



TOWN OF GIBSONS

Policy Manual

SECTION:	PUBLIC WORKS		
TITLE:	Water Use and Conservation Policy	POLICY #	4.15
EFFECTIVE DATE:	March 15, 2016	APPROVED DATE:	2016-03-15
		REVISED DATE:	2016-03-15
		RESOLUTION #:	R2016-065

1 PURPOSE

To formalize water use, conservation and quality direction so that the vision and goals of the Town as articulated in the Official Community Plan, Eco-Assets Strategy, and Water Supply Strategy can be realized. This policy is relevant to the Town, as the operator of the water supply and distribution system, and to residents and businesses as the consumers of water. The Town also acknowledges the important role that the Sunshine Coast Regional District plays in treating and supplying water to Zone 3. This policy provides a significant update to Policy 4.15, adopted December 18, 2012 and also replaces the 2005 Drought Management Plan.

The terms listed below are used within this policy and are defined as follows:

American Waterworks Association (AWWA) – The American Waterworks Association is the largest non-profit, scientific and educational association dedicated to managing and treating water. They provide public standards and best practices used throughout North America for the design, installation, and operations and maintenance of water systems. The BC Water and Waste Association (BCWWA) is the local chapter of the AWWA.

Fire Underwriters Survey (FUS) – A national organization that provides data on public fire protection for fire insurance underwriting companies. They publish the Fire Underwriters Survey Guidelines for Water Supply for Public Fire Protection and also conduct assessments to determine a community's Public Fire Protection Classification. This Classification is one of the largest contributors to determine the fire insurance premiums for buildings in a community.

Infrastructure Leakage Index (ILI): A commonly used benchmark for Water Audits that identifies the ratio between Real Losses and the theoretical lowest amount of losses based on current technologies. An ILI of 1.0 means that the community has reached the theoretical lowest level of losses based on technology available.

Litres per Capita per Day (l/c/d): A commonly used measure that identifies either the total amount of water supply to the community divided by the community's population (including leaks and non-residential water uses) or the average metered water consumed by residential

customers. It is a benchmark that communities can use to track changes in demand, but it can be difficult to use as a comparison to other communities since a significant portion of water use is by businesses and seasonal visitor population. Furthermore, the length and age of the water system of each community can impact the amount of water lost through leaks.

Level of Service: The service level delivered to the public by the Town. This can take the form of the selection of services that are provided, the standard of infrastructure in place, or the standard to which an asset is maintained. As the supply of potable water is undertaken by the Town under permit from the Vancouver Coastal Health Authority (VCHA), there are established minimum levels of service. The desire of Council or the public for Level of Service beyond the requirements of VCHA will directly affect utility fees.

Real Losses: The annual volume of water lost through all types of leaks and breaks in the water system upstream (before) the customers' water meters.

Water Audit: An examination of records to trace and account for the flows of water from the source of supply, through the distribution system, and into customer properties.

2 OBJECTIVE

To ensure adequate provision of potable water is made in line with the Town's Level of Service commitments for both today and future generations by:

- 2.1 Ensuring the Town meets all legislative requirements for water provision;
- 2.2 Maintaining assets in the most natural, energy-efficient and reliable manner that cost the least to operate over the life cycle of the asset;
- 2.3 Ensuring that the Town's services and infrastructure are provided in a sustainable manner, with appropriate Levels of Service to all users within the Town;
- 2.4 As much as possible treating the water system holistically and applying rates and regulations equitably across the Town regardless of the water source;
- 2.5 Continuously working to reduce or maintain low water consumption rates through education and other water conservation strategies;
- 2.6 Regularly tracking water use characteristics so that the effectiveness of water conservation initiatives can be measured, excess use can be identified and responses put into place to eliminate this excess use where practical;
- 2.7 Avoiding the need to oversize infrastructure based on water wastage or unaffordable Levels of Service; and
- 2.8 Minimizing the Town's ecological footprint as measured by dependence on the groundwater aquifer and supply capacity from the SCRD.

3 POLICY

3.1 Background

Council's vision and goal for the community which are outlined in the OCP and summarized in the Water Supply Strategy include implementing wise water use and conservation practices.

3.2 Water Conservation

3.2.1 Water usage will reflect industry best practices and place Gibsons as a leader in water stewardship by:

- 3.2.1.1** Maintaining metered residential water use at 207 l/c/d or less through the promotion of reduction of discretionary water use;
- 3.2.1.2** Target reducing Real Losses by 10% (4.5 ML/year) by 2020 from 2015;
- 3.2.1.3** Maintaining a target Infrastructure Leakage Index of 3.8 or lower;
- 3.2.1.4** Completing an updated Water Audit and rates review at least once every 5 years; and
- 3.2.1.5** When Well 4 is not running, the artesian water flows from the fountain north of the well. This water will be made available for non-potable water use, providing sufficient water can be supplied to the Town using other Town wells.

3.2.2 Fire protection Level of Service offered by the Town's water system will be increased by funding system capacity increases in conjunction with system replacement due to condition and upsizing due to growth. The ultimate goal is that all areas of the Town will have fire flows available that conform to the Fire Underwriters Survey recommendations.

3.2.3 Develop and update standards for new development by:

- 3.2.3.1** Reducing demands on the water system by reducing irrigation demands and considering water reuse (where practical); and
- 3.2.3.2** Reducing the fire protection requirement placed on the system by requiring new developments to design their buildings to reflect system capacities (where practical) or where upgrades are required that they do not exceed those identified in the Water Supply Strategy in accordance with the Fire Underwriter's Survey Guidelines.

3.2.4 The Town will establish accurate accounting of Town-wide water use by:

- 3.2.4.1 Continuing to equip all water services for all developed properties within the Town of Gibsons with water meters;
- 3.2.4.2 Maintaining, testing and replacing meters to ensure accurate water use data collection in accordance with best practices;
- 3.2.4.3 Upgrading all meters to a radio-read system by 2020 so that meters can be read efficiently and at a sufficient interval to inform public behaviours; and
- 3.2.4.4 Identifying opportunities to require monitoring wells in locations according to the Town's Aquifer Mapping Studies during any process involving development within the Town that may impact the aquifer.

3.3 Water Restrictions

This policy has been organized in four stages of water use and conservation response and has been aligned with the 2014 Sunshine Coast Regional District Drought Management Plan where appropriate. The Town is obligated by the water supply agreement with the SCRD to follow the SCRD Drought Management Plan for Zone 3 as a minimum (See Schedule B). Zone 1 and 2 responses are able to be set by the Town, however for consistency with messaging to Town customers the responses in both zones are to be harmonized where practical. The SCRD Drought Management Plan Water Use Restrictions have been included for convenience in Schedule C. However, the most current SCRD Drought Management Plan and associated Water User Restrictions shall always take precedence.

3.3.1 Stage 1 – “Normal water supply conditions with seasonal restrictions”

Stage 1 restrictions are implemented at a minimum from May 1 until September 30 consistent with the SCRD direction and apply to all water zones in the Town.

3.3.2 Stage 2 – “Moderate water supply conditions with additional restrictions”

Stage 2 restrictions are implemented consistent with the SCRD direction and apply to all water zones in the Town.

3.3.3 Stage 3 – “Acute water supply conditions with additional restrictions”

Stage 3 restrictions are implemented consistent with the SCRD direction for Zone 3 only. For any Zone in the Town, the Director of Engineering may impose Stage 3 restrictions in the event of an emergency with consideration to the risk of not having sufficient water supply to meet the needs of the Town. The Director must report to Council at the next regularly scheduled

Council meeting for discussion regarding the continuation of Stage 3 restrictions.

3.3.4 Stage 4 – “Severe water supply conditions with additional restrictions”

Stage 4 restrictions are implemented consistent with the SCRD direction for Zone 3 only. For any Zone in the Town, the Director of Engineering may impose Stage 4 restrictions in the event of an emergency, with consideration to the risk of not having sufficient water supply to meet the needs of the Town and where Stage 3 restrictions are not sufficiently reducing demand. The Director must report to Council at the next regularly scheduled Council meeting for discussion regarding the continuation of Stage 4 restrictions.

3.4 Water Quality

The Town shall:

- 3.4.1 Conduct regular testing of the water distribution system and storage facilities according to requirements of the Vancouver Coastal Health Authority;
- 3.4.2 On an annual basis, engage a qualified hydrogeologist to complete an enhanced groundwater assessment on the Gibsons Aquifer according to the recommendations in the Aquifer Mapping Study;
- 3.4.3 Work with the SCRD to determine if regional bylaws could be amended to align with the Town’s policies and plans regarding Gibsons Aquifer protection;
- 3.4.4 Follow AWWA best practices for water system operations, maintenance and construction;
- 3.4.5 Engage a qualified hydrogeologist to identify potential contaminant sources over the aquifer and develop a comprehensive analytical program; and
- 3.4.6 Review on an annual basis the recommendations contained in the Aquifer Mapping Study to confirm the priorities for the updated five year financial plan.

3.5 Communication and Education

- 3.5.1 The Town will develop and maintain a community engagement and education strategy regarding water conservation and the value of water and measure progress;
- 3.5.2 The following messages are to be conveyed on an ongoing basis:
 - 3.5.2.1 Water is one of our most valuable resources and we must use only

what we need;

- 3.5.2.2 Our aquifer and water supply/distribution system are two of our most valuable assets and we must preserve and protect them by only using what we need;
 - 3.5.2.3 The Gibsons Aquifer has a finite capacity and by using less we leave more water for future generations;
 - 3.5.2.4 By investing in our water supply/distribution system we will ensure the availability of high quality water for many more years to come; and
 - 3.5.2.5 By taking a pragmatic risk based approach the Town is focusing investment in the areas of greatest importance first and looking to provide a stable and predictable rate for our water services.
- 3.5.3 Key messages will be disseminated through a variety of communication tools, including:
- 3.5.3.1 The Town website and Facebook page;
 - 3.5.3.2 Direct mail (utility bill stuffers);
 - 3.5.3.3 Email;
 - 3.5.3.4 Local media outlets; and
 - 3.5.3.5 Schools
- 3.5.4 Education and engagement activities will be undertaken according to Schedule A with the following primary objectives:
- 3.5.4.1 Provide information regarding the management of the water system, water conservation, water restrictions, and water quality so that everyone has a common understanding of our current water supply and system and its value;
 - 3.5.4.2 Provide information to the public to raise awareness of aquifer vulnerabilities and potential contamination of groundwater resulting from human activity; and
 - 3.5.4.3 Gain public support for an ongoing commitment to reducing water use so that the goals outlined are able to be achieved.

4 RESPONSIBILITIES

- 4.1 Council is responsible for:
 - 4.1.1 Adopting this Water Use and Conservation Policy and future updates;
 - 4.1.2 Allocation of resources to meet the objectives of this Policy and the most current version of the Water Supply Strategic Plan;
 - 4.1.3 Providing high level oversight of the delivery of the organization's Water Supply Strategy; and
 - 4.1.4 Ensuring that Town's resources are appropriately utilized to address the organization's strategic plans and priorities.
- 4.2 The Chief Administrative Officer has overall responsibility for:
 - 4.2.1 Initiating the development of water use and conservation strategies, plans, and procedures, in conjunction with the management team;
 - 4.2.2 Reporting to Council and updating the community regularly on the status, effectiveness, and performance of work related to the implementation of this Water Use and Conservation policy; and
 - 4.2.3 Considering and incorporating responsible water use and conservation in all other corporate plans (e.g. Strategic Plans).
- 4.3 The Director of Planning is responsible for:
 - 4.3.1 Ensuring that the goals and objectives in the Official Community Plan and this policy are implemented through new development applications;
 - 4.3.2 Ensuring that other bylaws, policies and plans are consistent with water conservation and use principles;
 - 4.3.3 Reviewing for all new development applications:
 - 4.3.3.1 Actual fire flow requirements in accordance with the Fire Underwriters Survey (excluding single family residential developments) and confirm suitable system capacity with the Director of Engineering; and
 - 4.3.3.2 Opportunities to reduce demands on water system such as reducing irrigation demands and considering water reuse (where practical).
 - 4.3.4 Investigation with the SCRD to determine if a fringe area agreement or similar agreement could be made to protect the Gibsons Aquifer outside of the Town

boundaries.

4.4 The Director of Engineering is responsible for:

- 4.4.1 Reviewing Water Supply Strategic Plans annually to determine when the plans require updating;
- 4.4.2 Review on an annual basis the recommendations contained in the Aquifer Mapping Study to confirm the priorities for the updated five year financial plan;
- 4.4.3 Reviewing water use characteristics annually and update Water Audits at least once every 5 years;
- 4.4.4 Reviewing all relevant water-related strategies on an ongoing basis and bring forward items for budgetary consideration by Council for the five-year financial plan using a risk based approach;
- 4.4.5 Forwarding all demands for new Zone 3 developments to the SCRD for review and confirmation of sufficient supply prior to approval;
- 4.4.6 Completing meter calibration and testing in accordance with American Waterworks Association (AWWA) best practices as follows:
 - 4.4.6.1 Work with SCRD to have main supply meters calibrated annually;
 - 4.4.6.2 Test 75mm and larger meters and well supply meters every 2-3 years;
 - 4.4.6.3 Sample test 1-2% of meters 50mm and smaller every 5 years; and
 - 4.4.6.4 Replace meters that do not fall in line with AWWA standards for accuracy.
- 4.4.7 Ensuring that water sample results are posted on the Town's website on a regular basis;
- 4.4.8 Communicating with the public regarding water use, leak detection and disruptions from replacement or upgrades of water infrastructure;
- 4.4.9 Conducting ongoing reviews and implementing changes to realize efficiencies in operations and maintenance practices;
- 4.4.10 Regularly posting water use from the main water supply meters on the Town's website, especially during periods of Stage 3 or 4 water restrictions; and
- 4.4.11 Working with the Director of Public Works to ensure that the Town's

emergency response plans are updated on an annual basis.

4.5 The Director of Public Works is responsible for:

- 4.5.1 Working with the Director of Engineering on the efficient implementation of water infrastructure upgrades;
- 4.5.2 Reviewing reduction of water waste when maintaining Town facilities and when creating and implementing infrastructure operations and maintenance programs;
- 4.5.3 Working with the Director of Engineering to ensure that the Town's emergency response plans are updated on an annual basis; and
- 4.5.4 Metering and recording all operations and maintenance water use activities whenever practical.

4.6 Director of Parks and Cultural Services is responsible for:

- 4.6.1 Conducting ongoing reviews and implementing changes, vis-à-vis park operations, to realize efficiencies in operations and maintenance practices; and
- 4.6.2 Minimizing avoidable water waste when maintaining Town facilities, parks, and boulevards and when creating and implementing infrastructure operations and maintenance programs.

4.7 The Director of Finance is responsible for:

- 4.7.1 Accurately recording water consumption by user classification, e.g., single family residential, commercial, and industrial; and
- 4.7.2 Reviewing water rates annually to ensure that The Town is recovering the costs associated with providing water services including:
 - 4.7.2.1 Providing appropriate maintenance for the water system to deliver established Levels of Service with the goal to extend the useful life of Town assets; and
 - 4.7.2.2 Providing stable, long-term funding for replacement, renewal and/or disposal of water assets.

5 SCOPE

This policy applies to all Town of Gibsons activities related to the supply, distribution and use of potable water.

6 LEGISLATION

The authority for this policy is provided by Water Regulation Bylaw 1192.

All aspects of Water Conservation and Use within the Town shall be conducted in accordance with applicable legislation.

7 RELATED DOCUMENTS

- a) Water Supply Strategy Update, 2015
- b) Water Regulation Bylaw No. 1192, 2014
- c) Aquifer Mapping Study, 2013
- d) Official Community Plan No. 985, 2005

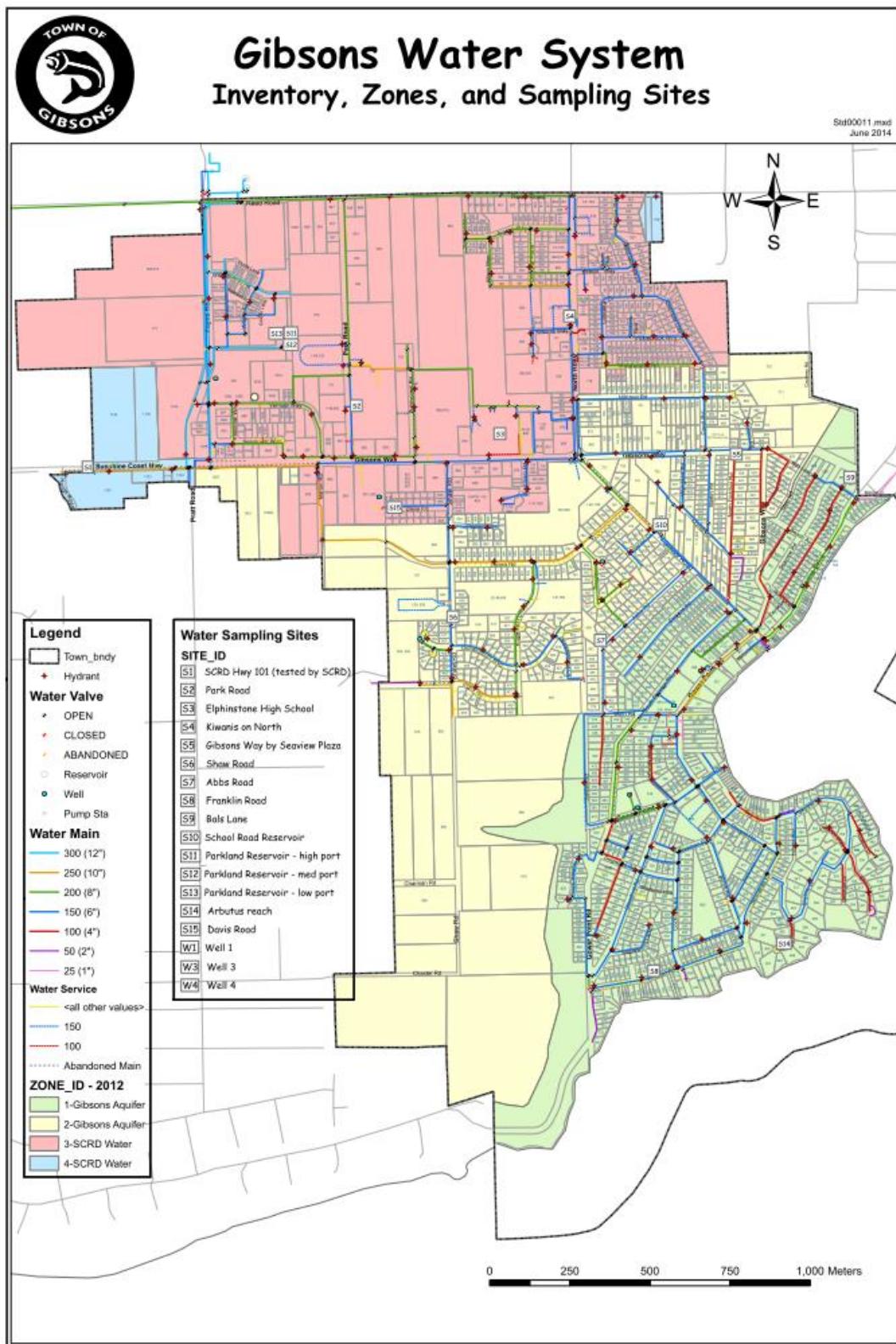
8 REVIEW DATE

This policy has a life of 5 years. It will be reviewed in 2020.

Schedule A: Education and Engagement Activities

Activity	Purpose	Description	Timing
Council Orientation	<ul style="list-style-type: none"> • Introduce Water Supply Strategy • Confirm support for Strategy • Discuss goals, targets and recommendations • Introduce Water Use and Conservation Policy 	<ul style="list-style-type: none"> • Meeting with Council 	December 2015
Meeting with SCRD	<ul style="list-style-type: none"> • Communicate new Water Supply Strategy and future water needs • Collaborate on Watering Restrictions and exemptions 	<ul style="list-style-type: none"> • Meeting 	January 2016
Council Presentations	<ul style="list-style-type: none"> • Provide quarterly update on progress • Provide notification when moving beyond Stage 2 restrictions and after restrictions are removed 	<ul style="list-style-type: none"> • Quarterly reports to Council • Report to Council 	April 2016 and quarterly thereafter As necessary
Website and social media content updating	<ul style="list-style-type: none"> • Update content on website and social media and highlight goals and key message 	<ul style="list-style-type: none"> • Website and social media content updating 	January 2016 and ongoing
Meeting with SCRD	<ul style="list-style-type: none"> • Explore concept of Fringe Area Agreement regarding well drilling 	<ul style="list-style-type: none"> • Meeting 	Fall 2016
Readerboard Signs	<ul style="list-style-type: none"> • To inform of water restriction stage 	<ul style="list-style-type: none"> • Install and update signs in advance of Stage 3 or 4 restrictions 	As needed
Information mailout to customers	<ul style="list-style-type: none"> • Bill stuffer to all customers outlining new strategy and goals and key messages • Summary of water restrictions and permitted uses each spring • Promote drinking water week activities 	<ul style="list-style-type: none"> • Mailout 	With spring 2016 bill mailout and annually thereafter unless messaging warrants otherwise
Schools	<ul style="list-style-type: none"> • Provide educational materials and presentations to schools 	<ul style="list-style-type: none"> • Presentations 	Prior to BCWWA Water Week
High Water Use Customers	<ul style="list-style-type: none"> • Provide education on ways to reduce water use 	<ul style="list-style-type: none"> • Follow up with high water use customers to discuss ways to reduce water use 	Following high water use readings and water audits
Media	<ul style="list-style-type: none"> • Advise of water restriction stage 2 weeks prior to Stage 1 activation and then regularly during the summer until restrictions are removed • Promote drinking water week 	<ul style="list-style-type: none"> • Newspaper and radio advertisements • Aquifer tours and presentations 	As needed

Schedule B: Water System Zones



Schedule B: SCRD Drought Management Plan – Water Use Restrictions

RESIDENTIAL				
	Stage 1	Stage 2	Stage 3	Stage 4
Water Supply Level	Normal	Moderate	Acute	Severe
Effective Dates	May 1			
Sprinkling of lawns, trees, shrubs, flowers or vegetables			Not allowed except with micro/drip irrigation	Not Allowed
Even addresses	Tues, Thurs, Sun 7-9 am & 7-9 pm	Thurs, Sun 7-9 am		
Odd addresses	Mon, Wed, Sat 7-9 am & 7-9 pm	Wed, Sat 7-9 am	Not Allowed	
Unestablished new lawns	By permit only, must be displayed on lawn.	As per existing permit. No new permits issued.	Not Allowed	
Hand watering trees, shrubs, flowers and vegetables, including greenhouse plants	OK at any time, ONLY with container or spray-trigger nozzle.	OK at any time, ONLY with container or spray-trigger nozzle.	OK at any time, ONLY with container or spray-trigger nozzle.	Not Allowed
Washing vehicles or boats	OK at any time, ONLY with container or spray-trigger nozzle.	OK at any time, ONLY with container or spray-trigger nozzle.	Not allowed except for washing salt water from equipment	Not Allowed
Washing sidewalks and driveways, windows or exterior building surfaces	ONLY with spray-trigger nozzle or pressure washer	Not allowed except pressure washing to prep for paint, etc. or as required by law for health/ safety	Not allowed except as required by law for health/ safety	Not allowed except as required by law for health/ safety
Filling swimming pools, spas, garden ponds, decorative fountains	OK	OK	Not Allowed	Not Allowed

Note: This summary of water use restrictions is intended for convenience.
Please refer to the SCRD Drought Management Plan Water Use Restrictions for details.

COMMERCIAL				
	Stage 1	Stage 2	Stage 3	Stage 4
Water Supply Level	Normal	Moderate	Acute	Severe
Effective Dates	May 1			
Sprinkling of landscaped areas			Not allowed except with micro/drip irrigation	Not Allowed
Even addresses	Tues, Thurs, Sun 7-9 am & 7-9 pm	Tues, Thurs, Sun 7-9 am & 7-9 pm		
Odd addresses	Mon, Wed, Sat 7-9 am & 7-9 pm	Mon, Wed, Sat 7-9 am & 7-9 pm	Not Allowed	
Unestablished new lawns	By permit only, must be displayed on lawn.	As per existing permit. No new permits issued.	Not Allowed	
Hand watering trees, shrubs, flowers and vegetables	OK at any time, ONLY with container or spray-trigger nozzle.	OK at any time, ONLY with container or spray-trigger nozzle.	OK at any time, ONLY with container or spray-trigger nozzle.	Not Allowed
Washing vehicles or boats	OK at any time	OK at any time	Essential uses only	Not Allowed
Washing sidewalks and driveways, windows	ONLY with spray-trigger nozzle or pressure washer	Not allowed except pressure washing to prep for paint, etc. or as required by law for health/ safety	Not allowed except as required by law for health/ safety	Not allowed except as required by law for health/ safety
Washing exterior building surfaces	ONLY with spray-trigger nozzle or pressure washer	ONLY with spray-trigger nozzle or pressure washer	Essential uses only	Not Allowed
Filling swimming pools, spas, garden ponds, decorative fountains	OK	OK	Not Allowed	Not Allowed

Note: This summary of water use restrictions is intended for convenience.
Please refer to the SCRD Drought Management Plan Water Use Restrictions for details.