Making a difference...together

WATER ADVISORY COMMITTEE
Notice of Meeting on **Thursday, September 1, 2022 at 1:30 pm**
Goldstream Conference Room, 479 Island Highway, Victoria, BC

For members of the **public who wish to listen to the meeting** via telephone please call **1-833-353-8610** and enter the **Participant Code 1911461 followed by #.** You will not be heard in the meeting room but will be able to listen to the proceedings.

Heather Thompson (Chair)	Mike Doehnel	Wilf Scheuer
Elise Cote (Vice Chair)	Ashley Fernandes	David Timothy
Gord Baird	Tayler Krawczyk	Jennifer Todd
Jeremy Caradonna	Craig Nowakowski	Mike Turner
Celine Davis	John Rogers	

AGENDA

1. TERRITORIAL ACKNOWLEDGEMENT

2. APPROVAL OF AGENDA

3. ADOPTION OF MINUTES 3
***Recommendation**: That the minutes of the May 13, 2022 meeting be adopted.*

4. CHAIR'S REMARKS

5. PRESENTATIONS/DELEGATIONS
The public are welcome to attend Committee meetings in-person.

Delegations will have the option to participate electronically. Please complete the online application for "Addressing the Board" on our website and staff will respond with details. Requests must be received no later than 4:30 p.m. two calendar days prior to the meeting.

Alternatively, you may email your comments on an agenda item to the Water Advisory Committee at iwsadministration@crd.bc.ca.

6. COMMITTEE BUSINESS

6.1. Update on the 2022 Master Plan – Engagement Results and Plan Approval [Verbal]

6.2. Update on the Agricultural Water Rate Study [Verbal]

6.2.1. Study Scope and Schedule.....5
6.2.2. Agricultural Water rate Working Group Recommendations
6.2.3. Next Steps

6.3. First Nations Water Rate Model – 2023 Implementation Plan [Verbal]

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*To ensure quorum, advise **Denise Dionne, ddionne@crd.bc.ca** if you cannot attend.*

IWSS-297445977-9658

6.4. Summary of Regional Water Supply Commission Recommendations.....19
There is no recommendation. This report is for information only.

6.5. Water Watch Report 25
There is no recommendation. This report is for information only.

7. COMMITTEE MEMBERSHIP

7.1. Local Government Elections – October 15, 2022 [Verbal]

7.2. Expiring Terms – December 31, 2022 [Verbal]

7.2.1. Committee Members – Two-Year Term

- Wilf Scheuer, Commercial & Industrial, Commercial, Institutional (ICI) (ending first term)
- Celine Davis, Resident/Ratepayer (ending first term)
- David Timothy, Fish Habitats (ending second term)
- Jeremy Caradonna, Scientific (ending first term)
- Tayler Krawczyk, Agriculture (ending second term)

7.2.2. Water Commission Representatives – Appointed Annually by Each Water Commission

(Following the establishment of new councils, commission appointments and commission elections)

- John Rogers, Juan de Fuca Water Distribution Commission Representative
- Gord Baird, Regional Water Supply Commission Representative
- Mike Doehnel, Saanich Peninsula Water Commission Representative

8. NEW BUSINESS

9. ADJOURNMENT

Next Meeting: New meeting schedule for 2023 to be determined

Making a difference...together

MINUTES OF A MEETING OF THE Water Advisory Committee, held Friday, May 13, 2022 at 10 am, Goldstream Conference Room, 479 Island Highway, Victoria, BC

PRESENT: **Commissioners:** G. Baird; J. Caradonna (EP) (10:40 am); T. Krawczyk; J. Rogers; W. Scheuer; D. Timothy (EP); J. Todd (EP); M. Turner (EP)
Staff: T. Robbins, General Manager; S. Mason, Manager, Water Supply Engineering & Planning, Infrastructure Engineering; T. Urquhart, Communications Coordinator; D. Dionne, Administrative Coordinator (Recorder)
REGRETS: Heather Thompson (Chair); E. Cote (Vice Chair); C. Nowakowski (Island Health); C. Davis; M. Doehnel; A. Fernandes

EP = Electronic Participation

The meeting was called to order at 10:03.

At the time the meeting was called to order, a quorum had not been reached. The Committee members agreed to proceed with the meeting as an information meeting and moved directly to Item 6.1. At the conclusion of the presentation under Item 6.1, quorum had been reached and at 12 pm the Committee elected G. Baird as Chair for the meeting and proceeded with the business of the day.

1. TERRITORIAL ACKNOWLEDGEMENT

2. APPROVAL OF AGENDA

MOVED by W. Scheuer, **SECONDED** by T. Krawczyk,
That the agenda be approved.

CARRIED

3. ADOPTION OF MINUTES

MOVED by T. Krawczyk, **SECONDED** by W. Scheuer,
That the minutes of the March 3, 2022 meeting be adopted.

CARRIED

4. CHAIR'S REMARKS

The Chair made no remarks.

5. PRESENTATIONS/DELEGATIONS

There were no presentations or delegations.

6. COMMISSION BUSINESS

6.1. 2022 Master Plan - Regional Water Supply Service

T. Robbins provided a PowerPoint presentation outlining the 2022 Regional Water Supply Master Plan (2022 Master Plan) noting that the staff report provides a summary of the 2022 Master Plan.

He responded to questions and comments from the Committee regarding:

- Request to add anticipated years for the anticipated drawdown amounts to slide "Sooke Lake Reservoir – Demand Scenarios" for a timeframe perspective.
- Request for clarification of the wording on the "Goldstream Water Filtration Plant (T2/T4/M2)" slide.
- Including options for cost recovery such as implementing Development Cost Charges, empty house tax, regional pricing. Staff noted that the operating and capital costs projected assumes 100% funded through water rates and does not take into account any possible grants or other funding options.

T. Robbins advised that staff would be seeking written feedback from the Water Advisory Committee by the end of June and feedback from the public will be gathered through a public engagement platform called "Bang the Table" that will be launched on the Capital Regional District's website. The Committee's feedback, along with public feedback will be complied and reported back to the Regional Water Supply Commission in July seeking the Commission's endorsement of the 2022 Master Plan.

MOVED by T. Krawczyk, **SECONDED** by W. Scheuer,
That the Water Advisory Committee receive the presentation for information, and that the Committee will schedule a follow up meeting in mid-June to discuss and provide written comment to staff on the 2022 Master Plan.

CARRIED

6.2. Summary of Recommendations from Regional Water Supply Commission

The report was received for information.

6.3. Water Watch Report

The report was received for information.

7. UPDATES FROM WORKING GROUPS

Due to time constraints the Committee omitted this item.

8. NEW BUSINESS

There was no new business.

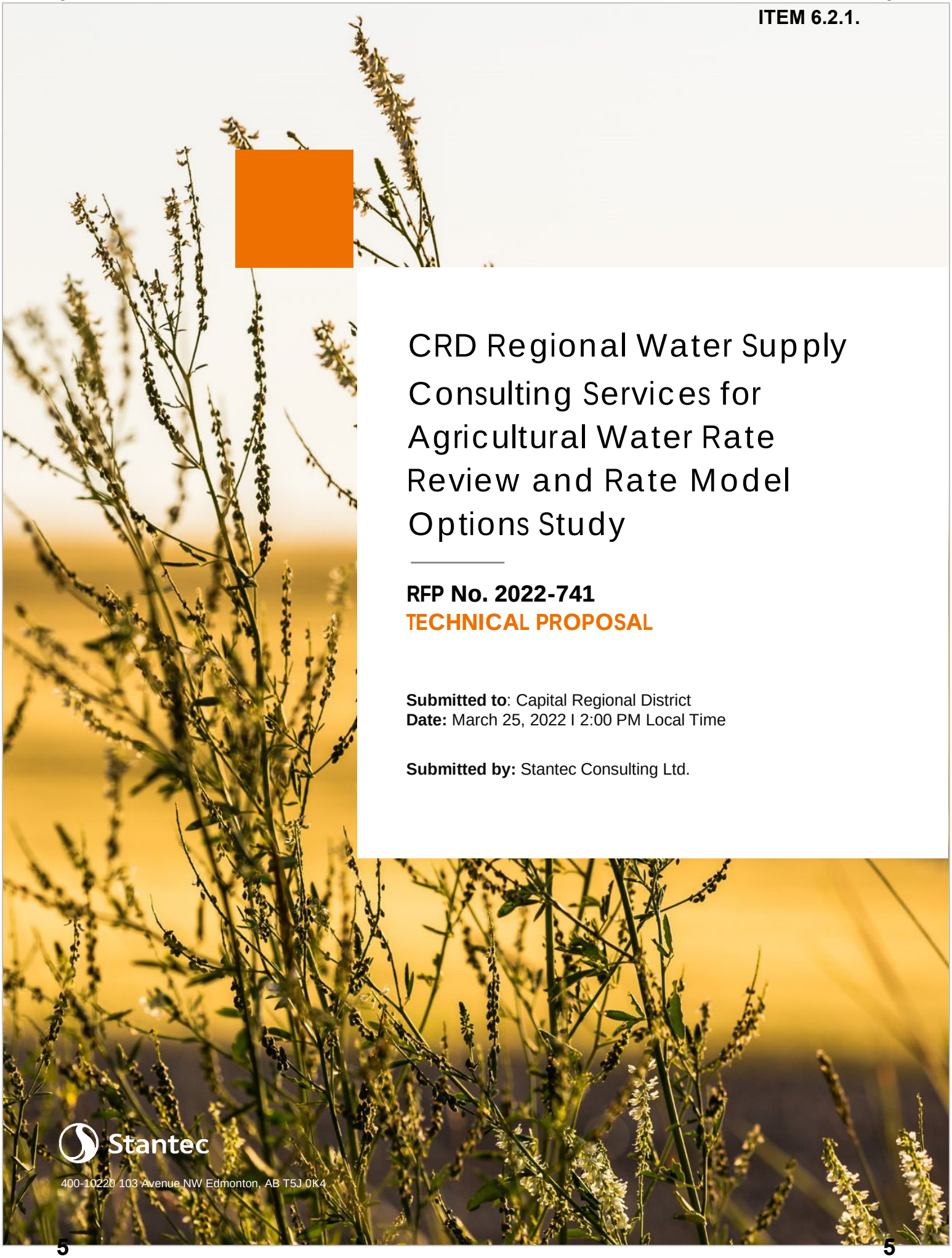
9. ADJOURNMENT

MOVED by T. Krawczyk, **SECONDED** by W. Scheuer,
That the May 13, 2022 meeting be adjourned at 12:05 pm.

CARRIED

_____ _____

CHAIR **SECRETARY**



CRD Regional Water Supply Consulting Services for Agricultural Water Rate Review and Rate Model Options Study

RFP No. 2022-741

TECHNICAL PROPOSAL

Submitted to: Capital Regional District
Date: March 25, 2022 I 2:00 PM Local Time

Submitted by: Stantec Consulting Ltd.

Stantec

400-10220 103 Avenue NW Edmonton, AB T5J 0K4

2.0 OVERALL PROJECT UNDERSTANDING

2.1 PROJECT VISION

The Capital Regional District (CRD) supplies drinking water for more than 370,000 people, supporting residential, commercial, institutional, light industrial, agricultural, and public safety uses across the Greater Victoria area on Vancouver Island in British Columbia. As a provider of the fundamental infrastructure necessary for public health, environmental protection, and economic development, CRD's role includes multiple initiatives and objectives, many of which have implications for rates and rate structures.

CRD provides water to help to sustain the local production of food and feed under its agricultural rate schedule. This rate is lower than the bulk water rate applied to other purchases. The difference between these two rates, as well as the way the agriculture rate is applied (its rate "structure"), are receiving attention and CRD intends to evaluate alternative approaches for consideration.

The project is somewhat unusual, but the principles are clear and consistent with every serious rate investigation. While no single approach to structuring water rates can be said to be the best, a systematic evaluation of alternatives can always help illuminate the alternatives and contribute to a good solution. Competing ends always must be balanced, and any change tends to create both "winners" and "losers", at least in the short run. But over the long-term, and especially if a broad mix of objectives is considered, a thoughtful rate change can lead to improvements in

- effective resource utilization,
- efficient consumption, and
- equity in cost recovery.

Our goal is to help you achieve these fundamental goals and more – continuing to offer support for local production of food and feed, while implementing a rate structure that is understandable and which was developed through an open and transparent process.

Because we are results-oriented, we find no satisfaction in developing a cost allocation algorithm that is precise but can't be implemented. We listen first, focus on core principles second, and find guidance therein to measure, estimate, quantify, allocate, and calculate rates that work. Our vision is a project that helps you meet your fundamental mission of providing adequate water supply, while achieving your goal of implementing an updated rate for agricultural purchases.

Since 2020, Stantec has been working with Integrated Water Services (IWS) to update the RWS Master Plan which was last updated in 1994. Through our work on this comprehensive study, Stantec has gained detailed knowledge of all aspect of the Regional Water Supply (RWS) system. Based on this study, it is estimated the Sooke watershed can supply 40% additional annual demand over current demand levels during a 1:50 year drought precipitation condition. Additional water source development will be required around the year 2050 to support population growth. The timing of additional source development will be somewhat dependent on demand management initiatives. Our detailed knowledge of the CRD Regional Water Supply system will enhance the capabilities of our nominated project delivery Team for this study.

It will be challenging to develop an alternative agriculture rate structure that meets the many and competing needs of the CRD and its stakeholders, but we bring world-class experience in refining rate structures and an up-to-date understanding of your system, future needs, and capital planning requirements. We will use this combination of competencies to help you make the changes you seek.

2.2 KEY ISSUES AND CHALLENGES

Any rate change can become challenging. In a case where a rate is provided to confer a special benefit to one type of customer, significant questions sometimes arise. The alignment between the agricultural rate structure and CRD's objective to support local production of food and feed is strong, but even that fundamental objective might be questioned during the process. The opposite perspective may appear simultaneously – the concern that the agricultural rate fails in its present or future form to provide sufficient support.

Our experience tells us that the best way to address these issues is “head-on”. We are explicit in addressing policy objectives and clear in our assessment of the effects. We don’t expect all participants to become enthusiastic, but we often find that community-minded individuals and organizations ultimately come to embrace the process and the outcomes.

In the table below, we have identified some key issues for this project and have outlined our proposed mitigation strategies. We look forward to broadening this list during the kickoff conversations.

Table 2: Key Issues & Challenges

Key Issues or Challenge	Our Mitigation Strategy
Perceived fairness from stakeholders	A rate increase in any form can be seen as evidence of “failure” or “inefficiency”, especially from the perspective of a person or group with minimal prior engagement with water services and infrastructure. Our approach to stakeholder engagement greatly minimizes that potential. As part of our research, we prepare orientation material to help educate stakeholders about utility services, the rate study process, and the challenges it faces. In combination with a genuine commitment to active listening, our outreach approach leads to better outcomes.
Ensure rate setting strategies are reflective of CRD’s specific context	Our team is anchored by our local office and project manager that will share community insights with our technical experts. We know that an industry-wide perspective is critical to modern rate processes, but successful implementation requires that we select the strategies relevant to the CRD’s institutional, environmental, technical, and public policy frameworks.
Identifying rate structures that best capture and incorporate key policies and objectives	We routinely guide our clients in the development of policy statements and develop rates that conform to policies and advance objectives. We will make it a priority to understand your principles and leverage our experience in policy evaluation and development throughout North America. We will use a **matrix scoring approach** so that each rate structure option can be clearly evaluated and compared relative to your policies and objectives to ensure the best solutions rise to the top.
Preventing past practices and plans from becoming constraints for the future	Every local government must implement rates and rate schedules in the face of imperfect data, cost burdens, time pressures, and other constraints present at the time. We will listen to and understand current practices, conditions, and data availability, but work with you to build the rate structure and processes you need for the future. We will bring **current industry practices to the study** to ensure we do not miss any potential alternatives that may better align with your policies and objectives.
Soliciting input from a diverse mix of stakeholders	Diverse stakeholders have different values and areas they wish to focus on. We will manage stakeholder expectations by clearly communicating the scope of the project and how stakeholder input will impact the project outcome. We will maximize participation by listening generously to all stakeholders and welcoming feedback.
Building support for the project outcome	Building support for the end, starts at the beginning. We will build trust through transparency by openly communicating the project objectives and scope as well as by being clear about the goal of consultation. Questions will be answered in a timely manner, and we will show how stakeholder input was used to develop the recommendations at the end. This approach gives stakeholders confidence that they were heard as well as a sense of involvement in the decision making. All of which creates stronger support of the project outcome and facilitates implementation.

3.0 PROJECT APPROACH

Based on our experience, our understanding of the requested services, and the tasks outlined in the Request for Proposals (RFP), we offer the following approach to conducting the Agricultural Water Rate Review and Rate Model Options Study. We have leveraged our extensive experience in rate making and cost allocation projects, using proven methodologies on past successful studies for similar agencies as a basis for your project, as well as our local and specific knowledge of your system.

Task 1, Project Setup and Project Initiation

Our first order of business is to commission our project team and prepare for a quick start to the project. Our team members with extensive knowledge of CRD will provide a brief "tutorial" for those new to your system, and we will review the materials we already have on hand.

The primary activity in Task 1 is to conduct the project initiation meeting with CRD staff. We will:

- confirm study objectives,
- discuss CRD's broader service and management objectives,
- establish a schedule,
- discuss available data,
- discuss additional data needs, and
- discuss pertinent features of the study and cost information previously developed.
- We will make a particular point to discuss CRD objectives for stakeholder involvement including
    - specific or general guidance as to participating entities or individuals,
    - objectives for communication activities, and
    - the role of such participants.

We will summarize key conclusions and any significant redirection resulting from project initiation in a kickoff memorandum.

Task 2, Review Existing Reports and Documentation

Task 2 provides the opportunity for our project team to learn what is already known. Some of that learning will come from ongoing conversations with CRD and with the members of our team with extensive knowledge of CRD's structure, facilities, and operations, but this task focuses on existing documentation.

We will start with a review of the existing institutional context including the roles of CRD, the retail water providers, the rate regulatory and approval process, and the role of Agricultural Water Rate Subcommittee and other organizations as appropriate.

We will conduct a high-level review of water supply context including overall system capacities and long-term adequacy of supply, conservation objectives, and demand patterns, facilitated by our locally-knowledgeable team members. We will need to understand the role agriculture plays in overall water use so we will review existing customer class demand data with a focus on agricultural consumption and on the implications of agricultural demand. To the extent that other or future potential agricultural demands are already quantified and projected in existing planning documents, we will consider those implications in this analysis.

Finally, we will review existing reports and records related to stakeholder interests in agricultural water rates focusing on expression of interests and including any quantification or projections of future use patterns under any alternative scenarios. Comments or interests regarding the level of rates will also be recognized.

We will summarize review of existing documentation including overall system capacities and usage, projected

capacities and usage, known stakeholder interests, and the implications of current and projected agricultural water use to collect the provided information into a framework usable for this analysis. An online interactive work session with the CRD will provide an opportunity to answer any final questions or refine our understanding of any data or necessary context.

Task 3, Prepare Draft Report Table of Contents

Building on the first two tasks, Task 3 provides a chance for the entire project team to envision the end-point of the project. We will use an expanded outline approach with multi-level headings including expanded section descriptions and annotations.

To develop the draft outline, we first will consider the upcoming necessary technical analysis including review of cost structure, identification of agricultural cost drivers, and historic recognition of reduced revenues from agricultural water customers. We will recognize known institutional factors and our initial assessment of the opportunity for refinement of agricultural rate structure including identification of potential alternative structures. We will take into consideration the stakeholder consultation plan and participants and look forward to being specific about the anticipated use of stakeholder feedback.

With all of this in mind we will develop the draft table of contents and submit to CRD for review. An interactive work session will provide the opportunity to discuss the report format, which will help the entire project team to agree on the ultimate deliverable.

Task 4, Prepare Stakeholder List and Consultation Plan

In consultation with CRD staff and based on previous discussions, including the project initiation meeting, we will prepare a stakeholder list and stakeholder consultation plan. These will be developed in tandem with the Draft Report Table of Contents. Part of the consultation plan will include outlining the orientation material necessary to help educate stakeholders about utility services, the rate study process, and the challenges it faces. Informing stakeholders and working together from a common understanding of project goals and impacts is fundamental to creating a strong base for effective consultation and receiving relevant input to support the project.

We will submit the draft stakeholder list and plan to the CRD for review followed by an online interactive work session with the CRD to provide an opportunity to discuss and finalize the documents.

As stated in the RFP, we also expect that the process to arrive at the options will involve multiple steps, a high degree of stakeholder engagement, work with CRD Finance and Administration staff, and presentations to CRD Regional Water Supply, Protection and Conservation Advisory Committee (Water Advisory Committee) and the three Commissions that support the Water Advisory Committee.

Task 5, Conduct Stakeholder Consultation

We will coordinate with CRD staff to conduct stakeholder consultation following the stakeholder plan developed in Task 4. To effectively conduct this stakeholder consultation, we propose grouping the impacted parties based on their interests and hosting separate consultation events which will allow us to tailor the information and opportunities for feedback to each group. We have based this proposal on the assumption that stakeholders will be divided into two groups: governing entities as one group with representatives from municipalities, electoral areas, and the Ministry of Agriculture; and the agricultural community as the second group including representatives from the Peninsula & Area Agricultural Commission and other potentially impacted stakeholders such as property owners that hold a BC Assessment farm classification (Agricultural/Residential [AR] and Agricultural [AG] accounts).

We propose engaging stakeholders at two times during the project. The first time would be early in the project to gather their concerns and input. This opportunity to hear from stakeholders early in the process will help inform the options we develop. Group 1 will be consulted through a one-hour online presentation followed by a question-and-answer period. A survey would be an efficient way to consult the larger number of stakeholders that will make up Group 2. Orientation material for this group could include a notification/informative package that includes instructions on how to access the survey.

We will prepare the orientation material as outlined in the stakeholder consultation plan and provide drafts to the CRD for approval in advance of stakeholder consultation events.

Stakeholders would then be consulted a second time once the options are developed. Group1 would be consulted for feedback on the options developed and Group 2 will be informed of project progress and how input from the survey was used in option development and analysis. This second round of consultation will help the project team evaluate the options and ultimately develop recommendations that are likely to be better received and understood by those most impacted.

We will prepare a summary report of the findings from consultation and conduct an interactive online work session with the CRD to review the results before finalizing the summary report.

Task 6, Prepare Alternative Agricultural Water Rate Structures and Options Analysis

In Task 6 we will develop and consider alternative agricultural water rate structures.

The task starts with a review of the existing agricultural rate structure with respect to: administrative simplicity, equity in cost recovery, alignment with other rate structures, demand management, cost recovery potential, and potential ability to support CRD's other objectives. This is to establish a baseline from which potential changes or adjustments can be evaluated.

While not the focus of this analysis, we will also review the rate structure in place for Bulk Water, as well as rate structures being used by the water purveyors. Additionally, we will consider agriculture-related water rate structures known to Stantec for potential application for CRD's use. We would not necessarily expect that a structure existing in a different situation would be applicable to CRD, but exposure to alternate approaches can help a project team to develop new and potentially beneficial ideas. Phase 3 provides for the examination of the implications of the results of the cost-of-service analysis and for the examination of potential rate structure changes. Typical bills for a variety of customers are provided, as well as additional analysis for any customer type or group for which unique charges are applied, such as wholesale or high-strength customers. We will also evaluate the distribution of costs between the fixed and variable components of the rate structure and will make recommendations that are consistent with your cost recovery objectives and consider your reserve policies as well as revenue stability and affordability objectives.

The evaluation process will need to recognize the impacts of agricultural demands on the system. Using existing data, review agricultural demands with respect to total system demands to analyze the peak and off-peak characteristics of agricultural demand. We will review relevant available projections of future agricultural water demand with respect to projections of total demand, as well as considering the potential for significant system or cost impacts associated with any projected changes in agricultural demand.

The project team will create alternatives for evaluation for potential fit to CRD's agriculture water rate situation. Alternatives may include:

- Fixed charges or a mix of fixed and variable charges,
- Up-front and buy-in approaches,
- Tiered rate structures, and
- Percentage adjustments.

To help CRD validate that each approach is financially workable we will develop a high level projection of the revenue implications of the alternatives.

The team will then create an evaluation matrix to highlight differences in the projected results of the list of alternatives. The matrix will include factors such as administrative simplicity, equity in cost recovery, alignment with other rate structures, demand management, cost recovery potential, and potential ability to support CRD's other objectives. We will populate the matrix with our initial assessment of each alternative and prepare presentation materials for a work session with CRD.

An example rate structure evaluation matrix appears below. While prepared for somewhat different purposes, it illustrates how we use color and simple grading to convey complex information in a readily accessible format.

Rate Structure Report Card

Water Usage Rates	Single-Family	Multi-Family	Non-Residential	Irrigation
Legal Precedent & Local Practice	D	F	F	B
Conformance with Industry Practice	B	D	D	B
Fairness & Equity	C	D	D	C
Ease of Administration	A	A	A	A
Customer Understanding	A	B	B	A
Affordability	C	D	D	C

Figure 1: Example Evaluation of Rate Structure

Our interactive online work session will provide the opportunity for CRD to review the matrix and provide feedback on the organization, the relative comparison of alternatives, and the weighting of factors. Subsequent to the work session we will create a summary of the results of the analysis, illustrating the situation facing CRD, the approach taken to develop potential alternatives, the role played by stakeholder input, and the refinement of alternatives to develop a prioritized options analysis. An additional interactive online work session will be conducted to review the summary of the analysis and preliminary conclusions.

Task 7, Prepare Conclusions, Recommendations, and Implementation Plan

It is critical for rate studies to document the data, assumptions, methods employed, and course of the analysis, as well as providing unambiguous recommendations. But final reports and presentations are also critical in developing public support for rate studies. It isn't enough to employ appropriate methods; reports must demonstrate the rationale for rate and rate structure changes and emphasize the fundamental public purposes of water and wastewater infrastructure and services.

Reports must communicate in terms that are meaningful to the interested public, reflect a high degree of openness, and achieve a high degree of clarity. Minor misunderstandings of the underlying rationale for a selected approach can cause disproportionate dissatisfaction with any proposed change in rates. We know our support is not complete until CRD has been able to implement the selected rate structure change (if any). As such, we will prepare a presentation of the initial results and recommendations to support CRD's work to communicate the results of the study.

Our report will include tabular, schematic, and graphical representations of the data (as appropriate), and provide the projected results of the implementation of project recommendations. The report will address costs and benefits of implementation of alternative agricultural water rates including effects on equity in cost recovery, implications for use patterns and conservation, any implications for social, environmental, and governance considerations, and linkage to community goals and objectives as identified during stakeholder outreach. The report will include an implementation plan and illustrate incremental steps to move toward complete adoption if the selected alternative is sufficiently different from current practice to warrant gradual implementation

3.1 WORK PLAN

Table 3: Work Plan

		Task 1 Gather Information & Kickoff Project	Task 2 Financial Plan & Revenue Requirements	Task 3 Cost-of-Service and Rate Structure Analysis	Task 4 Recommendations & Reporting
Scope of Services	**2.1 Sustainable Rate Structure**	X	X	X	X
	2.2 Key Rate Study Components				
	2.2.1 Meet with Staff	X			
	2.2.2 Council Workshop				X
	2.2.3 Discuss structure options	X		X	
	2.2.4 Review existing structure			X	
	2.2.5 Modelling		X	X	
	2.2.6 Revisit policies			X	
	2.2.7 Revenue requirements		X		
	2.2.8 Customer class & objectives			X	
	2.2.9 Report				X
	2.2.10 Comparison				X
	2.2.11 Rate class evaluation			X	
	2.2.12 Customer impacts			X	
	2.2.13 Baseline recommendations		X	X	X
	2.2.14 Impacts to consumption patterns		X	X	
	2.2.15 Implementation strategies				X
	2.2.16 Communication recommendations				X
	2.2.17 Draft and final report				X
	2.2.18 District Council meetings				X
Objectives	**3.1 Cost Comparison**			X	
	3.2 Financial Plan		X		
	3.3 Revenue requirements		X		
	3.4 Document recommendations				X
	3.5 Engagement recommendations				X
	3.6 Governance process and methodology	X			
Requirements	**4.1 Full cost of service**	X	X	X	
	4.2 Key Rate Structure Considerations				
	4.2.1 Current and future costs		X	X	
	4.2.2 Growth estimates		X	X	
	4.2.3 Asset Management Plan		X	X	
	4.2.4 Funding requirements		X	X	
	4.2.5 Best practices		X	X	
	4.2.6 Risk/uncertainty		X	X	
	4.2.7 Policy and by-law recommendations			X	
	4.2.8 Other impacts		X	X	
	4.3 Options overview	X	X	X	
	4.4 Benefits and impacts			X	
	4.5 Class justification			X	
	4.6 Maintain stability		X	X	
	4.7 Impacts of depreciation		X	X	
	4.8 Easily administered structure	X		X	X
	4.9 Billing system review	X		X	
	4.10 Projection of financials		X		

3.2 REPORTING AND QUALITY ASSURANCE

Stantec executes our projects in accordance with our formal quality management system which is ISO9001:2008 certified. Our team is committed to total quality management and achieving the highest possible standards. As part of this project, a quality plan will be developed to make sure objectives are well defined, and a project team performance assessment will be conducted as part of the project close-out activities.

We employ a collaborative peer-review quality assurance (QA) program that begins at project commencement and continues through the project lifecycle. Our QA processes reduces the potential for errors while providing a systematic review of all facets of a project. We will use experienced staff not engaged with the day-to-day operations of the project to provide a valuable fresh eyes perspective. This formalized project management and review system ensures quality project deliverables and avoids unnecessary rework.

We have established the following procedures for quality assurance on this project:

- Each member of our team is accountable for assigned responsibilities and committed to providing a quality product. An experienced lead has been assigned for each discipline to provide quality reviews of each deliverable at various stages of design. **William Zieburtz**, our Subject Matter Expert will be responsible for helping to define overall quality assurance procedures for this project.
- Following the discipline quality review, a discipline-based independent review will be completed.
- An overall cross-disciplinary review will be carried out by the Senior Independent Reviewer for the overall project (**Andrew Burnham**). Andrew will not be involved in the day-to-day activities of the project but will be engaged and aware of the design intent and goals to assist with his review. This allows for a fresh-eyes review of the key documents by someone who is an expert in this field who can ask the critical questions.
- Each reviewer must fill out a Quality Review Form (QRF) to communicate and document their review. A written response to each review comment is then provided by the designer, which is subsequently assessed by the reviewer (a similar process will take place for all client reviews), to ensure that comments are adequately addressed. In most cases a quality review meeting is held between the Independent Reviewer and the Designer where the key items are discussed and resolved via consensus.
- Our project manager will then complete the Quality Review Checklist for execution by all reviewers. These forms are then scanned and stored in the project directory for record keeping.

3.3 REPORTING REQUIREMENTS

As previously noted, water utility rate studies for municipalities are a core competency for our firm. As such, we fully understand the reporting, scheduling, presentation, and collaborative requirements of your important project. **At the start of the project, we will review the previous report format and can work with you to select one that works best for this project.** Leveraging our experience, we can easily identify what works in terms of reporting to councils and will work with the District to ensure your reporting requirements are met. We also understand this is your project vision, and the District knows its utility (and the specific local issues) best—as a result, our approach will be one of **proactive collaboration**. This includes **regular communication** with key stakeholders including reviewing and **addressing key questions** and concerns throughout the process. We have demonstrated proven success with collaboration and reporting time and time again on our work with the District, and this project will be no different. **Our team's local understanding and our world-class delivery experience on these types of studies will go a long way into delivering a project the District can be proud of for years to come.**

3.4 RESOURCE ALLOCATION AND TIMELINE

3.4.1 Project Schedule

We know the methodology and steps that are needed to successfully execute Water and Wastewater Utility Rate studies, and we have refined our process through incorporating lessons learned and best practices from the 1,500+ financial and cost studies we've conducted across North America. Leveraging this experience, we have developed a project timeline for Capital Regional District's Water and Wastewater Utility Rate Study on the next page.

We have structured our project team with your project schedule and deadlines in mind. After each project status meeting, our Project Manager Al Ghanam will ensure all relevant information is communicated back to all team members. This is to create beneficial backup capabilities within the project so forward progress at key moments is maintained and schedule risks are reduced. Internally, we have identified 'backups' for all the key positions on the project, and as part of the project kick-off, plan to establish an on-boarding process that can be utilized to quickly orient and communicate the background information, status, risks, and objectives of the project as needed. In addition to these backup resources, we also have a "deep bench" of professionals within Stantec to turn to if additional or substitute support from outside the project team is needed to advance the schedule.

Our schedule is presented below in **Figure 2.**

3.4.2 Risk Mitigation Strategies to Meet the Project Schedule

Effective project management is essential in delivering a quality project on-time and on-budget. Our Project Manager Al Ghanam is experienced in leading water projects with the CRD and with many other municipalities on Vancouver Island, and has a strong understanding of the processes, procedures, and documentation requirements involved. This knowledge provides his with a solid foundation from which to execute our project management deliverables, including scheduling, progress tracking, identification of risks and challenges, quality and cost control, stakeholder engagement, and overall project coordination.

For this study, we will utilize Stantec's proven **project management framework** which sets the expectations of project managers and our team in the delivery of quality projects, from inception to close-out. It allows us to better define the project scope, budget, and schedule, and accurately track our progress and expenditures as the work progresses. We will identify and address potential issues in a timely manner and modify our work program as necessary in agreement with the CRD. Our team's project management tools and processes will be applied to enhance efficiency, cost-optimization, and communication to drive the success of this study.

Agricultural Water Rate Structure Review

Client:	Capital Regional District, Victoria, BC
PM:	Alan Ghanam
PTL:	William Zieburtz

WBS Code	Task Name	Start Date	End Date	Duration
1	**Gather Information and Kickoff**	2022-06-06	2022-07-01	25
1.1	Commission project team, establish internal processes, review preliminary information			
1.2	Conduct project initiation meeting with CRD staff to confirm study objectives, discuss CRD's broader objectives, establish schedule, discuss available data, discuss additional data needs, and discuss pertinent features of the study and cost information previously developed. Discuss CRD objectives for stakeholder involvement including specific or general guidance as to participating entities or individuals objectives for communication activities, and the role of such participants.			
1.3	Memorialize key conclusions and any significant redirection resulting from project initiation			
2	**Review Existing Reports and Documentation**	2022-07-01	2022-08-01	31
2.1	Review existing institutional context including roles of CRD, retail water providers, rate regulatory and approval process, role of Agricultural Water Rate Subcommittee, and other organizations as appropriate			
2.2	High level review of water supply context including overall system capacities and long term adequacy of supply, conservation objectives, and demand patterns			
2.3	Review existing customer class demand data with a focus on agricultural consumption and the implications of agricultural demand			
2.4	Consider other potential agricultural demands as already quantified and projected in ongoing conversations or existing planning documents, consider implications for future consumption patterns			
2.5	Review existing reports and records related to stakeholder interests in agricultural water rates focusing on expression of interests and including any quantification or projections of future use patterns under any alternative scenarios			
2.6	Summarize review of existing documentation including overall system capacities and usage, projected capacities and usage, known stakeholder interests, and the implications of current and projected agricultural water use			
2.7	Conduct interactive online work session with CRD to review the summary memorandum			
3	**Prepare Draft Report Table of Contents**	2022-08-08	2022-08-22	14
3.1	Consider necessary technical analysis including review of cost structure, identification of agricultural cost drivers, and historic recognition of reduced revenues from agricultural water customers.			
3.2	Consider institutional factors and opportunity for refinement of agricultural rate structure including identification of potential alternative structures.			
3.3	Consider stakeholder engagement plan and participants, outline anticipated use of stakeholder feedback			
3.4	Develop draft table of contents, submit to CRD			
3.5	Conduct interactive online work session with CRD to review the draft table of contents; revise as appropriate			
4	**Prepare Stakeholder List**	2022-08-08	2022-08-15	7
4.1	Prepare a stakeholder list and stakeholder consultation plan			
5	**Conduct Stakeholder Consultation**	2022-08-15	2022-10-10	56
5.1	Consultation 1: Gather Concerns and Input			
5.2	Consultation 2: Option Feedback and Inform			
5.3	Prepare summary report of findings and conduct interactive online work session with CRD to review results			
6	**Prepare Alternative Agricultural Water Rate Structures and Options Analysis**	2022-08-29	2022-10-10	42
6.1	Review the existing agricultural rate structure with respect to: administrative simplicity, equity in cost recovery, alignment with other rate structures, demand management, cost recovery potential, and potential ability to support CRD's other objectives.			
6.2	Review the rate structure in place for Bulk Water, as well as rate structures being used by the water purveyors			
6.3	Consider agriculture-related water rate structures known to Stantec for potential application for CRD's use.			
6.4	Using existing data, review agricultural demands with respect to total system demands to analyze the peak and off-peak characteristics of agricultural demand.			
6.5	Review relevant available projections of future agricultural water demand with respect to projections of total demand; consider the potential for significant system or cost impacts associated with agricultural demand.			
6.6	Create alternatives for evaluation for potential fit to CRD's agriculture water rate situation			
6.7	Develop a projection of the revenue implications of the alternatives			
6.8	Create an evaluation matrix to highlight differences in the projected results of the list of alternatives. Include factors such as administrative simplicity, equity in cost recovery, alignment with other rate structures, demand management, cost recovery potential, and potential ability to support CRD's other objectives.			
6.9	Conduct interactive online work session with CRD to review the matrix; revise as appropriate			
6.10	Create summary of the results of the analysis, illustrating the situation facing CRD, the approach taken to develop potential alternatives, the role played by stakeholder input, and the refinement of alternatives to develop a prioritized options analysis			
6.11	Conduct interactive online work session with CRD to review the summary of the analysis and preliminary conclusions; revise as appropriate			
7	**Prepare Conclusions, Recommendations, and Implementation Plan**	2022-10-17	2022-11-21	35
7.1	Summarize the course of the project including data reviewed, the role of stakeholder input, and the evaluation of potential rate structure alternatives			
7.2	Summarize the development of rate structure alternatives			
7.3	Summarize the comparison of rate structure alternatives and comment on the relative strengths and weaknesses of each including institutional considerations, administrative costs, equity in cost recovery, and achievement of CRD objectives			
7.4	Discuss costs and benefits of implementation of alternative agricultural water rates including effects on equity in cost recovery, implications for use patterns and conservation, any implications for social, environmental, and governance considerations, and linkage to community goals and objectives as identified during stakeholder outreach			
7.5	Provide an implementation plan; illustrate incremental change steps if the selected alternative(s) are sufficiently different from current practice to warrant gradual implementation			
7.6	Develop draft report			
7.7	Conduct interactive online work session with CRD to review the draft report; revise as appropriate			
	Total Project			**168**

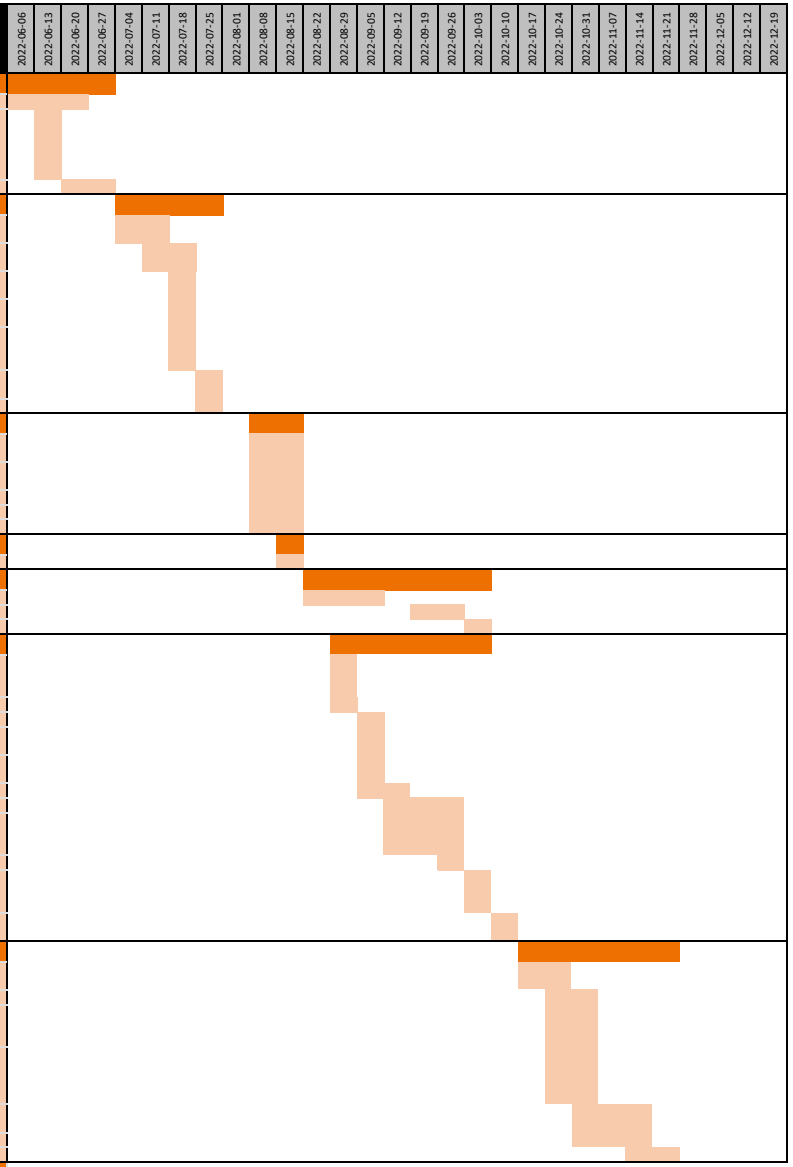


Figure 2: Project Schedule

We will implement a Project Management Plan that includes the items below to ensure we stay on schedule:

1. **Project Planning:** Our project plan starts with a work breakdown structure that defines specific tasks, outcomes, responsibilities, and deliverables that together culminate in meeting the objectives of the project. We will then further develop this work breakdown structure into the associated budgets, resources, standards, quality control, and risk management procedures.
2. **Detailed Schedule**: The project management team will maintain a detailed schedule, defined by task, milestones, and critical design and review activities. The schedule will reflect the approved scope of work to meet the overall project objectives. We will identify schedule slippage through the regular review and monitoring process and ensure action and recovery plans are implemented.
3. **Technical Resources**: Our experienced team is supported by Stantec's internal network of 22,000 employees, including our team of 35+ professionals dedicated full-time to municipal utility rates and financial planning. We can easily draw on these professionals for additional project resources and to leverage for specialized expertise if unforeseen issues arise. Our ability to engage these professionals on short notice will ensure that project issues are addressed in a timely and efficient manner.
4. **Project Communications:** To effectively manage communications, we will use strategies to achieve:
    - Early, collaborative development of guiding principles and their implications
    - A common understanding of the project objectives
    - Clearly established and agreed-upon responsibilities and milestones
    - Systems to facilitate continuous coordination
    - Clear leadership and decision making
    - Regular updates and a collaborate environment with the District
    - Organized standards, procedures, and tools
5. **Risk Management:** Much of the work we do can be classified as a component of managing and mitigating risk on behalf of our clients. Stantec's water business line has developed rigorous risk management protocols to assist project teams through the risk management process. Our risk management approach involves proactively identifying, quantifying, and responding to potential disruptions that may negatively influence the outcome of the project. At the onset of the project, in collaboration with the District, we will identify potential risks, probabilities, and mitigation strategies. Through "what if" scenarios, we will develop mitigation measures that improve execution and manage risks.

In the below table, we have identified possible risks to the schedule and our proposed mitigation strategies.

Table 4: Schedule Risks and Mitigations

Schedule Risks	Our Mitigation
Coordination in a time of social distancing	We recognize the in-person collaboration, coordination, and communication that we have been accustomed to and used effectively on past projects will likely not be possible on this project. The ongoing COVID-19 pandemic has imposed challenges and we have quickly learned how to pivot and use cloud-based solutions to our advantage. **Video meetings with shared whiteboards and live-document collaboration allow for productivity while working remotely**. Documents can be effectively managed and shared using relatively simple software such as MS Teams and SharePoint. These software platforms may be used for managing day to day work, virtual sprint planning, risk analysis, and many other aspects of collaborative project delivery to ensure the study is well-coordinated and completed on time. We have already utilized this software and approach successfully on many projects. Video meetings also make it possible to have all Stantec's experts easily accessible if required.
Community understanding	Not having the right stakeholders involved, a comprehensive understanding of key concerns, or knowledge of the community can cause project delays and revisions or the need to re-tool the analysis. We will conduct stakeholder mapping with the CRD to identify key stakeholders and ensure those affected have the opportunity to participate, list potential impacts or concerns, and outline timing and level of consultation. We will leverage our extensive knowledge of the CRD and similar projects to avoid missteps, ensure the right stakeholders are involved, and develop solutions that best fit the

Schedule Risks	Our Mitigation
	CRD's circumstances and objectives.
Potential data delays	Based on our existing relationships with the District and knowledge of the various long-term infrastructure plans, we can assist you in reaching out to the right stakeholders where we lack key information. In many cases, we likely have some of the key documents that will be required to start the work and/or know the people to contact with any questions or additional needs. We will also work with you to identify any data needs right at project start so that a plan can be put into place to obtain the needed information. We have experience working with municipalities of similar size and larger, and uniquely understand the challenge of getting the right data and coordinating key meetings with many participants. We have developed modular processes so we can have focused conversations with the right participants on specific issues which can then be integrated into the larger analysis. We routinely provide data samples or templates to accelerate the data collection process as well as conduct interviews to help extract the necessary information from various departments.
Insufficient capacity and resources	Having only one individual manage both schedule and technical activities can potentially compromise the quality of the project or lead to delays. That's why Stantec pairs our best-in-class project management skills with subject matter expertise in its project team to ensure adequate attention and resources for the project. Having a dual-leadership team model allows individuals to focus on specific areas and ensure balance is maintained throughout the study. While we don't anticipate need to change members of our team, we have a large team of specialists that can step in as needed. In fact, we have identified back-up team members that can be brought in to ensure continuity in the event of unforeseen circumstances or to provide additional resources as required.

3.5 ASSUMPTIONS

1. Formal study progress meetings/updates will be conducted bi-weekly between Stantec's PM and the CRD's PM and will be accomplished by conference call.
2. Data requests will be monitored and tracked to aid in data development, project progress, and to monitor the project schedule.
3. CRD will, to the greatest extent practicable, be able to provide requested data and direction within agreed upon timeframes throughout the study. It is assumed that the information requested at the beginning of the project will be received within 2 weeks.
4. On-site meetings will be attended by Project Manager, and non-local staff will collaborate remotely for the foreseeable future based on safety and current travel restrictions.
5. Stantec would not be responsible for developing datasets nor quality review of existing data beyond that which is customary for rate structure studies such as this. Customary reviews will include the identification of data anomalies/inconsistencies for review by CRD and cross-referencing of the data with other available sources as are readily available. However, Stantec reviews may not be able to determine if certain datasets are incomplete, nor identify all potential errors within a dataset provided by CRD.
6. Property and customer data will be provided in editable electronic formats (ASCII text files, Microsoft Excel spreadsheets, Microsoft Access databases, etc.). All other data will be provided in such formats to the greatest extent possible.
7. There would not be any new data or information presented for evaluation and incorporation into subsequent tasks after completion of a task, specifically relative to property, customer, and system data.
8. Stantec will not develop new data sets (e.g., identify/determine number of billing units, additional acreage, or identify agricultural operations) for the project.
9. The project stakeholder consultation will focus on specific stakeholder groups that are potentially or directly affected and does not include the general public. Should it be determined that the general public is to be

consulted, this effort can be supported following a scope change.

10. The CRD will coordinate and aggregate comments from its personnel to limit the number of revisions and will provide comments within 5 working days after submission of DRAFT materials.
11. We have reviewed your proposed RFP/contract terms and believe that should we be selected for this assignment; we will be able to conclude a mutually satisfactory contract with the CRD.
12. Project management is based on a total project schedule of 29 weeks.

Making a difference...together

REGIONAL WATER SUPPLY COMMISSION
Wednesday, July 20, 2022 at 11:30 AM

MEETING HOTSHEET (ACTION LIST)

The following is a quick snapshot of the FINAL **Regional Water Supply Commission** decisions made at the meeting. The minutes will represent the official record of the meeting.

3. ADOPTION OF MINUTES

That the minutes of the June 15, 2022 meeting be adopted.

CARRIED

7. COMMISSION BUSINESS

3.1. Summary of Feedback - 2022 Regional Water Supply Service Master Plan

That the Regional Water Supply Commission:

1. Approve the 2022 Master Plan, as a guide to future water supply planning; and

2. Recommend that the Capital Regional District Board approve the 2022 Master Plan, as a guide to future water supply planning.

CARRIED

Motion Arising:
That the recommendation to approve be postponed to the next meeting to allow commissioners the opportunity to read the 2022 Master Plan, to ensure that the Plan is published on a Commission agenda and to allow the Malahat nation the opportunity to comment on the plan.

FAILED

Action:
That staff include the complete 2022 Master Plan report in the package being presented to the Board.

3.2. Bylaw No. 4509, "Capital Regional District Greater Victoria Water Supply Area Protection Bylaw No. 1, 2000, Amendment Bylaw No. 2, 2022"

The Regional Water Supply Commission recommends to the Capital Regional District Board:

1. That Bylaw No. 4509, "Capital Regional District Greater Victoria Water Supply Area Protection Bylaw No. 1, 2000, Amendment Bylaw No. 2, 2022", be introduced and read a first, second, and a third time.

2. That Bylaw No. 4509 be adopted.

CARRIED

3.3. Greater Victoria Water Supply Area 2022 Public and School Tours Summary

RECEIVED

3.4. Summary of Recommendations from Other Water Commissions

RECEIVED

3.5. Water Watch Report

RECEIVED

Making a difference...together

REGIONAL WATER SUPPLY COMMISSION
Wednesday, June 15, 2022 at 11:30 AM

MEETING HOTSHEET (ACTION LIST)

The following is a quick snapshot of the FINAL **Regional Water Supply Commission** decisions made at the meeting. The minutes will represent the official record of the meeting.

3. ADOPTION OF MINUTES

That the minutes of the May 18, 2022 meeting be adopted.

CARRIED

7. COMMISSION BUSINESS

7.1. Cost Recovery Fee and Delegation of Permit Issuance for GVWSA Special Access Requests

Motion Arising:
That staff initiate a $500 administration fee for access to the Leech Watershed.

CARRIED
Opposed: Zhelka

That staff be directed to amend the Water Supply Area Access and Special Use Request and Approval Procedure to include an additional prescribed situation considered "routine" for which the General Manager has delegated authority to approve access (Section 1, k):

"k. Mining access requests in the Leech Water Supply Area where the CRD is required to provide access under the BC Mineral Tenure Act, and the claim holder agrees to CRD's terms and conditions of access."

CARRIED
Opposed: Isitt, Taylor

7.2. Greater Victoria Water Supply Area Land Acquisition Reserve Fund Options

Motion Arising:
That the issue of Greater Victoria Water Supply Area land acquisition reserve fund options be brought back to the Commission in one years' time to be revisited.

CARRIED
Opposed: Zhelka

IWSS-297445977-9541

That the establishment of a reserve fund for Greater Victoria Water Supply Area Land Acquisition not be pursued at this time, and that any immediate land purchase opportunities be addressed through adjustments to the existing capital program and existing capital funding and/or debt financing be utilized to fund the acquisition.

CARRIED

Opposed: Taylor, Rogers, Loveday, Hicks, Alto, Isitt

7.3. Grant Application for Regional Water Supply Main No. 4 – Mt. Newton to Highway 17

The Regional Water Supply Commission recommends to the Capital Regional District Board:
That staff be directed to prepare and submit an application for a Canada Community-Building Fund in British Columbia, Strategic Priorities Fund Capital Infrastructure Stream and Capacity Building Stream grant for the replacement of the Regional Water Supply Main No. 4 from Mt. Newton to Highway 17.

CARRIED

7.4. Post Disaster Emergency Planning Program Status Report

RECEIVED

7.5. Water Watch Report

RECEIVED

8. MOTION WITH NOTICE

8.1. Delegation of Mining Access Requests (April 20, 2022) – Commissioner Graham

That staff investigate the implications of delegating the mining access requests to staff and that a set of policies be put in place.

WITHDRAWN

10. MOTION TO CLOSE THE MEETING

10.1. Motion to close the meeting

That the meeting be closed in accordance with the Community Charter, Part 4, Division 3 for Land Acquisition/Disposition under Section 90(1)(e).

CARRIED

11. RISE AND REPORT

The Commission rose from its closed session without report.

Making a difference...together

REGIONAL WATER SUPPLY COMMISSION
Wednesday, May 18, 2022 at 11:30 AM

MEETING HOTSHEET (ACTION LIST)

The following is a quick snapshot of the FINAL **Regional Water Supply Commission** decisions made at the meeting. The minutes will represent the official record of the meeting.

3. ADOPTION OF MINUTES

That the minutes of the April 20, 2022 meeting be adopted.

CARRIED

8. COMMISSION BUSINESS

8.1. Water Quality Summary Report for GVDWS – January to March 2022

Item was received for information.

8.2. Staff Report Title

The Regional Water Supply Commission recommends to the Capital Regional District Board:
That the Greater Victoria Drinking Water Quality 2021 Annual Report be approved.

CARRIED

8.3. Staff Report Title

1. That staff be directed to seek public feedback on the 2022 Master Plan through the CRD website public engagement portal and report back to the Commission with a summary of the public feedback as well as the Water Advisory Committee feedback resulting from the staff referral of the 2022 Master Plan, and that the Commission consider endorsing the 2022 Master Plan at that time.

2. That the 2022 Master Plan be forwarded to the CRD Board for information.

CARRIED

Staff were requested to prepare a status report for the Post Disaster Emergency Planning Program.

8.4. Water Watch Report

Item was received for information.

9. MOTION WITH NOTICE

9.1. Delegation of Mining Access Requests (April 20, 2022) – Commissioner Graham

That staff investigate the implications of delegating the mining access requests to staff and that a set of policies be put in place.

Item was postponed to the next meeting.

10. MOTION TO CLOSE THE MEETING

That the meeting be closed in accordance with the Community Charter, Part 4, Division 3: Land Acquisition/Disposition under Section 90 (1)(e).

CARRIED

11. RISE AND REPORT

The Commission rose from its closed session without report.

CAPITAL REGIONAL DISTRICT - INTEGRATED WATER SERVICES

Water Watch

Issued August 22, 2022

Water Supply System Summary:

1. Useable Volume in Storage:

Reservoir	August 31 5 Year Ave		August 31/21		August 21/22		% Existing Full Storage
	ML	MIG	ML	MIG	ML	MIG	
Sooke	68,236	15,012	64,685	14,231	77,244	16,994	83.3%
Goldstream	5,843	1,286	6,622	1,457	9,156	2,014	92.3%
Total	74,079	16,297	71,307	15,688	86,400	19,008	84.2%

2. Average Daily Demand:

For the month of August	212.5 MLD	46.74 MIGD
For week ending August 21, 2022	215.0 MLD	47.30 MIGD
Max. day August 2022, to date:	240.1 MLD	52.81 MIGD

3. Average 5 Year Daily Demand for August

Average (2017 - 2021)	198.5 MLD [1]	43.67 MIGD [2]

[1]MLD = Million Litres Per Day [2]MIGD = Million Imperial Gallons Per Day

4. Rainfall August:

Average (1914 - 2021):	29.1 mm
Actual Rainfall to Date	1.3 mm (4% of monthly average)

5. Rainfall: Sep 1- Aug 21

Average (1914 - 2021):	1,620.6 mm
2021 - 2022	2,033.0 mm (125% of average)

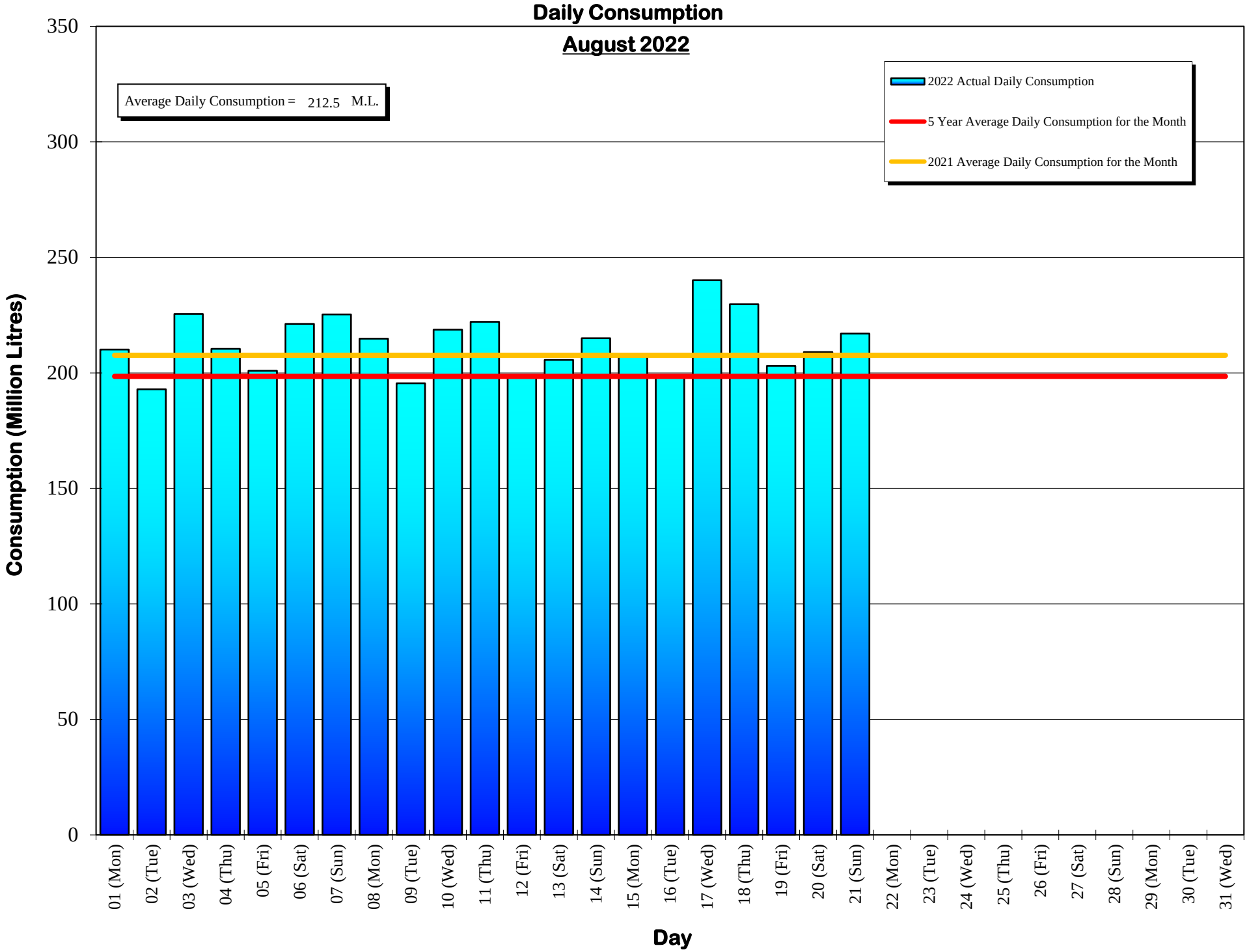
6. Water Conservation Action Required:

CRD's Stage 1 Water Conservation Bylaw is now in effect through September 30, 2022.
Visit our website at www.crd.bc.ca/water for scheduling information.

If you require further information, please contact:

Ted Robbins, B.Sc., C.Tech
General Manager, CRD - Integrated Water Services
or
Glenn Harris, Ph D., RPBio
Senior Manager - Environmental Protection

Capital Regional District Integrated Water Services
479 Island Highway
Victoria, BC V9B 1H7
(250) 474-9600


Daily Consumption
August 2022
Average Daily Consumption = 212.5 M.L.
2022 Actual Daily Consumption
5 Year Average Daily Consumption for the Month
2021 Average Daily Consumption for the Month
Consumption (Million Litres)
350
300
250
200
150
100
50
0
01 (Mon)
02 (Tue)
03 (Wed)
04 (Thu)
05 (Fri)
06 (Sat)
07 (Sun)
08 (Mon)
09 (Tue)
10 (Wed)
11 (Thu)
12 (Fri)
13 (Sat)
14 (Sun)
15 (Mon)
16 (Tue)
17 (Wed)
18 (Thu)
19 (Fri)
20 (Sat)
21 (Sun)
22 (Mon)
23 (Tue)
24 (Wed)
25 (Thu)
26 (Fri)
27 (Sat)
28 (Sun)
29 (Mon)
30 (Tue)
31 (Wed)
Day

Daily Consumptions: - August 2022

Date	Total Consumption (ML) [1.]		(MIG) [2.]	Air Temperature @ Japan Gulch High (°C)	Low (°C)	Weather Conditions	Precipitation @ Sooke Res.: 12:00am to 12:00am Rainfall (mm)	Snowfall [3.] (mm)	Total Precip.
01 (Mon)	210.1		46.2	29	16	Sunny / P. Cloudy	0.0	0.0	0.0
02 (Tue)	192.9	<=Min	42.4	24	13	Sunny	0.0	0.0	0.0
03 (Wed)	225.5		49.6	26	13	Sunny / P. Cloudy	0.0	0.0	0.0
04 (Thu)	210.4		46.3	20	13	Sunny / P. Cloudy	0.0	0.0	0.0
05 (Fri)	200.9		44.2	25	11	Sunny	0.0	0.0	0.0
06 (Sat)	221.2		48.7	29	13	Sunny	0.0	0.0	0.0
07 (Sun)	225.3		49.6	31	14	Sunny	0.0	0.0	0.0
08 (Mon)	214.8		47.2	30	16	Sunny / P. Cloudy	0.0	0.0	0.0
09 (Tue)	195.5		43.0	26	16	Sunny / P. Cloudy	0.0	0.0	0.0
10 (Wed)	218.7		48.1	25	17	Sunny / P. Cloudy / Showers	0.8	0.0	0.8
11 (Thu)	222.1		48.9	26	15	Sunny / P. Cloudy	0.0	0.0	0.0
12 (Fri)	198.7		43.7	26	14	Sunny / P. Cloudy	0.0	0.0	0.0
13 (Sat)	205.6		45.2	22	14	Sunny / P. Cloudy / Showers	0.5	0.0	0.5
14 (Sun)	215.0		47.3	26	13	Sunny / P. Cloudy	0.0	0.0	0.0
15 (Mon)	207.8		45.7	28	15	Sunny	0.0	0.0	0.0
16 (Tue)	198.7		43.7	28	15	Sunny	0.0	0.0	0.0
17 (Wed)	240.1	<=Max	52.8	32	15	Sunny / P. Cloudy	0.0	0.0	0.0
18 (Thu)	229.7		50.5	32	18	Sunny / P. Cloudy	0.0	0.0	0.0
19 (Fri)	203.0		44.7	31	18	Sunny / P. Cloudy	0.0	0.0	0.0
20 (Sat)	209.0		46.0	26	15	Sunny / P. Cloudy	0.0	0.0	0.0
21 (Sun)	217.0		47.8	26	15	Sunny / P. Cloudy	0.0	0.0	0.0
22 (Mon)									
23 (Tue)									
24 (Wed)									
25 (Thu)									
26 (Fri)									
27 (Sat)									
28 (Sun)									
29 (Mon)									
30 (Tue)									
31 (Wed)									
TOTAL	4462.0 ML		981.62 MIG				1.3	0	1.3
MAX	240.1		52.81	32	18		0.8	0	0.8
AVG	**212.5**		46.74	27.0	14.7		0.1	0	0.1
MIN	192.9		42.44	20	11		0.0	0	0.0

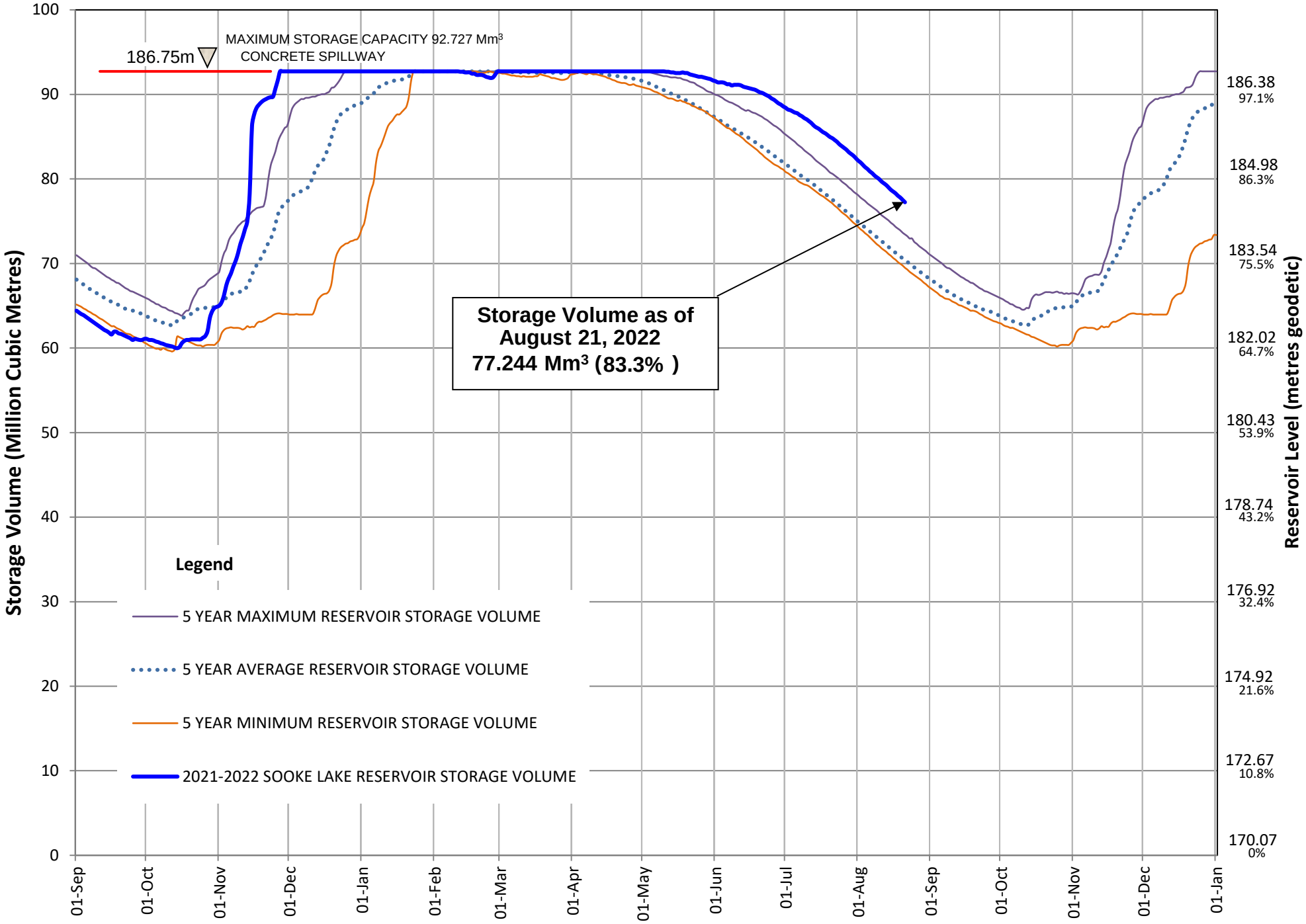
1. ML = Million Litres 2. MIG = Million Imperial Gallons 3. 10% of snow depth applied to rainfall figures for snow to water equivalent.

Average Rainfall for August (1914-2021)	29.1 mm
Actual Rainfall: August	1.3 mm
% of Average	4%
Average Rainfall (1914-2021): Sept 01 - Aug 21	1,620.6 mm
Actual Rainfall (2021): Sept 01 - Aug 21	2,033.0 mm
% of Average	125%

Number days with precip. 0.2 or more
2

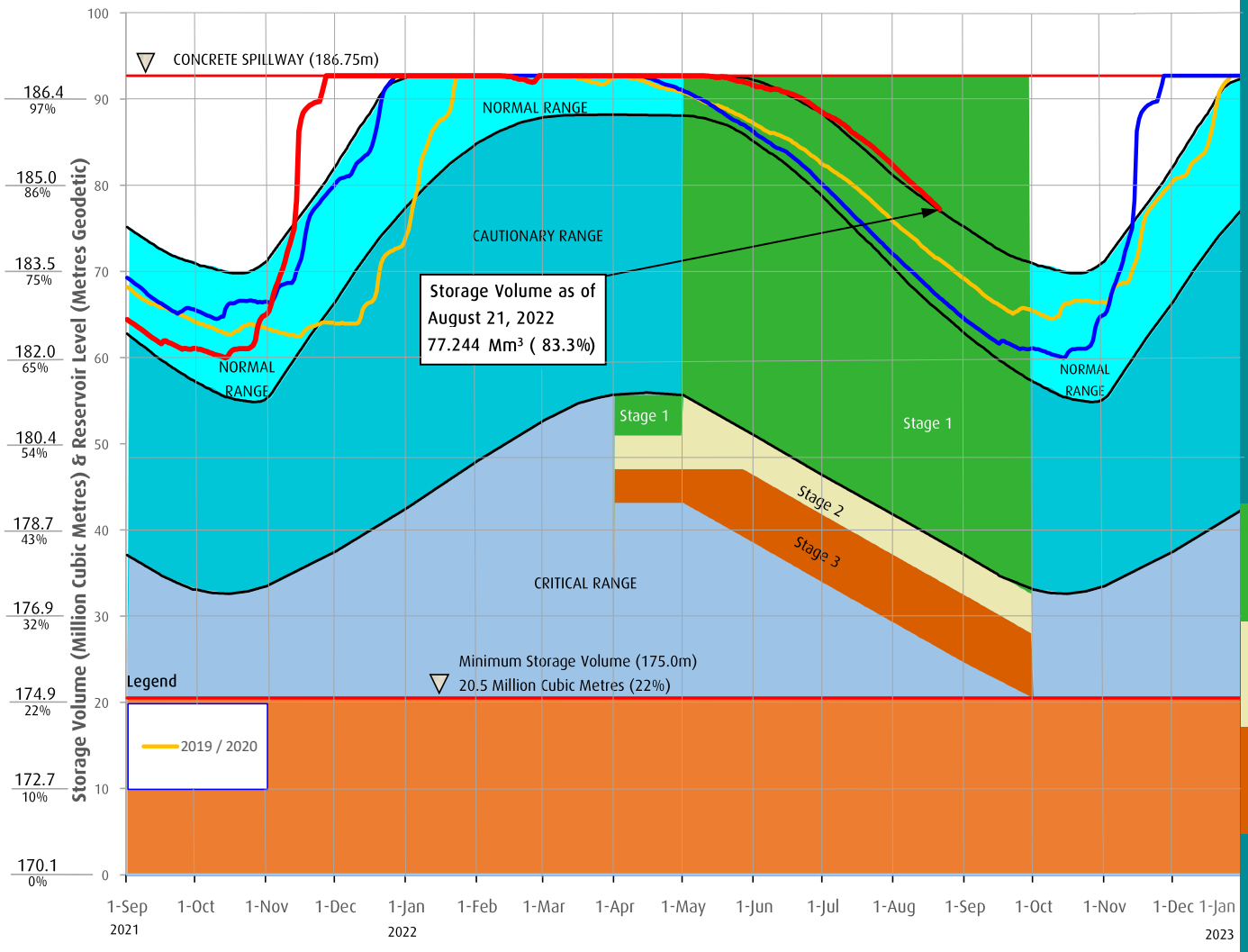
Water spilled at Sooke Reservoir to date (since Sept. 1) = 12.54 Billion Imperial Gallons
= 57.00 Billion Litres

SOOKE LAKE RESERVOIR STORAGE SUMMARY
2021 / 2022



Sooke Lake Reservoir Storage Level

Water Supply Management Plan



FAQs

How are water restriction stages determined?

Several factors are considered when determining water use restriction stages, including,

1. Time of year and typical seasonal water demand trends;
2. Precipitation and temperature conditions and forecasts;
3. Storage levels and storage volumes of water reservoirs (Sooke Lake Reservoir and the Goldstream Reservoirs) and draw down rates;
4. Stream flows and inflows into Sooke Lake Reservoir;
5. Water usage, recent consumption and trends; and customer compliance with restriction;
6. Water supply system performance.

The Regional Water Supply Commission will consider the above factors in making a determination to implement stage 2 or 3 restrictions, under the Water Conservation Bylaw.

At any time of the year and regardless of the water use restriction storage, customers are encouraged to limit discretionary water use in order to maximize the amount of water in the Regional Water Supply System Reservoirs available for nondiscretionary potable water use.

Stage 1 is normally initiated every year from May 1 to September 30 to manage outdoor use during the summer months. During this time, lawn watering is permitted twice a week at different times for even and odd numbered addresses.

Stage 2 Is initiated when it is determined that there is an acute water supply shortage. During this time, lawn water is permitted once a week at different times for even and odd numbered addresses.

Stage 3 Is initiated when it is determined that there is a severe water supply shortage. During this time, lawn watering is not permitted. Other outdoor water use activities are restricted as well.

For more information, visit www.crd.bc.ca/drinkingwater

Making a difference...together

Capital Regional District Integrated Water Services

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Useable Reservoir Volumes in Storage for August 21, 2022