24 hours if prior approval from the District of Barriere is received;
- wash a vehicle with water using a hand-held container or hose equipped with a shut-off nozzle and at commercial car washes;
- wash sidewalks, driveways, parking lots or exterior building surfaces including windows using a handheld container or hose equipped with a shut-off nozzle
- top-up or add to a swimming pool, wading pool, hot tub, garden pond or decorative fountain.

During Stage 1 the following users may irrigate as follows:

- Institutional properties – 30% overall volume reduction consistent with an approved drought response plan. Where feasible, adjust sprinkling to days when the general public is not watering to avoid overlap. Watering may be prioritized in order to preserve trees.
- District owned properties – 30% overall volume reduction consistent with an approved drought response plan. Where feasible, adjust sprinkling to days when the general public is not watering to avoid overlap. Watering of Municipal Assets may be prioritized in order to preserve trees, boulevards, planters, and Fadear Park over other grassy spaces.
- Agricultural – 20% overall reduction

STAGE 2 – Very Low Water Supply Conditions or Provincial Drought Level 4 – 50+% reduction in total and peak use as prescribed by Provincial orders

During Stage 2, no person shall use a watering system to water a lawn, garden, or landscaped area on a property with:

- an even numbered address, except on Saturdays between the hours of 6:30am to 9:00am and 6:30pm to 9:00pm.
- an odd numbered address, except on Fridays, between the hours of 6:30am to 9:00am and 6:30pm to 9:00pm.

During Stage 2, Domestic Use property Owner or Occupier using an underground, automatic watering system, may water on their dedicated day of the week based on their address listed above between the hours of 3:30am – 6:00am.

During Stage 2, no person shall

- wash driveways, sidewalks, parking lots or exterior building surfaces, unless it is required to meet other health and safety regulations, laws, or an order of a regulatory authority having jurisdiction (i.e. WorksafeBC, public health inspector, etc.).

During Stage 2 a person may:

- water trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle, but only during the prescribed Normal Stage watering hours and days;
- water trees, shrubs, flowers and vegetables if watering is done by a drip irrigation system as defined in this bylaw, but only during the prescribed Normal Stage watering hours and days;
- water newly planted trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle during installation and for the following 24 hours if prior approval from the District of Barriere is received;
- wash a vehicle with water using a hand-held container or hose equipped with a shut-off nozzle and at commercial car washes;
- top-up or add to a swimming pool, wading pool, hot tub, garden pond or decorative fountain.

During Stage 2 the following users may irrigate as follows:

- Institutional properties – 50% overall volume reduction consistent with an approved drought response plan. Where feasible, adjust sprinkling to days when the general public is not watering to avoid overlap. Watering may be prioritized in order to preserve trees.
- District owned properties – 50% overall volume reduction consistent with an approved drought response plan. Where feasible, adjust sprinkling to days when the general public is not watering to avoid overlap. Watering of Municipal Assets may be prioritized in order to preserve trees, boulevards, planters, and Feadar and Community Park over other grassy spaces.
- Agricultural – 35% overall reduction

STAGE 3 – Strict Water use restrictions are necessary to maintain critical supply for the health of the Community – if ordered by the Province in response to a Drought Level 5

During Stage 3, no person shall:

- water a lawn.
- water gardens, trees or shrubs, including newly seeded or sodded lawns, newly seeded or planted gardens, trees or shrubs;
- fill or top-up a swimming pool, hot tub or garden pond;
- wash a vehicle, except at a commercial car wash;
- wash sidewalks, driveways, parking lots or exterior building surfaces, unless it is required to meet other health and safety regulations, laws, or an order of a regulatory authority having jurisdiction (i.e. WorksafeBC, public health inspector, etc.).

During Stage 3 a person may:

- use a handheld shut-off nozzle or drip irrigation for watering of trees, shrubs, food gardens, and esthetic gardens but only during the dates and times as defined in Stage 1.
- operate a swimming pool, wading pool, hot tub, garden pond or decorative fountain provided it only uses re-circulated water.
- wash a vehicles lights, windows, and licence plate for safety purposes with a sponge and bucket.

During Stage 3 the following users may irrigate as follows:

- Institutional properties – 90% overall volume reduction consistent with an approved drought response plan. Adjust sprinkling to prioritize protection of trees.
- District owned properties – 90% overall volume reduction consistent with an approved drought response plan. Protection of District assets such as trees, boulevards, planters only.
- Agricultural – Mandatory restrictions - Outdoor water use prohibited except water for livestock and minimal maintenance of perennial fruit trees / crops.

STAGE 4 – Extreme Water use restrictions are necessary to maintain critical supply for the health of the Community – In home water use only due to critical Waterworks System failures

During Stage 4, no person shall:

- water a lawn.
- water gardens, trees or shrubs, including newly seeded or sodded lawns, newly seeded or planted gardens, trees or shrubs;
- fill or top-up a swimming pool, hot tub or garden pond;
- wash a vehicle, except at a commercial car wash;
- wash sidewalks, driveways, parking lots or exterior building surfaces.

During Stage 4 a person may:

- operate a swimming pool, wading pool, hot tub, garden pond or decorative fountain provided it only uses re-circulated water.

During Stage 4 the following users may irrigate as follows:

- Agricultural – Mandatory restrictions - Outdoor water use prohibited except water for livestock and minimal maintenance of perennial fruit trees / crops.

**DISTRICT OF BARRIERE
BYLAW NO. 189**

**A BYLAW TO REGULATE, PROHIBIT, AND IMPOSE REQUIREMENTS IN RELATION TO CONNECTION TO
AND USE OF THE WATERWORKS SYSTEM WITHIN THE DISTRICT OF BARRIERE WATER SYSTEM
LOCAL SERVICE AREA**

WHEREAS Section 24 (2) of the *Local Government Act* states that if a municipality is incorporated, a provision of a bylaw adopted by the regional district that applies to the area continues in force as if it were a bylaw of the municipality until it is amended or repealed by the Council;

AND WHEREAS the Council of the District of Barriere deems it appropriate and necessary to repeal the *District of Barriere Cross Connection Control Bylaw No. 38* as amended, the *District of Barriere Water Restrictions Bylaw No. 39* as amended, the *District of Barriere Waterworks System Bylaw No. 110*, as amended that apply to the municipality and consolidate all three previous bylaws into one;

NOW THEREFORE be it resolved that the Council of the District of Barriere, in open meeting assembled, enacts as follows:

- 1.1 This bylaw may be cited for all purposes as the “*District of Barriere Water System Bylaw No. 189.*”
- 1.2 *District of Barriere Cross Connection Control Bylaw No. 38* as amended, is hereby repealed.
- 1.3 *District of Barriere Water Restrictions Bylaw No. 39* as amended, is hereby repealed.
- 1.4 *District of Barriere Waterworks Bylaw No. 110* as amended, is hereby repealed.

2.0 DEFINITIONS:

- 2.1 “Accessible” shall mean having access thereto but which first may require the removal of access panel, door or similar obstruction;

“After Hours Call Out” shall mean requests for service from the District of Barriere requiring a response after the regular hours of operation and on Statutory Holidays.

“Agricultural Irrigation” shall mean a system of irrigation involving the controlled delivery of water for the purpose of cultivating crops and/or livestock

“Applicant” shall mean any owner or their agent making an application for service, service connection, or the Turn-on or Turn-off of water;

“Approved Backflow Prevention Assembly” shall mean a backflow preventer that is designed to be tested and repaired in-line and meets the design and installation criteria requirement of the Canadian Standards Association (CSA) standards B.64.10-07/Series 01 (or the most current) and the USC FCCCHR approval criteria;

“Auxiliary Water Source” shall mean any water supply on or available to the premises other than the District of Barriere’s approved public water supply;

“Backflow” shall mean flow of water or other liquids, gases or solids from any source back into the customer’s plumbing system or the Waterworks system;

“Backflow Assembly Test Report” shall mean a form provided by or approved for use by the District of Barriere to be used when testing backflow assemblies to record all pertinent information and test data;

“Backflow Assembly Tester” shall mean a person holding a valid certificate from the American Water Works Association – British Columbia Section, for testing backflow prevention assemblies.

“Backflow Preventer” shall mean a mechanical apparatus installed in a water system that prevents backflow into the Waterworks system;

“Base Fee” shall mean the minimum fee for water supply regardless of water use;

“Billing Period” shall mean the period of time over which water is consumed and for which a charge is levied upon each Owner supplied with water by the system;

“Bylaw Enforcement Officer” means an RCMP Officer and/or any of the following District of Barriere staff:

- Chief Administrative Officer
- Bylaw Enforcement Officer
- Utilities Manager
- Utilities Staff (Operators)
- Cross Connection Control Inspector
- Building Inspector

“Commercial User” shall mean any user other than domestic user;

“Connection or Connect” shall mean tying into, tapping or otherwise connecting to the waterworks system of the District by means of pipes, valves, fittings or other apparatus;

“Connection Fee” shall mean the fees charged for the initial water connection when the connection is at property line;

“Consumption Charge” shall mean the volume of water used multiplied by the Consumption Rate;

“Consumption Rate” shall mean the price of water per cubic meter that is charged to users with a water connection and water meter in accordance with this Bylaw;

“Contaminant” shall mean any physical, chemical, biological or radiological substance or matter in water which may render the water non-potable, according to regulations of the Province of British Columbia Drinking Water Protection Act & Regulations, or other applicable legislation of the day;

“Council” shall mean the Council of the District of Barriere;

“Curb Stop” shall mean the valve on a service pipe located on the street or lane at or near an Owner’s parcel boundary;

“Customer” shall mean the registered owner or agent for the owner of any property served by the District of Barriere Waterworks System, and also any person who is the occupier of any such premises, and also any person who obtains water from a Fire Hydrant or by any service from the waterworks system;

“Contaminant” means any physical, chemical, biological or radiological substance or matter in water which may render the water non-potable, according to regulations of the Province of British Columbia Drinking Water Protection Act & Regulations;

“Cross Connection” means any actual or potential physical connection whereby the District of Barriere waterworks system is connected, directly or indirectly, with any non-potable or unapproved private water system, sewer, drain, conduit, well, pool, storage reservoir, plumbing fixture, or any other device which contains, or may contain contaminated water, liquid, gases, sewage, or other waste, or unknown or unsafe quality which may be capable of imparting contamination to the public water supply as a result of backflow;

“Cross Connection Control Program” means the District of Barriere Cross Connection Control Program and Guidelines which provide further reference and direction, standard operating procedures, bulletins and other program updates relevant to this bylaw;

“CSA” is the abbreviation for the Canadian Standards Association;

“Discontinue” means to terminate the arrangement between the District of Barriere and the Customer for the supply of water and to Shut Off the service pipe, disconnect it, or remove it;

“Disconnection” shall mean the turning off or complete removal of a water connection;

“District” shall mean the District of Barriere;

“Domestic Use” means the use of water for normal operation of a residential home;

“Domestic User” shall mean any Owner of land connected to the Waterworks system using water for residential household requirements, sanitation, fire prevention, or lawn and garden irrigation purposes;

“Drip Irrigation” means a system of irrigation involving the controlled delivery of minimal water directly to individual plants through a network of tubes or pipes;

“Due Date” shall mean the date the water utility invoice is due which shall be no more than 30 days from the date the invoice was prepared;

“Duly Authorized Agent” includes a person, firm or corporation authorized to act either on behalf of an Owner or the District as specified;

“Dwelling Unit” shall mean a building or portion of a building where one or more rooms with self-contained cooking, eating, living, sleeping and sanitary facilities are used or intended to be used as a single residential unit for one or more persons.

“Fees & Charges Bylaw” shall mean the most recent District of Barriere Fees & Charges Bylaw and its amendments;

“Fill” means to fill more than 15% of the total capacity of a swimming pool, wading pool, hot tub, garden pond or decorative fountain or water feature;

“Fire Hydrant Use Permit” means a permit used by the District of Barriere for any person requesting water from a Fire Hydrant for purposes other than emergency fire protection;

“Inspect” shall mean an on-site review of the water use, facilities, meters, piping equipment, operating conditions and maintenance records for the purpose of evaluating for conformity with the terms and conditions of this bylaw;

“Inspector” means a person designated by the District of Barriere to inspect and confirm compliance with the regulations of this bylaw;

“Meter Pit” shall mean a chamber installed below or above ground over a residential or irrigation water service for the purpose of installing a Water Meter;

“Non-Domestic User” means any Owner of land connected to the Waterworks system that is not using water as a Domestic User;

“Obstructed Water Meter” shall mean that the water meter could not be read due to some action or inaction of the property owner or occupier;

“Occupier” has the same meaning as in the Local Government Act;

“Owner” has the same meaning as in the Local Government Act;

"Parcel" shall mean:

- i) a single area of land with defined boundaries and registered under the provisions of the Land Titles Act; or
- ii) a single area of land with defined boundaries held by way of lease granted by the Federal or Provincial Crown or their agencies.

"Person" includes a corporation, partnership or party, and the personal or legal representatives of a person to whom the context can apply, according to law;

"Potable Water" means water that is fit for human consumption as defined in the Drinking Water Protection Act and Regulations;

"Premises" shall mean any residence, building or structure connected to the water system;

"Private Water system" shall mean any privately owned pipe and fittings intended for the delivery or distribution of water within a premise or to a property and includes any domestic use, irrigation system, green house and hydroponics system, and any other use of water supplied by the Waterworks System;

"Property" shall mean any and all parcels of land contained within the boundaries of the District of Barriere Water System local service area;

"Quarterly" shall mean a three month period within a calendar year, specifically January to March, April to June, July to September and October to December;

"Rate" shall mean the price or sum of money to be paid by any consumer for the quantity of water supplied to them, as measured by a meter, any Monthly or Quarterly charge, or any Flat Rate charge as provided by the Fees & Charges bylaw;

"Readily Accessible" shall mean direct access without the necessity of removing or moving away a panel, door or other similar obstruction;

"Reclaimed Water System" means treated effluent water system that disposes of water from the Waste Water Treatment Plant;

"Reduced Pressure Backflow Assembly" a backflow preventer consisting of a mechanically independent acting, hydraulically dependent relief valve located in a chamber between two independently operating, force-loaded check valves, the intermediate chamber pressure always being lower than the supply pressure when there is a positive pressure on the supply side. The unit includes properly located resilient-sealed test cocks and tightly closing resilient-seated shut-off valves at each end of the assembly. This device is designed for use under continuous pressure;

"Service" shall mean the supply of water from the District of Barriere Water System to any property and shall include all pipes, taps, valves, connections and other things necessary to supply or actually used for the purpose of such supply;

"Service Connection" shall mean the connecting line from the Waterworks System to the parcel boundary and includes all related pipes, shut off valves and other appurtenances;

"Shut Off" means to turn off the water supply by closing a District of Barriere owned valve or by any other means approved by the District of Barriere;

"Soaker Hose" shall mean is a porous flexible tube that looks like a garden hose;

"System" shall mean the District of Barriere Water System which includes all pipes, valves, meters, transmission and distribution lines, pumping equipment, reservoir and the like from the source of water up to and including the individual Service Connection;

"Technician" means the person or persons authorized by the District to carry out the physical operations and maintenance of the water system under the direction and supervision of the District;

“Temporary Water Use Permit” shall mean a permit issued by the District of Barriere for any persons requesting water from a fire hydrant or standpipe for temporary water use purposes other than emergency fire protection;

“Top-up” shall mean less than 15% of the total capacity of a swimming pool, wading pool, hot tub, garden pond or decorative fountain or water feature;

“Trustee” means the Trustee of the District of Barriere or any person authorized by the Trustee to act on their behalf;

“Turn-Off” shall mean to discontinue the water service to any owner or any lot by closing a Curb Stop or by such other means as the District finds appropriate;

“Turn-On” shall mean to commence the service to any owner or any lot by opening a Curb Stop or by such other means as the District finds appropriate;

“Unmetered” shall mean a water service without a water meter;

“Used Water” means any potable water which is no longer in the waterworks distribution system including potable water that has moved downstream or past the service connection (curb stop) and/or the property line to the private water system;

“Water Connection” shall mean a connection to a main supply line and extending to the property line of the owner for the purpose of conveying water to the said owner;

“Water Meter” shall mean an apparatus or device used for measuring the volume of water passing through it;

“Water Service” means works and services provided by the District and include;

- a) supply for consumption or other use;
- b) water connection installation, repair or replacement;
- c) water main extension

“Watering System” means a watering system which may include in-ground, automated or drip systems, hoses or sprinklers, that supply domestic use water outdoors and which consumes less than 12 imperial gallons per minute and operates at less than 65psi.

“Waterworks System” shall mean any water system operated by the District, including, without limitation, the distribution systems and the intake, reservoirs, and any water treatment facilities, but does not include water servicing on individual properties;

3.0 GENERAL:

- 3.1 The District of Barriere hereby establishes the service of supplying water to the District through the Waterworks system and operating, constructing, maintaining and regulating the Waterworks System.
- 3.2 The District is authorized to establish, maintain and operate a waterworks system and such system shall be managed by the most qualified senior District employee or his/her designate.
- 3.3 All water pipes, connections, appurtenances or facilities required for water supply to the owner's property line which are constructed, whether at the owner's expense or the District's expense, in present or future public highways or within the District right-of-way property shall be the property of the District of Barriere.
- 3.4 All building plumbing systems shall conform to the appropriate District regulations and the British Columbia Plumbing Code. Notwithstanding this provision, plumbing systems that pre-exist this bylaw and which do not conform to the appropriate regulations shall be required to conform should the

plumbing system be renovated or replaced or should the system fail to withstand the normal water pressure of the water system.

- 3.5 In cases of leaky or imperfect pipes on any premises, or other wastage of water, the District shall notify the occupant or owner that the necessary repairs or alterations must be completed within 10 working days. If the necessary repairs or alterations are not completed within the 10 working days, and the conditions of the pipes or fixtures could cause a serious waste of water or damage to property, the District may, without further notice, turn off the water supply to the premises. The water to the premises shall not be turned on again until such repairs or alterations have been made at the occupant or owner's expense and to the satisfaction of the District, and the "Turn-off" and "Turn-on" fees have been paid. No person whose water is turned off pursuant to this section shall have any claim against the District by reason of such discontinuance or supply.
- 3.6 All persons using water shall protect their service pipes, shut-off valves, meters and other fixtures from frost and other damage at their own risk and expense. When any premises are vacated in the winter, the buildings' shut-off valve shall be turned off.
- 3.7 A minimum of 2.0 meters of cover will be required over all service pipes including that portion of the service pipe between the Owner's property line and the premises.
- 3.8 Each property owner with a water connection must at their own expense provide and install a shut-off valve, a pressure reducing valve, a radio frequency water meter and appropriate valves all to specifications set by the District.
- 3.9 In the case of property owners refusing installation of a water meter within or under their dwelling, a note from a physician certifying a health issue relating to the sensitivity of radio frequency (rf) is required. The cost of installation of a water meter in a meter pit will be the responsibility of the property owners. Property owners not complying with this section will be subject to a water rate fee as indicated in the District of Barriere Fees & Charges Bylaw No. 73, as amended.
- 3.10 The District may impose minimum standards that must be met and satisfied relating to the type of backflow preventer and the installation and maintenance of the same as specified by the District Cross Connection Control Program.
- 3.11 The District Technician may enter on any property at any reasonable time for the purpose of inspecting and ascertaining whether the regulations and requirements of this Bylaw are being observed.
- 3.12 No person shall obstruct or interfere with the District Technician in the performance of their duties or the exercise of their powers under this bylaw.

4.0 RATES:

- 4.1 All Rates and charges, as set forth in the Fees & Charges Bylaw including further amendments, are hereby imposed and levied by the District on all water services located within the District Water System Service Area and all such rates shall be payable at the District offices or any other location as specified on the Water Utility Invoice.
- 4.2 All rates and charges shall be billed to the property owner and are the responsibility of the registered owner of that property. Failure to receive billings will not exempt the property owner from liability to pay by the due date or as a valid reason for late payment.
- 4.3 All Rates and charges set forth shall be due and payable and received by the District of Barriere on or before the Due Date. A 5% late payment fee will be automatically levied on all fees not paid by the said due date.
- 4.4 All Rates and charges levied or imposed under the provisions of the Fees & Charges bylaw are a special charge upon the lands or real property in respect of which the water is supplied or used. Any overdue balances as of December 31st in any year shall be applied to annual property taxes in arrears

effective January 1 of the immediately following year in accordance with the requirements of Section 258(1) of the *Community Charter*.

- 4.5 The Rates imposed upon any real property by the Fees & Charges bylaw shall continue to accrue against such real property as long as water is normally being supplied or used or is available for use upon such real property from the system or until such time as an application to Turn Off the water is received from the property Owner.

5.0 CONDITIONS:

- 5.1 The District retains the right to adjust the water supply pressure or to interrupt the water supply due to emergency conditions or for the purpose of repairing, upgrading or carrying out general maintenance. Where it is practical and time permits, notice shall be given to all customers affected where alterations of pressure or interruption of service are to take place.
- 5.2 The District will not be held responsible for any damage incurred as a result of a change or interruption in water supply or pressure.
- 5.3 Customers depending on a continuous or uninterrupted supply of water or having processes or equipment that require particularly clear or pure water shall provide emergency storage or other means for continuous and adequate supply of water suitable to their requirements at their own expense.
- 5.4 Any person authorized by the District to enforce this bylaw shall have free access to all parts of every building in which water is delivered and consumed after reasonable notice has been given and request made to inspect all pipes, taps and fixtures used for distributing water. If defects are found, or if any wastage of water is found to exist, notice will be given to have the defect remedied.
- 5.5 Any person authorized by the District to enforce this bylaw may inspect the type of backflow preventer, the installation and state of maintenance and repair of same.
- 5.6 The District reserves the right to refuse to make any water distribution system extensions and/or install water service pipe to any property line under adverse conditions.
- 5.7 Any water connection, pipe, apparatus, fitting or fixture that is not in accordance with the requirements of this bylaw or which would cause noises, pressure surges, disturbances which may result in annoyance to other customers, damage to the water system or which may in any way contribute to a potential contamination of the District's water system shall not be connected to, or allowed to remain connected to, the Waterworks System.

6.0 APPLICATION FOR SERVICE CONNECTION AND WATER CONNECTION:

- 6.1 The District reserves the right to refuse any application for water connection because of water supply and distribution reasons or because of unpaid fees or costs due.
- 6.2 The District may in the interest of efficient operation of the water system and equitable distribution of water and whenever in its discretion the public interest so requires, suspend or limit the consumption of water from the water system, or may regulate the hours of use, or may further prescribe the manner in which such water may be used.
- 6.3 An Owner or an Owner's duly authorized agent must make an application to the District to install a Service Connection from the Waterworks System to the owner's parcel boundary and a Water Connection from the Curb Stop to their private property and shall submit the associated application and sign-off of understanding that no municipal infrastructure can be exposed or worked on without authorization from the District of Barriere Utilities Department in a form approved by the District. Prior to work commencing, the Owner shall pay to the District all the applicable fees for this connection as set out in the Fees and Charges Bylaw as amended. The Owner shall pay the applicable cost for an approved RF meter and required valves that must be installed in or at the building that the water service is to be connected to. No application shall be considered approved until it has been signed by District.

- 6.4 Each single family dwelling unit and each dwelling unit of a semi-detached duplex or townhome shall have an individual water service connection at least 19 millimeters (3/4 inch) in diameter or as specified in the British Columbia Plumbing Code.
- 6.5 The District may require that the diameter of water service connections be determined by a qualified engineer but the determination is subject to approval by the District, and in no case shall be less than 19 millimeters (3/4 inch) in diameter.
- 6.6 The application to the District for water service is subject to the following:
- a) The application shall provide the legal description and civic address of the property to be served, the intended use of the building, the requested size, including if applicable to size necessary for a fire sprinkler system, the purpose for which the water is to be used and all other information that may be required.
 - b) If the statement given is not accurate, any additional charge required to be made by reason that the statement is inaccurate shall be payable forthwith.
 - c) Upon receipt of such application, and provided a District water main is laid the full length of the customer's property lines, the District will tap into the main and lay and install the service pipe to the curb stop at the property line.
- 6.7 Where the application for water service has been made in accordance with this bylaw and it is found that no water main extends 3 meters passed the full length of the applicant's property, the applicant may have the option to:
- a) Pay for the construction of extra water main or water service which is required, providing an extension is approved by the District; or,
 - b) Accept a full return of monies they paid at the time of service application.
- 6.8 Where a specific size of water service has been requested and where the District cannot or will not readily supply such service, the applicant may have the option to:
- a) Accept the size of water service as determined by the District;
 - b) Pay the appropriate cost of upgrading the District's water mains to meet the specific request; or,
 - c) Accept a full return of monies they paid at the time of service application.
- 6.9 All building water services shall be constructed and maintained by the property owner at their expense, to the requirements of this bylaw and those of the British Columbia Plumbing Code. Permit applications for such construction must be made to the District Building Department on the appropriate forms provided. Such application shall be supplemented by any plans, specifications or other information considered pertinent by the Building Department. No occupancy can occur until all permits have been approved and the necessary requirements adhered to.
- 6.10 No connection shall be installed or maintained whereby water from an auxiliary water system may enter the District of Barriere Water System or private water system unless such auxiliary water system and the method of connection and use of such system conforms to the requirements under this Bylaw.
- 6.11 The District shall be responsible for the maintenance of the water service from connection at property line to the District's water main. The property owner shall be responsible for the maintenance of the water service on their property, from the connection at property line to their building.
- 7.0 DISCONNECTION / WATER TURN OFF AND TURN ON:**
- 7.1 Application for Disconnection or Turn off/Turn on shall be made to the District office by the owner, either in person, by phone, fax or email.
- 7.2 Once an application is made for water Turn off, the owner shall be responsible for the water service, from connection at property line to their building, including drainage of same.
- 7.3 No person, except the duly authorized agent of the District shall Turn off/Turn on any part of the District Water System, including curb stops.

- 7.4 If a service line is found to be turned on and no record of the Turn on exists in the District files, it will be deemed appropriate to have the owner excavate the installation and all connections for inspection by the District and charge any rates, rents and charges retroactive to the time when the District determines that the connection was made.

8.0 WATER RESTRICTIONS:

8.1 PROHIBITION

- a) No person shall use water provided from the District water system for any purpose other than domestic use as outlined in this bylaw.
- b) No person shall damage or allow the deterioration of any devise or mechanism through which water is piped or used for a domestic or commercial purpose, which will result in a waste of water.
- c) No person, being an Owner or Occupier of property in the Water Service Area, shall use water or cause water to be used contrary to the provisions of this bylaw in effect at the time of use.
- d) No person, being an Owner or Occupier of property in the Water Service Area, shall use a soaker hose for the purpose of irrigation.

8.2 BYLAW ENFORCEMENT OFFICER

- a) The Bylaw Enforcement Officer is authorized and empowered to inspect, compel, and require that all the regulations and provisions prescribed in this bylaw be carried out.
- b) The Bylaw Enforcement Officer has the authority to enter at all reasonable times on any property that is subject to this bylaw to ascertain whether the requirements of this bylaw are being met or the regulations in this bylaw are being observed.
- c) No person shall unreasonably obstruct or prevent a Bylaw Enforcement Officer from carrying out his/her duties prescribed in this by-law.

8.3 DETERMINING RESTRICTIONS

- a) Notwithstanding any other provision of this bylaw it shall be lawful for the Council, when in their opinion, there is, or there is likely to be, a shortage of water, by resolution, to restrict or ration the use of water for all or any purposes by determining the applicable Water Conservation Stage further outlined in Section 8 of this bylaw. Such restriction or rationing shall continue until such time as the Council shall in their discretion, decide that sufficient water is available.
- b) In situations requiring immediate action, Council delegates the responsibility for determining, imposing and lifting the restrictions described in 5 a), to the Chief Administrative Officer.

8.4 NOTICE

- a) The District shall give notice or cause notice to be given of the applicable stage and when it takes effect. Such notice shall be published by means appropriate to the Chief Administrative Officer.

8.5 WATER CONSERVATION STAGES

For the purposes of this bylaw, the Water Conservation Stages are as follows:

STAGE 1 – Year Round – Every Other Day Watering

- a) During Stage 1, no person shall use a watering system to water a lawn, garden, or landscaped area on a property with:
 - i) an even numbered address, except on even days of the calendar between the hours of 7:00am to 9:00am and 7:00pm to 9:00pm.
 - ii) an odd numbered address, except on odd days of the calendar, but excluding the 31st, between the hours of 7:00am to 9:00am and 7:00pm to 9:00pm.
- b) During Stage 1 a person may:
 - i) water gardens, trees, shrubs, flowers and vegetables if watering is done by a drip-irrigation system as defined under this bylaw;
 - ii) water gardens, trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle but only during the prescribed Stage 1 watering hours and days;
 - iii) water newly planted lawns, gardens, trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle during installation and for the following 24 hours if prior approval of the District of Barriere is received;
 - iv) water new sod or newly seeded lawn during the first 7 days after installation on any day but only during the prescribed Stage 1 watering hours if prior approval of the District of Barriere is received;
 - v) wash a vehicle with water using a hand held container or hose equipped with a shut-off nozzle;
 - v) wash sidewalks, driveways, parking lots or exterior building surfaces including windows using a hand held container or hose equipped with a shut-off nozzle if prior approval of the District of Barriere is received; and,
 - vi) fill a swimming pool, wading pool, hot tub, garden pond or decorative fountain.
- c) During Stage 1, no domestic use property Owner or Occupier may use an underground, automatic watering system, may water except on Mondays, Wednesdays and Fridays between the hours of 4:00am – 6:00am
- d) During Stage 1 the following uses may irrigate as follows:
 - i) Public Schools properties – Tuesdays and Thursdays between the hours of 12:00am to 5am for a maximum of 30min per watering zone.
 - ii) District owned parks and playgrounds – Mondays, Wednesdays and Fridays between the hours of 12:00am to 5am for a maximum of 30min per watering zone.

STAGE 2 – Implemented in Times of Stress on the Water System – Hand Watering Only

- a) During Stage 2, no person shall
 - i) water a lawn;
 - ii) use a sprinkler or irrigation system to water a garden, trees, flowers, or shrubs;

- iii) wash driveways, sidewalks, parking lots or exterior building surfaces.
- b) During Stage 2 a person may:
 - i) water trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle, but only during the prescribed Stage 1 watering hours and days;
 - ii) water trees, shrubs, flowers and vegetables if watering is done by a drip irrigation system as defined in this bylaw;
 - iii) water newly planted trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle during installation and for the following 24 hours if prior approval from the District of Barriere is received;
 - iv) wash a vehicle with water using a hand-held container or hose equipped with a shut-off nozzle and at commercial car washes;
 - v) top-up or add to a swimming pool, wading pool, hot tub, garden pond or decorative fountain.

STAGE 3 – For Extreme Situations – In Home Water Use Only

- a) During Stage 3, no person shall:
 - i) water a lawn.
 - ii) water gardens, trees or shrubs, including newly seeded or sodded lawns, newly seeded or planted gardens, trees or shrubs;
 - ii) fill or top-up a swimming pool, hot tub or garden pond;
 - iii) wash a vehicle, except at a commercial car wash;
 - iv) wash sidewalks, driveways, parking lots or exterior building surfaces.
- b) During Stage 3 a person may:
 - i) operate a swimming pool, wading pool, hot tub, garden pond or decorative fountain provided it only uses re-circulated water.

9.0 WATER METER TESTING:

- 9.1 If the District or an Owner questions the accuracy of the record of a Water Meter, the party questioning the accuracy of the meter shall procure a qualified professional to remove and test the Water Meter at their cost.
- 9.2 If the test performed under Section 9.1 that is initiated by the Owner, discloses that the Water Meter is less than 98% accurate in recording the water passing through the Water Meter, the District shall confirm the findings and if confirmed, reimburse to the Owner the billed costs associated with the meter's removal, testing and repair or replacement.
- 9.3 If the test performed discloses that the Water Meter is less than 98% accurate in recording the water passing through the Water Meter, the District shall adjust the Owner's water bill by the amount of the inaccuracy for a period not exceeding three (3) months. The adjustments shall only apply to the current Owner or Owners of the property, not to any previous Owners.

10.0 TESTING & MAINTENANCE OF BACKFLOW PREVENTION ASSEMBLIES:

- 10.1 In compliance with the BC Building Code, the property Owner will provide the District, within thirty (30) days of initial installation, repair or relocation of an approved backflow prevention assembly, a backflow assembly report from a certified backflow assembly tester confirming the following:
- a) The installation date of the approved backflow prevention assembly;
 - b) The specific location of the assembly and what cross connection or hazard it is intended to isolate;
 - c) The manufacturer, model, size and serial number of the backflow preventer installed; and
 - d) That it is an approved backflow prevention assembly, installed correctly and in proper operating condition.
- 10.2 Approved backflow prevention assemblies are required to be inspected and tested by a certified backflow assembly tester at least once in every twelve (12) month period or more often if requested by the District.
- 10.3 Where a customer fails to have an approved backflow prevention assembly tested, the District may notify the customer that the backflow assembly must be tested within seventy-two (72) hours. If the customer fails to comply with such notice, the District or duly authorized agent may discontinue the service or services and the customer may be subject to penalties in the Bylaw Notice Enforcement Bylaw No. 95 and its amendments.
- 10.4 Where there is a visible or other indication that a backflow preventer is malfunctioning, it is the responsibility of the customer to immediately notify the District and further, to stop using the private water system until the backflow preventer is replaced or repaired and retested. This includes but is not limited to damage by freezing, hot water, fire or due to neglect.

11.0 PROHIBITIONS:

- 11.1 No person shall take, consume or use water from the Waterworks System, without first obtaining permission to do so and making arrangements for payment of same. This section applies to all fire hydrants, stand pipes and any other appurtenances connected to the District Waterworks System.
- 11.2 No person shall turn on a water valve to provide service to the occupants of any newly renovated or constructed or reconstructed premise(s) until the private water system in such premise(s) has been inspected for cross connections and approved by the District.
- 11.3 No person, except the duly authorized agents of the District shall tap, uncover, or make any connection to, use, alter or disturb any water mains, fire hydrants, stand pipes or curb stops.
- 11.4 No customer shall install water dependent cooling systems in commercial, industrial, institutional or residential applications without first receiving approval from the District.
- 11.5 No pump, booster or other device shall be employed by any consumer or owner without permission in writing from the District for the purpose of or having the effect of increasing water pressure in service lines to a higher pressure than the normal water pressure in the said service lines, and the District may, without notice, discontinue service to any owner employing such pump, booster or other device.
- 11.6 No device designed to introduce another substance into the water in the connection between the building and the water supply main shall be installed without permission of the District who, in consultation with the Health Inspector, shall ensure that the device is designed and installed that such substances cannot be introduced into the District's works.
- 11.7 No owner, occupier, tenant or person shall:
- a. dispose of any water, or permit same to be carried away, or use water or allow it to be used on a lot other than that lot for which the service connection has been provided without obtaining permission from the District.

- b. sell any water without the permission of Council by resolution which may contain conditions including, but not limited to, a requirement for a valid District of Barriere Business Licence.

11.8 No Owner to whose premises water is supplied shall make, or permit to be made, any additional connection to their service of either temporary or permanent nature, for the purpose of supplying water to another building on their property without permission from the District.

11.9 Notwithstanding the lack of or limited form of sprinkling regulations, no person shall:

- a) Use water for sprinkling in excess of reasonable requirements;
- b) Use more than two (2) outlets at one time for sprinkling purposes, neither of which said outlets shall exceed 13 mm in diameter;
- c) Use an open pipe or hose for sprinkling purposes;

12.0 CROSS CONNECTION CONTROL:

12.1 WATER SUPPLY AND PRESSURE

- a) The District of Barriere does not guarantee pressure or continuous supply of water, or accept responsibility at any time for the maintenance of pressure in its water mains or for increases or decreases in pressure. The District of Barriere reserves the right at any and all times, without notice, to change operating water pressure and to shut off the water supply for the purposes of making repair, extensions, alterations or improvements, or for any other reason, or to increase or reduce pressure.
- b) The District of Barriere, its officers, employees or agents shall not incur any liability of any kind what so ever by reason of the cessation in whole or in part of water pressure or water supply, or changes in operating pressures, or by reason of the water containing sediments, deposits, or other foreign matter.
- c) Where steam or hot water boilers or other equipment is fed with water by pressure directly from the waterworks system, the District of Barriere shall not be liable for any injury or damage which may result from such pressure or from lack of such pressure or any injury or damage resulting from the improper installation of a backflow preventer.

12.2 INSPECTION

12.2.1. The District of Barriere and/or a Building Inspector shall be entitled, at its determination to:

- a) Access the private water system located on private property at all reasonable hours in order to carry out inspections and surveys of the premises to determine the existence of connections or cross connections prohibited by this bylaw and as stated in the District of Barriere cross-Connection Control Program.
- b) Impose minimum standards that must be met and satisfied relating to the type of backflow preventer and the installation and maintenance of the same as specified by the District of Barriere Cross Connection Control Program.
- c) Inspect the type of backflow preventer, the installation and state of maintenance and repair of the same;

12.2.2 No person shall turn on a waterworks valve to provide water service to the occupants of any newly renovated or constructed or reconstructed Premise(s) until the private water system in such premise(s) has been inspected for Cross Connections and approved by the Inspector and/or the District of Barriere.

12.3 CONDITION OF SERVICE

- a) Water Service supplied by the District of Barriere waterworks system to a customer shall only be provided where, in the opinion of the District of Barriere, the waterworks system has been

effectively protected from any actual or potential cross connections existing at or within the customer's private water system.

12.4 CONTAMINATION

- a) Subject to provisions of this Bylaw, no person shall create a cross connection by connecting, causing to be connected or allowing to remain connected to the District of Barriere waterworks system any device, piping, fixture, fitting, container, appliance or any other chattel or thing which may under any circumstances allow non-potable water, used water, wastewater or any chemical, liquid, gas or other substance to enter the waterworks system.

12.5 CROSS CONNECTIONS AND BACKFLOW PREVENTION

- a) No owner or other person shall permit the introduction of any contaminant or foreign matter whatsoever into any private water system that is connected to the waterworks system.
- b) Where the District of Barriere or Authorized Agent determines that there exists a connection or cross connection prohibited by this Bylaw and/or the District of Barriere Cross Connection Control Program, written notice may be given to the customer to correct the connection or cross connection at the expense of the customer within the time specified in the notice.
- c) A customer to whom notice has been given under this section shall correct the connection or cross connection by installing an Approved Backflow Prevention Assembly conforming to the CSA Standards B64.10-01/B64.10.1-01 or most current edition, for the selection, installation, maintenance and field testing of backflow preventers and as described in the District of Barriere Cross Connection Control Program (Policy).
- d) The owner or customer shall install a type of backflow preventer commensurate to the degree of hazard and that is approved by the District of Barriere on the private water system at the location of the service connection from the waterworks system or other location(s) approved by the District of Barriere.
- e) Notwithstanding anything contained herein if, in the opinion of the District of Barriere, the configuration of any water connection that creates a high risk of contamination to the waterworks system, the customer, shall install on the private water system at the location of the Assembly, in addition to any backflow preventers installed in the customer's private water system at the source of the potential contamination.
- f) The failure to be sent a notice(s), or the failure to receive a notice(s), shall not excuse the mandatory duty of the premise owner or other responsible party to comply with this Bylaw and/or the District of Barriere Cross Connection Control Program and all other applicable bylaws.
- g) Where any condition is found to exist which, in the opinion of the District of Barriere, constitutes a cross connection with the waterworks system, the District of Barriere or Trustee shall either:
 - i. Shut off the water supply services(s) to the premises and notify the owner or customer that an approved backflow prevention assembly(s) shall be properly installed and tested at the expense of the owners or customer proper to the water service(s) being turned on;
 - ii. Give notice to the owner or customer to correct the cross connection(s) at the expense of the owner or customer within a specified period. If the notice is not complied with, the District of Barriere may then discontinue water service or services;
 - iii. Install an approved backflow prevention assembly at the service connection with all costs being charged to the owner or customer.

- h) Any person whose water has been turned off pursuant to this Bylaw shall not have the water from the District of Barriere waterworks system turned on until all requirements of the District of Barriere have been met and the owner or customer has paid to the District of Barriere all costs associated with the shut off/turn on of water service, the cleanup of contamination and the customer's default under this section has been remedied.

12.6 TESTING AND MAINTENANCE OF BACKFLOW PREVENTION ASSEMBLIES

- a) The owner or customer will provide to the District of Barriere within thirty (30) days of initial installation, repair or relocation of an approved backflow prevention assembly a backflow assembly test report from a Certified Backflow Assembly Tester confirming the following:
 - i. The installation date of the Approved Backflow Prevention Assembly;
 - ii. The specific location of the assembly and what cross connection or hazard it is intended to isolate;
 - iii. The manufacturer, model, size and serial number of the backflow preventer installed; and
 - iv. That it is an approved backflow prevention assembly, installed correctly and in proper operating condition.
- b) Approved backflow prevention assemblies are required to be inspected and tested by a certified Backflow Assembly Tester at least once in every twelve (12) month period or more often if required by the District of Barriere.
- c) Where an owner or customer fails to have an Approved Backflow Prevention Assembly tested, the District of Barriere may notify the owner or customer that the backflow assembly must be tested with ninety-six (96) hours, or within a specified period. If the customer fails to comply with such notice the District of Barriere or Trustee shall discontinue the water service or services and may be subject to penalties listed under this Bylaw.
- d) Where there is a visible or other indication that a backflow preventer is malfunctioning, it is the responsibility of the owner or customer to immediately notify the District, and is further to stop using the private water system until the backflow preventer is replaced or repaired or re-tested. This includes but it is not limited to damage by: freezing, hot water, fire or otherwise due to neglect.

12.7 COMMERCIAL AND AGRICULTURAL IRRIGATION USE AND TURN ON

- a) Where a cross connection exists between the District of Barriere waterworks system and a private water system, in addition to the general provision stated in this bylaw, the owner or customer shall also comply with the following:
 - i. No person except the duly authorized agents of the District of Barriere shall turn on an agricultural irrigation system.
- c) Prior to commencement of operation of the private water system in each irrigation season, the owner or any person operating a commercial or agricultural irrigation shall have the Approved Backflow Prevention Assembly inspected and tested, at the customer's expense, by a certified Backflow Assembly Tester. A copy of the test report shall be provided to the District within thirty (30) days of completion of the test.
- e) An Approved Reduced Pressure Backflow Assembly (RPBA) shall be used whenever fertilizers, chemicals or any other substance detrimental to health are introduced to a Private Water System.

12.8 TEMPORARY SERVICE CONNECTION AND FIRE HYDRANT USE

- a) No person shall connect, cause to be connected, or allow to remain connected, any piping, fixture, fitting, container or appliance to a Fire Hydrant, stand pipe or any other temporary service connection:
- b) In a manner which, under any circumstances, may allow water, wastewater or any liquid or substance of any kind to enter the District of Barriere Cross Connection Program; and
- c) Without using an Approved Backflow Prevention Assembly which has been approved and installed in accordance with the District of Barriere Cross Connection Program; and
- d) Without first obtaining a Fire Hydrant Use Permit.
- e) Any person who violates this section will be refused access to water service through the use of a Fire Hydrant or temporary service connection and may be subject to penalties listed under this Bylaw.

12.9 AUXILIARY WATER SUPPLIES

- a) No connection shall be installed or maintained whereby water from an auxiliary water system may enter the waterworks system or customer's private water system unless such auxiliary water system and the method of connection and use of such system have been approved by the District.

13.0 OFFENCES AND PENALTIES:

- 13.1 Any person who contravenes any of the provisions of this Bylaw, or who suffers or permits any act or thing to be done in contravention of any provision of this Bylaw, or who neglects to do or refrains from doing anything to be done by any provision of this Bylaw, commits an offence against this Bylaw and is subject to:
 - a) A fine in accordance with the most recent Bylaw Notice Enforcement Bylaw No. 95 and its amendments if information with regard the infraction is laid by means of a Notice; or
 - b) Upon summary conviction, a minimum fine of not less than One Thousand Dollars (\$1,000.00) and a maximum fine of Ten thousand Dollars (\$10,000.00) and the cost of prosecution. Every day during which there is an infraction of this Bylaw shall constitute a separate offence.

14.0 COST RECOVERY:

- 14.1 Any person who contravenes any of the provisions of this Bylaw, or who suffers or permits any act or thing to be done in contravention of any provision of this Bylaw, or who neglects to do or refrains from doing anything to be done by any provision of this Bylaw, is subject to being required to pay all or part of the costs of remediation, repair and/or replacement of any part of the Waterworks System resulting from such contravention.

15.0 SEVERABILITY:

- 15.1 If any section, subsection, or paragraph of this Bylaw is found invalid by a decision of a Court or competent jurisdiction, this decision shall not affect the validity of the remaining portions of this bylaw.

READ A FIRST TIME this 16th day of November, 2020
READ A SECOND TIME this 20th day of December, 2020
READ A THIRD TIME this 20th day of December, 2020
ADOPTED this 11th day of January, 2021

Original signed by,
Mayor Ward Stamer

Original signed by,
Tasha Buchanan, Corporate Officer

DISTRICT OF BARRIERE

BYLAW NO. 219

A BYLAW TO AMEND

“District of Barriere Water System Bylaw No. 189”

The Council of the District of Barriere, in open meeting assembled, enacts as follows:

1. “*District of Barriere Water System Bylaw No. 189*”, is hereby amended by the replacing the following section:

6.11 The District shall be responsible for the maintenance of the water service from connection at property line to the District’s water main. The property owner shall be responsible for the maintenance of the water service on their property, from the connection at property line to their building.

with:

6.11 The District shall be responsible for the maintenance of the water service from the center of curb stop to the District’s water main. The property owner shall be responsible for the maintenance of the water service, from the center of curb stop to their building.

2. This Bylaw shall be cited for all purposes as “*District of Barriere Water System Bylaw No. 189, Amendment Bylaw No. 219.*”

Read for a first time the 9th day of May, 2022

Read for a second time the 9th day of May, 2022

Read for a third time the 9th day of May, 2022

Adopted on the 24th day of May, 2022

Original signed by, _____
Mayor Ward Stamer

Original signed by, _____
T. Buchanan, Corporate Officer



BYLAW NO. 240

DISTRICT OF BARRIERE

A BYLAW TO AMEND DISTRICT OF BARRIERE WATER SYSTEM BYLAW NO. 189

The Council of the District of Barriere, in open meeting assembled, enacts as follows:

1. This bylaw may be cited for all purposes as the “*District of Barriere Water System Bylaw No. 189, Amendment Bylaw No. 240.*”

2. Section 8.5 “WATER CONSERVATION STAGES” is amended by adding the following subheading:

“PROVINCIAL DROUGHT LEVEL RESPONSE that applies to the District of Barriere

- a) During a Provincial Drought Response that applies to the District of Barriere imposed under Section 8.3 of this bylaw, no person shall use a watering system to water a lawn, garden, or landscaped area on a property with:
- i) an even numbered address, except on Tuesdays and Saturdays between the hours of 7:00am to 9:00am **OR** 7:00pm to 9:00pm.
 - ii) an odd numbered address, except on Wednesdays and Sundays, between the hours of 7:00am to 9:00am **OR** 7:00pm to 9:00pm.
- b) During a Provincial Drought Level response that applies to the District of Barriere imposed under Section 8.3 of this bylaw, a person may:
- i) water trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle, but only during the prescribed Stage 1 watering hours and days;
 - ii) water trees, shrubs, flowers and vegetables if watering is done by a drip irrigation system as defined in this bylaw;
 - iii) water newly planted trees, shrubs, flowers and vegetables if watering is done by hand-held container or a hose equipped with a shut-off nozzle during installation and for the following 24 hours if prior approval from the District of Barriere is received;
 - iv) wash a vehicle with water using a hand-held container or hose equipped with a shut-off nozzle and at commercial car washes;
 - v) top-up or add to a swimming pool, wading pool, hot tub, garden pond or decorative fountain.

- c) The District of Barriere Public Works Manager and/or Chief Administrative Officer may adjust the permissions and/or restrictions of this subsection during a Provincial Drought Level Response that applies to the District of Barriere based on Provincial recommendations or special circumstances during a Provincial Drought Level Response that applies to the District of Barriere.
- d) A Provincial Drought Level higher than Level 4 that applies to the District of Barriere, Stage 2 or 3 Water Restrictions may be imposed by resolution of Council.

READ FOR A FIRST TIME this **8th** day of **April, 2024.**

READ FOR A SECOND TIME this **8th** day of **April, 2024.**

READ FOR A THIRD TIME this **8th** day of **April, 2024.**

ADOPTED this 22nd day of April, 2024.

Original signed by, _____
Ward Stamer, Mayor

Original signed by, _____
Tasha Buchanan, Corporate Officer



Water Conservation Stages

Residential Water Use	Normal	Stage 1 30+% Reduction	Stage 2 50+% Reduction	Stage 3 If Mandated	Stage 4 System Failure
Lawn Watering- Even Civic Address	Tuesdays, Thursdays & Saturdays 6:30am – 9:00am & 6:30pm – 9:00pm	Tuesdays & Saturdays 6:30am – 9:00am & 6:30pm – 9:00pm	Saturdays 6:30am – 9:00am & 6:30pm – 9:00pm		
Lawn Watering- Odd Civic Address	Monday, Wednesdays & Fridays 6:30am – 9:00am & 6:30pm – 9:00pm	Mondays & Fridays 6:30am – 9:00am & 6:30pm – 9:00pm	Fridays 6:30am – 9:00am & 6:30pm – 9:00pm		
Underground Automatic Systems	3:30am–6:00am Allowed during above “Normal Stage” days	3:30am –6:00am Allowed during above “Stage 1” days	3:30am–6:00am Allowed during above “Stage 2” days		
Handheld Watering – Garden & Trees			Allowed during “Normal Stage” days and hours	Allowed during “Stage 1” days and hours	
Drip Irrigation System			Allowed during “Normal Stage” days and hours	Allowed during “Stage 1” days and hours	
Vehicle Washing				Health & Safety Only	
Outdoor Surfaces			Health & Safety Only	Health & Safety Only	
Pools/Fountains		Top-Up Only	Top-Up Only	No Fill and/or Top-Up	
Institutional	Tuesdays & Thursdays 12:00am–5:00am	30% Reduction	50% Reduction	90% Reduction	
Agricultural	Normal	20% Reduction	35% Reduction	Essential only	Essential only



Indicates use allowed at any time



Indicates use prohibited

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Dealing with Drought

A Handbook for Water Suppliers in British Columbia

Updated August 2022



Acknowledgements

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Legal Disclaimer

The information provided in this handbook is offered as a public service. Many factors may influence water supply availability. Without being limited to the following, several examples might be geography, the existence of microclimates, storage capacity, and population demands. As a result, the information in this handbook is of necessity general in nature and should not be relied upon as specific advice for responding to particular circumstances. You will have to review your particular circumstances and then determine whether the suggestions in this handbook are appropriate to those circumstances.

Water suppliers, such as local governments, improvement districts, and other authorities, should consider the appropriateness of the suggestions in this handbook and adapt them to suit their specific local conditions and requirements. Plans and bylaws should not be put in place by water suppliers without first receiving appropriate professional and legal advice.

While information provided within this handbook is believed to be accurate at the time of publication, we cannot confirm its currency, accuracy, or completeness or its applicability to or suitability for individual circumstances. Therefore, persons using this handbook should take steps to independently verify the information.

The handbook also contains links to web sites of other organizations. As we do not control those websites, we cannot confirm the information provided by them. The most current update and information provided is current as of August 2022.

British Columbia. Deputy Ministers' Committee on Drought.
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Introduction

The impacts of climate change coupled with severe droughts in 2003 and 2015 has led to the creation of the BC Drought and Water Scarcity Response Plan and this document, *Dealing with Drought and Water Scarcity: A Handbook for Water Suppliers in BC*. This handbook was prepared for the province and its communities with a two-part vision:

- to provide proactive drought management goals to help prevent the onset of drought conditions, and
- to assist and support water suppliers with assessing, planning, and responding to drought conditions and coordinating internal and external communications.

The goals and responses outlined in the handbook are based on requirements brought in under the *Water Sustainability Act* (WSA) in February 2016 and the *Drinking Water Protection Act*.

The province has taken a lead role in drought management, providing water supply monitoring and forecasting, effective communication, and tools and templates. Water suppliers may use the tools provided by the provincial government and customize their responses and actions to accommodate the major water demands in their area. This Handbook is just one part of a comprehensive water management strategy. Additional steps towards protecting drinking water and aquatic ecosystems and ensuring sustainable community growth are also critical.

The resources and templates included in the appendices are intended to assist water suppliers with increasing their knowledge and understanding of local water supplies, implementing conservation measures, and making decisions about appropriate actions and responses to specific drought levels as defined in the [BC Drought and Water Scarcity Response Plan](#). It is important to note that the Province's ability to regulate water during drought is not dependent on an area's drought level.

What is Drought

Drought is the result of natural variability of climatic conditions. Dry areas of the Province like the Okanagan and Nicola valleys and Gulf Islands have challenges supplying sufficient water to meet demand even during normal years. Depending on the severity of the drought conditions these and other areas of the Province may experience significant adverse effects from drought. Drought can occur when there is a combination of sustained low precipitation and high rates of evaporation, resulting in:

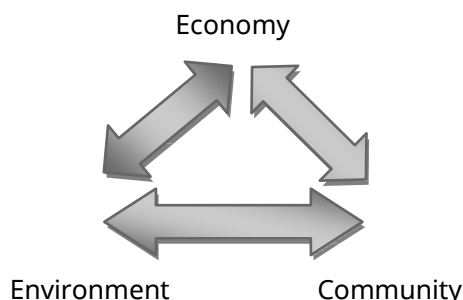
- low water flows in streams, and/or
- low water storage levels, e.g., wells, reservoirs, lakes.

In BC, drought may be caused by natural influences resulting from low snowpack, hot and dry weather, a delay in spring or fall rains, or by a combination of these factors. In addition

to climate, our water supplies are affected by how much we use. With a growing population, increased demands are placed on water supplies, causing greater stress on water resources and intensifying the effects of drought conditions.

What are the Effects of Drought

Drought affects communities, the environment, and the economy through a reduction of water for communities, agriculture, and industry. Drought also affects the sustainability of aquatic ecosystems.



- Lower water levels may increase concentrations of nutrients or contaminants, leading to poor water quality.
- With less available potable surface water, people may make heavier draws on groundwater wells and springs.
- Water that is necessary for biological or industrial production processes may be reduced, and agriculture and industry users may lose the ability to produce crops or provide goods and services to communities of the province, impacting the health and economy of an area.
- Coping with the effects of reduced supplies may cause chronic stress for some individuals and negatively affect the social fabric of a community.
- Drought conditions will also increase the risk of forest fires and limit water supplies for firefighting.
- Lower stream flows and the corresponding increased water temperatures threaten the survival of many fish and aquatic species.

How is Drought Measured

By being familiar with local climate and water supplies, a community can anticipate and prepare for drought and “stressed” systems. To determine if your water supplies are stressed by drought, examine your supplies for one or more of the following conditions:

- streamflows are significantly lower than the recorded average,
- water quality does not meet ambient water quality guidelines,
- key habitat factors, such as temperature, quality, cover, substrate, and accessibility – all necessary to sustain a biologically diverse community – are degraded,
- typical seasonal demands cannot be fully met,

- water restrictions are currently in place, and anticipation of increasing severity of restrictions exists, or
- water use conflicts have arisen.

To assist suppliers, the Provincial Government monitors precipitation and streamflows across the province and posts regular updates to the [River Forecast Centre website](#) and [Drought website](#). The drought levels and their corresponding objectives and suggested water use targets are summarized in Table 1. General responses applicable to each level have been provided in the Drought Levels and Responses Matrix ([Appendix 2-1](#)).

Table 1. Drought Levels Summary

Level	Impacts	General Response Measures	
0	There is sufficient water to meet socio-economic and ecosystem needs	Preparedness	
1	Adverse impacts to socio-economic or ecosystem values are rare	Conservation	
2	Adverse impacts to socio-economic or ecosystem values are unlikely	Conservation Local water restrictions where appropriate	
3	Adverse impacts to socio-economic or ecosystem values are possible	Conservation Local water restrictions likely	
4	Adverse impacts to socio-economic or ecosystem values are likely	Conservation and local water restrictions Regulatory action possible	
5	Adverse impacts to socio-economic or ecosystem values are almost certain	Conservation and local water restrictions Regulatory action likely Possible emergency response	
Loss of Community Supplies	Ensure health and safety	Follow the steps of your Emergency Response and Contingency Plan. Allocate water on a per capita basis, no outdoor or summer usage, no potable water used on landscapes, monitor compliance, seek and use alternative supplies	Declare emergency situation, provide frequent updates through all forms of media on necessary actions

Why Prepare for Drought

Managing community water supplies is a local government and local water supplier responsibility. Planning will help your community to:

- protect community water supplies for drinking water, sanitation, and fire protection;
- protect fish and aquatic ecosystems; and
- sustain industrial development and economic activity.

How to Prepare for Drought

In order to assess risk and respond to drought, a water supplier may wish to establish a local drought management team. Recommendations for the team building process are provided in [Appendix 1](#). Be sure to include people from all the relevant local water user groups on the team. A team may:

- gather all the available drought information for your community,
- identify information gaps,
- target water management needs,
- implement water conservation strategies,
- provide support to local government in managing community water supplies, and
- communicate with the public.

Many steps may need to be taken to accomplish these goals, and suggestions for actions and responses are described below and in Appendices 1 to 5.

How to Minimize the Impacts of Drought

One of the most important ways to minimize the impacts of drought is developing or becoming a part of a local drought management team (Appendix 1). In order to plan for and respond to drought, a local drought management team needs to focus on three main goals:

1) Get to know your water supplies and plan for future droughts

- Assess your local water supply and demand by doing a Water Supply and Demand Analysis ([Appendix 2-3](#)), prepare a Drought Management Plan ([Appendix 2-2](#)), and/or prepare an Emergency Response and Contingency Plan ([Appendix 3](#)).
- Establish a water monitoring system including location, frequency of data collection, and reporting tools.

2) Improve water use efficiency

- In addition to the environmental benefits, reductions in water use translate into lower costs for water supply and sewage infrastructure. It makes economic, environmental, and social sense to conserve water 365 days a year.

- Create a Water Conservation Plan ([Appendix 2-4](#)).
- Establish bylaws for water restrictions ([Appendix 4](#)).
- Communicate and educate – share water conservation and drought management ideas with your community.
- Stop the leaks! Develop leak detection and repair programs for supply systems in every sector (e.g., irrigation pipelines, municipal distribution systems, residences).
- Plant drought-tolerant species.
- Encourage (or regulate through bylaws) the use of water efficient appliances, including washing machines, dishwashers, and ice machines, and water efficient livestock watering systems.
- Encourage proper design and installation of irrigation systems to increase system efficiency.
- Schedule irrigation water using soil moisture monitoring devices or evapotranspiration data. Climate data can be found at www.farmwest.com and www.agr.gc.ca/pfra/drought/index_e.htm
- Install water meters and implement appropriate water rates and pricing.
- Monitor water use to ensure water conservation goals are being achieved.
- Evaluate impacts of drought on the economy of the region to highlight vulnerable sectors.
- Develop reclaimed water initiatives for non-potable water supplies.

3) Communicate, educate, and participate

- A local drought management team can communicate directly with the community about drought management goals, actions, water supply status, and forecasts.
- Check that the goals of the Drought Management Plan correspond to the [BC Drought and Water Scarcity Response Plan](#), the *Drinking Water Protection Act*, and any other applicable legislation or other local water management plans and bylaws. Communicate the benefits of these plans to the public.
- Teams can conduct one-on-one meetings with major water users in the community to discuss the goals of your Drought Management Plan and Water Conservation Plan, and their role in implementing these plans.
- Create water conservation stewardship awards to recognize water saving efforts in your community.

Achieving these goals will require assessment, response, and coordinated communication and conservation education efforts. For more information, refer to the Drought Resources ([Appendix 5](#)).

Government Agencies Role in Drought

Local Government

In an emergency situation, the first line of support should come from the Local Government authority that has jurisdiction for the area. In some cases the Local Authority will also have direct responsibility for the water utility and in other cases the water utility may be an Improvement District or private service provider.

Some local governments use private operators to supply community water services. Those contracts should be consulted for responsibilities both legal and financial for response to and planning for water systems malfunctions, complete or partial water loss or potable water loss.

Provincial Government

Emergency Management BC (EMBC)

The Provincial Emergency Program provides support to local authorities and provincial government agencies before, during and after major emergencies. Emergency Management BC can be contacted 24/7 through the emergency contact line at 1-800-663-3456.

Ministry of Forests (FOR)

FOR is the lead agency responsible for coordinating drought response in BC. They provide an ongoing assessment of the drought situation and set the drought levels in British Columbia. FOR also issues water authorizations, provides information to users and guidance to local authorities during water shortage events. FOR maintains regional offices throughout the province.

FOR is also responsible for regulating water use under the WSA. The Province's ability to regulate water during drought is not dependent on an area's drought level. The authorities in the WSA operate independently of an area's drought level and can be used to deal with conflicts and concerns in a single water source or with significant water shortages in a specific area.

Ministry of Land, Water and Resource Stewardship (LWRS)

LWRS leads development of legislation and policy related to drought management in BC. They oversee and coordinate the science required to assess impacts and monitor water before, during and after droughts.

Regional Health Authorities

The [Regional Health Authorities](#), through the Regional Drinking Water Officer can offer assistance and advice related to:

- distribution system protection
- water quality testing program
- health advisory notification
- threats to loss of water supply

First Nations Health Authority

The [First Nations Health Authority](#) plans, designs, manages, and funds the delivery of First Nations health programs and services in BC. These community-based services are largely focused on health promotion and disease prevention and include drinking water matters. The First Nations Health Authority collaborates, coordinates and integrates with the BC Ministry of Health and Regional Health Authorities.

Ministry of Agriculture and Food (AF)

The [Ministry of Agriculture and Food](#) can provide advice and assistance to farmers and ranchers who may be impacted by water loss during drought.

Ministry of Municipal Affairs (MUNI)

The Ministry of Municipal Affairs can provide advice to Local Governments on bylaws, [funding options for planning and infrastructure](#) and legal authorities with respect to water systems operations.

Federal Government

Indigenous Services Canada (ISC)

Indigenous Services Canada is responsible for infrastructure development (including water systems) on First Nations lands. In the event of emergency situations, First Nations communities may contact Emergency Management BC or ISC for assistance. For systems maintenance or manageable water supply issues, First Nations communities should deal directly with ISC.

Appendix 1: Local Drought Management Teams

Effective implementation of the drought management practices recommended in this handbook largely relies on the formation of a local drought management team. The responsibilities of a regional drought management team may include:

- acting as an advisory committee to local politicians and staff regarding water conservation and drought management recommendations,
- compiling data on water supplies and users in their own watershed,
- coordinating efforts with various stakeholders (including fisheries, agriculture, industry, and neighbouring communities),
- providing timely information to the public about water supplies, and
- continually encouraging water conservation and appropriate responses to drought conditions.

Local authorities that may be involved in the drought management team include local governments, water suppliers, First Nations and other regional agencies with responsibilities for water (e.g., the Okanagan Basin Water Board, the Columbia Basin Trust, the Salmon River Watershed Roundtable, Cowichan Water Board, Nicola Water Use Management Plan etc.). The team should include representatives from each of the major and relevant user groups served by the supply system. Some communities may choose to develop drought management teams in a combined effort with neighbouring areas if water is drawn from a common watershed. Some watersheds in British Columbia may already have committees to address local water supply issues and in this case may adopt drought management goals as one part of their mandate. Overlap with any existing or proposed drinking water quality, water conservation, and emergency planning activities should be encouraged as a step towards integrating the goals and actions of these related groups.

The structure of governance arrangements for water varies from region to region, as do climatic and geographic conditions, so it is appropriate that there will be different organizational approaches to drought preparedness and response. In certain areas, the local drought management team could provide a linkage between the Provincial regional drought team and water suppliers, while in others the Provincial regional drought team may connect directly with the water supplier. There is no “one size fits all” solution for BC.

Recommended Guidelines

General guidelines for developing and implementing a Local Drought Management Team include:

- determine what regional or local drought management teams currently exist. Would it make sense to join these teams? If not, establish membership for a local drought management team. In addition to the water supplier, involve members from all user groups in the area, including but not limited to: at least one representative from each type of agriculture, one from each type of major industry,

as well as fisheries, tourism, and public services.

- obtain public input and promote public involvement.
 - improve understanding and awareness regarding local government responsibilities for water management.
 - develop mandate, specify roles for members, determine meeting frequency, and identify team needs.
 - to reduce potential conflicts among user groups and improve coordinated management efforts, clearly establish water use priorities in the supply system.
- Consider the following priorities:

- uses imperative to the protection of public health and basic aquatic ecology,
 - uses important to the social and economic well-being of the area, and
 - uses that may be disrupted or restricted for a short term without considerable impact
-
- identify goals and create a timeline to meet those goals, along with a plan outlining members' responsibilities.
 - gather all available relevant drought information and identify gaps and target needs.
 - complete water supply plans based on the recommendations and templates provided in this handbook.

Appendix 2: Drought Planning Templates

Introduction

These templates are to assist with water supply planning with the purpose of protecting community supplies for drinking water, sanitation, and fire prevention. They are also intended to assist in protecting water supplies for fish and aquatic ecosystems, and sustaining industrial and economic activity.

2-1 Drought Level and Responses Matrix – provides an overview of appropriate responses and communication actions at the local level during the different stages of drought. An assessment of regional drought stages will be provided on the Province's [drought website](#). It is important to note that the Province's ability to regulate water during drought is not dependent on an area's drought level.

2-2 Drought Management Plan Template – the plan includes establishing a local drought management team, identifying drought stages and corresponding responses, and clearly assigning responsibilities to ensure that the party responsible and the expected actions have been planned and agreed upon among the major users of the watershed.

2-3 Water Supply and Demand Analysis Template – provides a framework for conducting a water supply study to characterize the present supply of water to a local system. The study also assesses current demands and evaluates future growth in demands, examines the adequacy of the supply to meet those demands, and suggests alternative management strategies.

2-4 Water Conservation Plan Template – encompasses strategies and tools for reducing water demands on a long term basis.

2-1 Drought Level and Response Matrix

Level	Impacts	General Response Measures	
0	There is sufficient water to meet socio-economic and ecosystem needs	Preparedness	
1	Adverse impacts to socio-economic or ecosystem values are rare	Conservation	
2	Adverse impacts to socio-economic or ecosystem values are unlikely	Conservation Local water restrictions where appropriate	
3	Adverse impacts to socio-economic or ecosystem values are possible	Conservation Local water restrictions likely	
4	Adverse impacts to socio-economic or ecosystem values are likely	Conservation and local water restrictions Regulatory action possible	
5	Adverse impacts to socio-economic or ecosystem values are almost certain	Conservation and local water restrictions Regulatory action likely Possible emergency response	
Loss of Community Supplies	Ensure health and safety	Follow the steps of your Emergency Response and Contingency Plan. Allocate water on a per capita basis, no outdoor or summer usage, no potable water used on landscapes, monitor compliance, seek and use alternative supplies	Declare emergency situation, provide frequent updates through all forms of media on necessary actions

*The Province's ability to regulate water is independent of drought level. These actions and responses and likely actions at each drought level.

2-2 Drought Management Plan Template

☐	Build a local drought management team • Include representatives from all major users in water supply area. • Follow the recommended guidelines outlined in Appendix 1.
☐	Document your water system profile • Base it on information from Water Supply and Demand Analysis study, Appendix 2-3.
☐	Evaluate the impacts of drought on the region's economy • Consider drought impacts on the public as well as the local economy and on the potential for economic growth.
☐	Monitor water supplies and climate • Establish data requirements, location, frequency of data collection, and reporting.
☐	Define Drought Stages • Consider your water supply, all demands on that supply, and climate factors to determine your local watering restrictions as influenced by storage and regulated flows. The Province will determine the drought level in your region (Level 0, 1, 2, 3, 4 or 5) based on stream flows in your region. Your local water restriction level may be different than the provincial drought level.
☐	Establish Drought Responses • Identify the actions required by each user group and water supplier for each drought stage, including activities recommended in your Water Conservation Plan or relevant bylaws. • Examples of user groups may include, but are not limited to, industry, agriculture, public utilities, and local fisheries. • Responses may be based on those outlined in the Drought Stages and Response Matrix (Appendix 2-1) but will need to be customized to local needs.
☐	Develop Communications • Identify the local drought management team representative responsible for documenting necessary communications for each drought stage. • Communicate with provincial government and the public about water management goals, actions, water supply status, and forecasts. As well, review the Province's drought website. • Communicate the benefits of water management plans to the public. • Conduct one-on-one meetings with water users in the community to discuss the goals and responsibilities of your Drought Management Plan and water conservation strategies.
☐	Evaluate your Drought Management Plan • Confirm that your Drought Management Plan corresponds to the <i>Water Sustainability Act</i>, <i>Drinking Water Protection Act</i>, and other relevant local water management plans.

2-3 Water Supply and Demand Analysis Template

This template highlights the information needs of a water supply and demand analysis, especially for the purpose of creating a Drought Management Plan. Note that it may not be necessary or possible to complete each section.

Note: Real-time data from local climate monitoring stations are available through the [BC River Forecast Centre](#) and [Environment and Climate Change Canada, Water Survey of Canada](#).

Introduction

Study Area:

- area served by the supply

Background:

- Location of supply (*name of supply*)
- Historical water use (*indicate average annual, monthly, and daily use in m³ for each sector connected to supply and indicate methodology of measurement, e.g., metres, pump log*)
- Fisheries (*describe historical trends with population counts, economic value to region, instream flow requirements in m³ and m/s*)

Water Management Issues and Concerns:

- Population growth trends (*use individual counts and total percent change*)
- Fisheries (*identify potential conflicts, impacts of population growth, water quality and quantity, changes to fish populations*)
- Groundwater management (*describe management strategies, including monitoring, total use in m³, location and quality of wells and pumps; also describe conflicts or contamination concerns*)
- Surface water supply (*describe management strategies, including monitoring, total use in m³, location of wells and pumps; also describe conflicts or contamination concerns*)

Purpose and Objectives of Study:

- Address all instream uses
- Consider management alternatives
- Resolve potential conflicts

Water Supply Description

Location and size:

- Map of water supply areas including size of basin (km²) or aquifer, origin of water source, elevation range

Population:

- Population served (*individual counts*)
- Service connections (*number*)

- Growth trends (*consider past 50 years or maximum time period of data records, in individual counts and total % change*)

Land Use (Agriculture, Forestry, Urban, Future Land Use):

- Discuss effect of each of the following on water resource:
 - Growth trends for each sector (*% change*)
 - Water supply use
 - Effects of land-use changes on water quality and quantity (*e.g., erosion, release of organic effluent*)

Water Supply Area Features:

- Geologic (*% composition, spatial distribution, special features*)
- Vegetation (*instream and riparian, % cover and composition*)
- Climate (*annual, monthly, and daily precipitation in mm, annual, monthly, and daily temperature in °C, and annual, monthly, and daily evapotranspiration using temperature for past 50 years or maximum time period of data records*)
- Soils (*instream and riparian, total % composition, average moisture content*)

Water Resource Characteristics and Hydrology

Surface Water:

- Streamflow Records:
 - Drainage area of recorded station (km^2)
 - Daily, monthly, annual summaries (m^3/s)
 - Graphical summaries (*consider maximum time period of data records*)
 - Map showing climate monitoring stations in relation to study area
- Reservoir and Lake Levels:
 - Daily, monthly, annual storage summaries (*water level: m, volume: m^3 , and use: m^3/d based on average population use*)
 - Graph storage level summaries (*is the water level normal for a particular time of year*)
- Effects of Storage and Diversion:
 - Size of storage (m^3 , *minimum and maximum reservoir storage volume*)
 - Use of reservoirs (*rules and regulations of use, diversion rates in m^3/s , and comparison of regulated and natural flows if available in % change*)
- Low Stream Flows:
 - Critical low flows and percentiles
 - Historical low flows recorded
 - Potential conflicts among user demands
- Quantification of System Leaks (*location in system, water loss in m^3/d , total % of extracted use*)
 - Drainage area of recorded station (km^2)
 - Daily, monthly, annual summaries (m^3/s)
 - Graphical summaries (*consider maximum time period of data records*)
 - Map showing climate monitoring stations in relation to study area

Groundwater:

- Description of Groundwater Resource:
 - Map of existing [wells](#)
 - Summary of water level measurements over time (*mm*) and average volume (m^3)
 - Groundwater withdrawals (*L/s or m^3/s , identify use*)
 - Capacity tests, pumping tests, the aquifer mapping resource, observation well data
- Groundwater Potential:
 - Bedrock (*extent of exposure*)
 - Summary of yields over time (*include maximum time period of data records*)
 - Groundwater/surface water connectivity

Water Quality:

Source Drinking Water Quality and Treated Water (Surface Water and Groundwater)

Data Collection:

- Daily temperature ($^{\circ}C$)
- Daily pH
- Daily turbidity (*ppm*)
- Metals (*mg/L or ppm*)
- Nutrients: Phosphorus and Nitrogen
- Clarity (*average annual, monthly, and daily using a Secchi Disk*)(*surface water source only*)
- Microbiological (*E. coli, fecal coliforms, total coliforms*)
- Chlorine residuals (*daily total and free chlorine mg/L or ppm*) (*treated water only*)
- Disinfection by-products (*e.g., Trihalomethanes and Haloacetic acids in ppm measured quarterly*) (*treated water only*)

Water Quality Assessment:

- Water uses (*drinking water, aquatic life, irrigation etc.*)
- Any waste discharges in and around source
- Identify aquifer contamination potential by examining uses around well and the permeability of sediments
- Maximum draw down level of storage (*before water quality is compromised*)

Trend Assessment:

- Summary of changes in water quality parameters over time (*maximum time period of data records*)

FisheriesFisheries Management (Federal):

- Resource description (*e.g., spawning and rearing habitat for salmon*)
- Summary of returns (*catch in kg and economic value, if applicable*)
- Instream water requirements (m^3/s needed to maintain specific water levels, water temperature requirements for each species)

Recreational Fisheries Management (Provincial):

- Resource description (*as above*)

- Summary of returns (*as above*)
- Instream water requirements (*as above*)

First Nations Fisheries Management:

- Resource description (*as above*)
- Summary of returns (*as above*)
- Instream water requirements (*as above*)

Water Resource Users and Uses

Surface Water Rights:

- [Details of authorized use](#),
- Maximum and minimum withdrawals (m^3), and
- Average annual, monthly, and daily withdrawals (m^3/s , % extraction out of total use) for:
 - municipal
 - industrial
 - agricultural
 - domestic
 - storage
 - conservation

Instream Water Users and Uses:

- First Nations
- Fisheries (minimum and maximum flows in m^3/s)
- Wildlife (minimum and maximum flows in m^3/s or life cycle characteristics dependent on water supply)
- Wetlands preservation
- Recreation uses (e.g., tourism operator requirements, average annual economic value of recreational services to region)
- Flow dilution
- Power projects

Identification of Species at risk by COSEWIC:

<http://www.sararegistry.gc.ca/default.asp?lang=En&n=24F7211B-1>

Identification of designated sensitive streams:

<http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/water-licensing-rights/sensitive-streams>

Groundwater uses:

- municipal
- industrial
- agricultural
- domestic
- average annual, monthly, daily withdrawals

Downstream uses: ensure priority water rights and instream requirements are being met

Future Water Resource Requirements:

- Future water demands
- Future instream requirements (based on fisheries and wildlife growth trends, and necessity of contaminant dilution from any waste discharges)

Water Management Analysis

Natural Flows:

- Estimate inflow in m^3/s (may need to “naturalize” flows; that is, assess quantity of water that would flow through the basin if storage structures were not present)

Demands and Uses: From Water Resource Users and Uses section.

Supply/Demand Comparison:

- Balance natural flows versus demands (daily, monthly, and annual totals) including future demands. Assess if demands can be met in all years, or if a risk exists of not meeting demands in 1:5 years, 1:10 years, 1:25 years. (Note: local jurisdictions generally need to look at the 1:25 year risk of not meeting demands)

Analysis of Results

Interpretation of Results:

- Consider adequacy and reliability of supply to meet existing and future demands based on water authorizations, previous supply deficiencies if applicable, and restrictions on water use.

Supplementary Storage Requirements:

- Evaluate need for additional storage with respect to present and future demands.

Conclusions and Recommendations

Summarize findings from the study and report on the following:

- Water resource characteristics and hydrology
- Water quality
- Fisheries
- Water resource users and uses
- Reservoir operations
- Future storage

2-4 Water Conservation Plan Template

This guide contains suggestions for developing a water conservation plan template. For a more comprehensive guide to developing a water conservation plan for your water system, see the [Water Conservation Guide for British Columbia](#).

☐	Existing Conservation Strategies Review and report on the conservation measures previously and/or currently in place for each sector in area.
☐	Annual Audit of Water Supply
☐	Future Projections Consider future population projections and potential drought scenarios and implement appropriate conservation measures, restrictions, and supply source identification.
☐	Meters If not yet metered, install water meters on all or major service connections and create informative water bills (compare past usage, information on cost and value of water, basic conservation tips).
☐	Testing and Maintenance - Initiate a regularly scheduled meter testing and maintenance program. - Conduct a system-wide leak detection program and repair any problems.
☐	Conservation Measures Implemented <i>(examples below)</i> - Retrofitting of water efficient appliances and plumbing fixtures for residential and commercial sectors, possibly through rebate programs - Leak detection program for homeowners, industry, agriculture - Drip irrigation systems and voluntary irrigation start times (reduce peak hour) - Examine water reuse, recycling, and non-potable water opportunities - Xeriscaping - Lawn watering restrictions - Industrial power-washing restrictions - Incentive-based water rates
☐	Conservation Measure Implementation Schedule
☐	Conservation Measure Evaluation - Evaluate each measure before, during, and after implementation for: - simple payback period - reliability of water savings - political and legal constraints in implementation, enforcement, or effectiveness - compatibility with municipal, provincial, and federal goals - reduction goals or achievements - useful lifetime - life cycle cost (initial purchase prices and maintenance costs)

	○ impact on level of service ○ reduction of wastewater and energy savings ○ environmental impact and success in other jurisdictions
☐	Public Education Program • Encourage efficient water use through: ○ workshops for plumbers, landscapers, irrigation service providers, farmers, schools, and First Nations ○ Drought website ○ press releases for newspapers and radio ○ posters, brochures, flyers, special events booths, and volunteer stewardship programs
☐	Technical and Financial Assistance Programs • Rebates for installation of drip irrigation systems, or low volume plumbing fixtures • Demonstrate cost savings (e.g., average annual expenses on infrastructure maintenance)

Appendix 3: Emergency Drought Planning

Emergency Response and Contingency Planning for Small Water Systems

Section 10 of the *Drinking Water Protection Act* requires all prescribed water supply systems to have an **emergency response and contingency plan**. The document [*Emergency Response and Contingency Planning for Small Water Systems*](#) provides a step-by-step guide to creating an emergency response and contingency plan for your small water system. Although this document is not specific to drought planning, it offers templates and information to help with planning for water scarcity events in your area.

Appendix 4: Example Bylaws

Encouraging voluntary conservation efforts is an effective method of reducing water use demands. However, to ensure that consistent and coordinated conservation efforts are being made among all users of a water supply during times of diminished supplies, the Province may implement regulatory controls as per Table 1. However, the authority for the province to implement regulatory controls under the WSA is independent of the drought level in an area.

Bylaws could be an option for a local regulatory control. Before bylaws are implemented, the issues surrounding a regulatory approach need to be examined. Firstly, local drought management teams and local governing bodies need to work together to ensure that the goal of creating a bylaw is agreed upon between these groups and is appropriate to the issues of the water supply systems involved. The approach should solve existing problems and work towards preparing communities for reduced supplies more effectively than non-regulatory methods.

Consideration also needs to be given to whether voluntary measures are currently in place, whether previous attempts have been made to create a bylaw, and why the timing for implementing a bylaw now is appropriate. The effects of creating a bylaw also need to be evaluated with respect to environmental, social, and economic factors to ensure the benefits of the bylaw outweigh the costs. Scale is an important aspect to determine if the impacts of the issue, and the bylaw, affect multiple supply systems or jurisdictions. It may be necessary to work on an inter-basin level rather than within political boundaries for bylaws to be practical and effective.

The authority of municipalities, regional districts, and improvement districts differs considerably in terms of regulating water use or imposing requirements; therefore, following the legal steps appropriate to your area will be necessary before implementing a bylaw.

To assist local governments with regulatory practices, the Ministry of Community Sport and Cultural Development has published a [Regulatory Best Practices Guide](#).

While the guide is intended for municipalities, its general direction may also be helpful to regional districts and improvement districts undertaking the process of creating bylaws for water use.

Many communities have already created bylaws to regulate water use and increase water conservation efforts. Two activities that are commonly regulated through bylaws are residential lawn watering and irrigation. Communities planning on creating these types of restrictions may wish to contact jurisdictions that already have similar bylaws, or view other local government websites for examples of published bylaws.

Two excerpts of bylaws that have been successfully implemented are provided on the following pages:

- **Example 1** includes an example of the type of watering restrictions that may be contained within a bylaw, taken from the Capital Regional District Water Conservation Bylaw 3061, www.crd.bc.ca. Note that the term “Stage 1” refers to a stage pre-defined by the Capital Regional District.
- **Example 2** provides an excerpt of the South East Kelowna Irrigation District bylaw No. 579, Irrigation Water Distribution and Regulation Bylaw, www.sekid.ca.

Example 1

STAGE 1 – TWO DAYS PER WEEK LAWN WATERING

During Stage 1,

- (a) no person shall use a Sprinkler to water a lawn growing on a property with
 - (i) an even numbered address, except on Wednesday and Saturday between the hours of 4:00 a.m. to 10:00 a.m. and 7:00 p.m. to 10:00 p.m.; and
 - (ii) an odd numbered address, except on Thursday and Sunday between the hours of 4:00 a.m. to 10:00 a.m. and 7:00 p.m. to 10:00 p.m.; and
 - (iii) a person may water trees, shrubs, flowers and vegetables on any day with a Sprinkler during the prescribed hours for Stage 1 lawn watering and on any day at any time if watering is done by hand-held container or a hose equipped with a shut-off nozzle;
 - (i) water newly planted trees, shrubs, flowers and vegetables by any method during installation and for the following 24 hours;
 - (ii) use Micro-irrigation or Drip-irrigation systems to Water trees, shrubs, flowers and vegetables at any time on any day;
 - (iii) under the authority of a Permit, water new sod on installation and during the first 21 days after installation, and water newly seeded lawns until growth is established or for 49 days after installation, whichever is less, but only during the prescribed Stage 1 lawn Watering hours;
 - (iv) water all weather playing fields at any time if failure to do so will result in a permanent loss of plant material; and
 - (v) wash a vehicle with Water using a hand held container or hose equipped with a shut-off nozzle and at car dealerships or commercial car washes.

As exceptions to the Stage 1 restrictions,

- (b) Owners or Occupiers of property who, by reason of physical or mental incapacity, are unable to water their property within the restricted days and times, may water their property on any two days of the week for a maximum of 9 hours per day;
- (c) Nurseries, Farms, turf farms and tree farms are exempted from the restrictions;
- (d) Public Authorities may water lawns and Boulevards on any day but no more than two days per week; and
- (e) owners or operators of golf courses may water
 - (i) fairways at any time on any day;
 - (ii) trees, shrubs, flowers and vegetables grown on golf courses in accordance with Section 1(1) (b) (i), (ii) and (iii) of this Schedule; and
 - (iii) golf greens and tees on any day if failure to do so will result in permanent loss of plant material

STAGE 2 – ONE DAY PER WEEK LAWN WATERING

During Stage 2,

- (a) no person shall use a Sprinkler to water a lawn growing on a property with
 - (i) an even numbered address, except on Wednesday between the hours of 4:00 a.m. to 10:00 a.m. and 7:00 p.m. to 10:00 p.m.;
 - (ii) an odd numbered address, except on Thursday between the hours of 4:00 a.m. to 10:00 a.m. and 7:00 p.m. to 10:00 p.m.;
- (b) no person shall use Water to wash sidewalks, driveways or parking lots, exterior windows or exterior building surfaces, except as necessary for applying a product such as paint, preservative and stucco, preparing a surface prior to paving or repointing bricks, or if required by law to comply with health or safety regulations; and
- (c) a person may
 - (i) water trees, shrubs, flowers and vegetables on any day with a Sprinkler during the prescribed hours for Stage 2 lawn watering and on any day at any time if watering is done by hand-held container or a hose equipped with a shut-off nozzle;
 - (ii) water newly planted trees, shrubs, flowers and vegetables by any method during installation and for the following 24 hours;
 - (iii) use Micro-irrigation or Drip- irrigation systems to water trees, shrubs, flowers and vegetables at any time on any day;
 - (iv) water all weather playing fields at any time if failure to do so will result in a permanent loss of plant material; and
 - (v) wash a vehicle with Water using a hand held container or hose equipped with a shut-off nozzle and at car dealerships and commercial car washes.

As exceptions to Stage 2 restrictions,

- (d) Owners or Occupiers of property who, by reason of physical or mental incapacity, are unable to water their property within the restricted days and times, may water their property on one day per week for a maximum of 9 hours per day;
- (e) Nurseries, Farms, turf farms and tree farms are exempted from the restrictions;
- (f) Public Authorities may water lawns and Boulevards on any day but no more than one day per week; and
- (g) owners or operators of golf courses may water
 - (i) fairways at any time on not more than two days per week;
 - (ii) trees, shrubs, flowers and vegetables grown on golf courses in accordance with Section 2(1) (c) (i), (ii) and (iii) of this Schedule; and
 - (iii) golf greens and tees on any day if failure to do so will result in permanent loss of plant material

STAGE 3 – NO LAWN WATERING

During Stage 3,

- (a) no person shall
 - (i) water a lawn or Boulevard;
 - (ii) Fill a swimming pool, hot tub or garden pond;
 - (iii) Fill or operate a decorative fountain at any time; or
 - (iv) wash a Vehicle or a Boat with Water.
- (b) a person may
 - (i) water trees, shrubs, flowers and vegetables on any day between the hours of 4:00 a.m. to 10:00 a.m. and 7:00 p.m. to 10:00 p.m. if watering is done by hand-held container or a hose equipped with a shut-off nozzle;
 - (ii) water newly planted trees, shrubs, flowers and vegetables between the hours of 4:00 a.m. to 10:00 a.m. and 7:00 p.m. to 10:00 p.m. only by hand-held container or a hose equipped with a shut-off nozzle during installation and during the following 24 hours after installation is completed;
 - (iii) use Micro-irrigation or Drip- irrigation systems to water trees, shrubs, flowers and vegetables on any day between the hours of 4:00 a.m. to 10:00 a.m. and 7:00 p.m. to 10:00 p.m.;
 - (iv) water all weather playing fields at any time, but only if failure to do so will result in a permanent loss of plant material; and
 - (v) use Water to wash sidewalks, driveways or parking lots, exterior windows or exterior building surfaces, but only if necessary for applying a product such as paint, preservative and stucco, preparing a surface prior to paving or repointing bricks, or if required by law to comply with health or safety regulations.

As exceptions to the Stage 3 restrictions,

- (c) Nurseries, Farms, turf farms and tree farms are exempted from the restrictions;
- (d) owners or operators of golf courses may water
 - (i) fairways at any time on not more than one day per week;
 - (ii) trees, shrubs, flowers and vegetables grown on golf courses in accordance with Section 3(1) (b) (i), (ii) and (iii) of this Schedule; and
 - (iv) golf greens and tees on any day if failure to do so will result in permanent loss of plant material;
- (e) wading pools may be Filled with Water; and
- (f) Vehicles and Boats may be washed with Water only at car dealerships and commercial car washes using less than 57 litres of Water per Vehicle wash or 50% recirculated Water as long as the total amount of Water, excluding recirculated Water, does not exceed 57 litres per Vehicle wash. (www.crd.bc.ca)

Example 2

6. (a) No person shall apply irrigation water to the land of any single parcel, or multiparcel irrigation unit, at a rate in excess of the flow rate established for that land.
- (b) The Trustees may require the installation of a flow control device or devices on any irrigation water service or private irrigation system to ensure that water is not applied in excess of the established flow rate and the cost of such device or devices shall be paid by the owner of the irrigation system affected.
- (c) No person shall apply irrigation water to the land of any single parcel, or multiparcel irrigation unit, in excess of the volume established for that land on the current Assessment Roll of the District. The Trustees shall cause the service connection to the land to be shut off when the volume established for that land on the current Assessment Roll of the district has been used.
- (d) Notwithstanding 6. (c), the Trustees may at any time introduce regulations restricting the use of water for irrigation or any other purpose. Upon receiving due notice of such restriction no person shall use water for the purpose forbidden by or in excess of the allotment imposed by such restriction. Due notice of restrictions shall, be given either by publication in a newspaper circulating within the District, by broadcast on local radio stations or by mail.

Schedule "A" Metered Rate Penalty for Water Use in Excess of Allotment

The following rate is an inclined block rate and applies to water use in excess of the allotment. Each block is a volume of water equal to ten percent of the allotment. For each ten percent block of water use in excess of the allotment the rate per 1 000 US gallons of water increases. The rates are cumulative and only apply to water use within the range of the block/volume of water to which they are attributed"

(www.sekid.ca).

Block (percent in excess of water allotment)	>0- 10%	>10- 20%	>20- 30%	>30- 40%	>40- 50%	>50- 60%	>60- 70%	>70- 80%	>80- 90%	>90- 100%
Rate per 1000 US gallons	\$0.10	\$0.13	\$0.16	\$0.20	\$0.25	\$0.31	\$0.38	\$0.46	\$0.55	\$0.65

Appendix 5: Drought Resources

Environment Canada: Water	https://www.canada.ca/en/environment-climate-change/services/water-overview.html
BC Drought Information	http://www2.gov.bc.ca/gov/content/environment/air-land-water/water/drought-flooding-dikes-dams/drought-information
BC Drought Portal	https://www.arcgis.com/apps/MapSeries/index.html?appid=838d533d8062411c820eef50b08f7ebc
BC Drought Response Plan	http://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/drought-info/drought-response-plan-update-june-2015.pdf
BC River Forecast Centre	http://www.env.gov.bc.ca/rfc/index.htm
Agriculture and Agri-Food Canada: Drought Watch	https://www.agr.gc.ca/eng/agriculture-and-the-environment/drought-watch-and-agroclimate/?id=1461263317515
2012 Strategic Plan for the Greater Victoria Water Supply System	https://www.crd.bc.ca/docs/default-source/water-pdf/2012strategicplanforhegvwss.pdf?sfvrsn=2
BC Agriculture and Drought	https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/agricultural-land-and-environment/water/drought-in-agriculture
BC Wildfire	http://bcwildfire.ca/Weather/Maps/danger_rating.htm
BC Ministry of Municipal Affairs	https://www2.gov.bc.ca/gov/content/governments/organizational-structure/ministries-organizations/ministries/municipal-affairs-housing
Union of BC Municipalities: Local Government Program Services	http://www.ubcm.ca/EN/main/funding/lgps.html
Irrigation Industry Association of BC	www.irrigationbc.com
North America Water Watch	http://watermonitor.gov/naww/index.php
U.S. Drought Portal	http://www.drought.gov
National Drought Mitigation Centre	https://www.drought.gov/about/partners/national-drought-mitigation-center-
Ontario: Low Water Response Program	https://www.ontario.ca/page/low-water-response-program
Greater Vancouver Water Shortage Response Plan	<a drought"="" href="http://www.metrovancouver.org/services/water/WaterPublications/WaterShortageResponsePlanFeb2016.pdf#search=">http://www.metrovancouver.org/services/water/WaterPublications/WaterShortageResponsePlanFeb2016.pdf#search="drought"
Okanagan Basin Water Board Drought Page	http://www.obwb.ca/category/drought/