



Board of Directors

**Wednesday, October 14, 2020
1:00 pm**

Via Zoom

OPEN AGENDA

1. Call to Order

2. Land Acknowledgement

- 2.a)** We acknowledge and appreciate that the land on which we gather is the converging, traditional and unceded territory of the Syilx, Secwepemc, Sinixt and Ktunaxa Peoples as well as the Metis Peoples whose footsteps have also marked these lands.

3. Consideration of the Agenda (additions/deletions)

- 3.a)** The agenda for the Regional District of Kootenay Boundary Board of Directors October 14, 2020 Board meeting is presented.

Recommendation: Corporate Vote Unweighted

That the agenda for the Regional District of Kootenay Boundary Board of Directors October 14, 2020 Board meeting be adopted as presented.

4. Draft Minutes

- 4.a)** The draft minutes of the Regional District of Kootenay Boundary Board of Directors meeting held September 17, 2020 are presented.
[Draft Minutes-Board of Directors - 17 Sep 2020-BoD Oct 14 20 - Pdf](#)

Recommendation: Corporate Vote Unweighted

That the draft minutes of the Regional District of Kootenay Boundary Board of Directors meeting held September 17, 2020 be adopted as presented.

5. Presentations

- 5.a)** There are no presentations.

6. Delegation(s)

6.a) There are no delegations.

7. Applicants and Persons Attending to Speak to Agenda Items

7.a) There are no applicants or other persons attending the meeting.

8. Unfinished Business

8.a) M. Stephens, Interim Manager of Emergency Programs

Re: Verbal Update COVID-19 Emergency Operations

Director Worley, Emergency Programs Liaison

M. Andison, Chief Administrative Officer

**Re: Verbal Update on the Impacts of the Wage Continuation
COVID-19 Pandemic Policy**

Director Cacchioni, Finance Liaison

Recommendation: Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the verbal updates on COVID-19 Emergency Operations and the impacts of the Wage Continuation COVID-19 Pandemic Policy as presented to the Board on October 14, 2020.

8.b) M. Andison, Chief Administrative Officer

Re: Update on the RDKB COVID-19 Services Restoration Plan

Director Worley, Emergency Programs Liaison

A staff report from Mark Andison, CAO presenting for review the RDKB Services Restoration Plan, which was approved by the Board of Directors on June 10, 2020 and provides a high-level framework for the resumption and continuation of RDKB services in the context of the current COVID-19 pandemic.

[RDKB Services Restoration Plan Review - Pdf](#)

Recommendation: Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the staff report, reviewing the RDKB Services Restoration Plan as presented to the Board by Mark Andison, CAO on October 14, 2020.

**8.c) J. Dougall, General Manager of Environmental Services
Re: Funding the McKelvey Creek Landfill Upgrade Project**

A staff report from Janine Dougall, General Manager of Environmental Services regarding the use of reserve funds for the McKelvey Creek Landfill Upgrade Project is presented.

[Staff Report-McKelvey Creek Landfill Upgrade Project - Reserve Fund Authorization \(Oct14'20\)](#)

Recommendation: Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors direct that the required contribution from the RDKB associated with the McKelvey Creek Landfill Upgrade Project for the Investing in Canada Infrastructure Program - Rural and Northern Communities Infrastructure application, be obtained from the use of reserve funds from the Regional Solid Waste Service (010). **FURTHER** that any shortfall amounts be obtained through short-term borrowing if required

8.d) Advisory Planning Commission (APC) Appointments

Electoral Area A-Travis Mashford

Electoral Area C/Christina Lake-Leanne Keys

**Recommendation: Stakeholder Vote
(Electoral Area Directors) Unweighted**

That the Regional District of Kootenay Boundary Board of Directors appoint Travis Mashford to the Electoral Area A Advisory Planning Commission and Leanne Keys to the Electoral Area C/Christina Lake Advisory Planning Commission.

9. Communications-RDKB Corporate Communications Officer

**9.a) D. Green, Manager of Information Services
F. Maika, Corporate Communications Officer
Re: RDKB Website Redesign Project Update**

A staff report from Frances Maika, Corporate Communications Officer and Dale Green, Manager of Information Services regarding the RDKB Website Redesign Project is presented.

[Staff Report-Website Redesign-BoD Oct 14 20](#)

Recommendation: Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the staff report titled "Website Redesign Project Update" as presented to the Board on October 14, 2020.

10. Communications-Information Only

- 10.a) Village of Midway Public Library-Sept. 24/20**
Re: Access to Membership Initiative-Electoral Area E/West Boundary Grant Request
[VofMidway Library-GrantRequest-BoD Oct 14 20-](#)
- 10.b) BZAM Cannabis-Sept. 23/20**
Re: Issuance of License for Standard Cultivation under Cannabis Act
[BZAM-Issuance-Licence-Standard Cultivation-BoD Oct 14 20](#)
- 10.c) Rossland Streamkeepers-Sept. 23/20-**
Re: BC Parks Enhancement Fund
Director Worley
[Request Rossland Streamkeepers-BC ParkLicence Prgrm-BoD Oct 14 20](#)
- 10.d) Columbia Basin Trust-June 4/20**
Re: Update on Community Initiatives Funding Program (CBT CIPF) & Renewal
[CBT-CIPAA-Renewal-BoD Oct 14 20](#)

Recommendation: Corporate Vote Unweighted

That Communication (Information only) items 10.a) to 10.d) be received and direction at the discretion of the Board.

11. Refreshment Break

12. Reports

- 12.a) Monthly Cheque Register Summary**
Director Cacchioni, Finance Liaison

The Monthly Cheque Register Summary for the month of September 2020 is presented.

[2020 09 September Vendor Payment-BoD Oct 14 20](#)

Recommendation: Corporate Vote Unweighted

That the Cheque Register Summary for the month of September 2020 for \$640,460.85 be received.

12.b) RDKB Committee Minutes

Minutes of RDKB Committee Meetings as adopted by the respective Committees are presented.

Beaver Valley Regional Parks and Regional Trails (June 16/20 & Sept. 21/20), Boundary Community Development Committee (Sept. 2/20) and Utilities Committee (Sept. 9/20).

[Minutes - 16 Jun 2020 - BV Rec -BoD Oct 14 20 Pdf](#)

[Minutes - 21 Sep 2020 - BV Rec -BoD Oct 14 20 Pdf](#)

[Minutes-Boundary Community Development- 02 Sep-BoD Oct 14 20-Pdf](#)

[Minutes-Utilities Committee-09 Sep-BoD Oct 14 20 - Pdf](#)

Recommendation: Corporate Vote Unweighted

That the following minutes of RDKB Committee meetings, as adopted by the respective Committees be received:

Beaver Valley Regional Parks and Regional Trails Committee (June 16/20 and Sept. 21/20), Boundary Community Development Committee (Sept. 2/20) and Utilities Committee (Sept. 9/20).

12.c) Recreation Commission Minutes

Grand Forks & District

Minutes of the Grand Forks and District Recreation Commission meeting held September 10, 2020 are presented.

[Minutes- GF&District Rec Commission -Sept 10-BoD Oct 14 20](#)

Recommendation: Corporate Vote Unweighted

That the minutes of the Grand Forks and District Recreation Commission meeting held on September 10, 2020 be received.

12.d) Draft Advisory Planning Commission (APC) Minutes

Draft APC minutes will be provided at a future meeting.

13. Committee Recommendations to Board of Directors

Recommendations to the Board of Directors as referred by the respective RDKB Committees are presented for consideration.

13.a) Boundary Community Development Committee-Oct. 7/20

Director McGregor, Chair

Christina Lake Pedestrian Bridge Grant Application

[Staff Report-BCDC-Christina Lake PedBridge-Grant Application-BoD Oct 14 20-pdf](#)

Recommendation: Corporate Vote Weighted

That the Regional District of Kootenay Boundary Board of Directors approve the Christina Lake Pedestrian Bridge-grant application as presented to, and approved by the Boundary Community Development Committee on October 7, 2020. **FURTHER** that the Board of Directors support the Regional District contribution for the project, estimated at \$564,357, for a total project cost of \$2,116,075 and further, that up to \$350,000 will be considered through short-term borrowing in support of the project and funded from the Christina Lake Parks and Trails Service (027).

14. New Business

14.a) Southeastern BC Regional Connectivity Committee (Formerly "Regional Broadband Committee")

Re: New Name and 2020 MoU

The Regional Broadband Committee is now named the "Southeastern BC Regional Connectivity Committee". There is a new Memorandum of Understanding (MoU) for 2020-2023, which must be endorsed by the RDKB Board of Directors as presented on October 14, 2020.

The composition of the original Regional Broadband Committee included Regional District Chairs as the representative. With the new MoU, Regional Districts can nominate and appoint any 2 Directors to sit on the Southeastern BC Regional Connectivity Committee, as there is no longer a requirement that the representative must be the Board Chair. The new arrangement invites all of the Columbia Shuswap Regional District and Shuswap Bands to participate. Other changes include a new secretariat and broader roles and responsibilities.

The Broadband Connectivity Strategy and the new 2020 MoU were emailed to the RDKB Board Directors on September 24, 2020. The Board now needs to approve the MoU, nominate and appoint 2 Directors to represent the RDKB on the new Southeastern BC Regional Connectivity Committee.

[SouthEastern BC Regional ConnectivityCommittee-2020 MoU-BoD Oct 14 20](#)

[BroadBand ConnectivityStrategy-BoD Oct 14 20-BoD Oct 14 20](#)

Recommendation: Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors approve the Southeastern BC Regional Connectivity Committee Memorandum of Understanding with the Regional Districts of Columbia Shuswap, Central Kootenay and East Kootenay, the Ktunaxa Nation Council and the Village of Valemount as voting

members, for a term that commences October 2020 and expires on October 31, 2023.

Recommendation: Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors appoint 2 Directors to represent the RDKB on the Southeast BC Regional Connectivity Committee for a 1-year term commencing October 2020 and expiring October 2021 when the Board will make new appointments.

14.b) J. Chandler, General Manager of Operations/Deputy Chief Administrative Officer

Re: Budget Amendment -Christina Lake Fire Department Rescue Tools

A staff report from James Chandler, General Manager of Operations/Deputy Chief Administrative Officer seeking approval to use additional funding from the Christina Lake Fire Service reserve for the purchase of tools and equipment for road rescue and auto extrication is presented.

[Staff report BOD - Auto Extrication Tools-BoD Oct 14 20](#)
[CLDF -Auto Extrication Tools Oct 8 2020 Financial assessment and summary](#)

Recommendation: Corporate Vote Weighted

That the Regional District of Kootenay Boundary Board of Directors approve up to \$55,000 to be utilized from the Christina Lake Fire Service reserves for the purchase of new auto extrication tools, as presented to the Board in the staff report titled "Budget Amendment for the Christina Lake Fire Department, Rescue Tools Purchase" on October 14, 2020. **FURTHER** that the 2020-2024 Five Year Financial Plan Bylaw No. 1735, 2020 be amended accordingly.

14.c) D. Green, Manager of Information Technology

Re: Primary HCI Storage Refresh

A staff report from Dale Green, Manager of Information Technology regarding the procurement of a new ecosystem of hyper converged storage hardware and services is presented.

[Staff Report-HCIStorageRefresh-BOD Oct. 14 20](#)

Recommendation: Corporate Vote Weighted

That the Regional District of Kootenay Boundary Board of Directors approve the agreement with Opus Consulting for the provision of storage hardware and services, at a cost of \$118,874.65 commencing October 2020 and expiring October 2025. **FURTHER** that the Board approve the authorized signatories to sign and enter into the agreement.

14.d) Interior Medical Transport Society (IMTS)

Re: Request for Letter Support for Non-Emergency Medical Transport Initiative

[Request for Letter of Support-Improved Medical Transport-Interior Medical Transport Society-BoD Oct 14 20](#)

Recommendation: Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors consider the request for a letter of support from the Interior Medical Transport Society (IMTS) respecting non-emergency medical transportation and direction at the discretion of the Board.

14.e) G. Wiebe, Engineering and Safety Coordinator

Re: Rivervale Water and Streetlight Service (650) Water Conservation Plan

A Staff Report from Gabe Wiebe, Engineering and Safety Coordinator, regarding the Water Conservation Plan for the Rivervale Water and Streetlight Service is presented.

[Staff Report-Rivervale Water and Streetlight Service Water Conservation Plan-Utilities Committee-2020-10-14 - Pdf](#)

Recommendation: Corporate Vote (Single Participant Service) Unweighted

That the Regional District of Kootenay Boundary Board of Directors approve the Rivervale Water and Streetlight Service (650) Water Conservation Plan as presented to the Board on October 14, 2020.

FURTHER that staff be directed to implement the Plan.

14.f) G. Wiebe, Engineering and Safety Coordinator

Re: Christina Lake Water Utility Service (650) Water Conservation Plan

A Staff Report from Gabe Wiebe, Engineering and Safety Coordinator, regarding the Water Conservation Plan for the Christina Lake Water Utility is presented.

[Staff Report-Christina Lake Water Utility Water Conservation Plan-Utilities Committee-2020-10-14 - Pdf](#)

Recommendation: Corporate Vote (Single Participant Service) Unweighted

That the Regional District of Kootenay Boundary Board of Directors approve the Christina Lake Water Utility (550) Water Conservation Plan as presented to the Board on October 14, 2020. **FURTHER** that staff be directed to implement the Plan.

14.g) G. Wiebe, Engineering and Safety Coordinator
Re: Beaver Valley Water Service (500)
Water Conservation Plan

A Staff Report from Gabe Wiebe, Engineering and Safety Coordinator, regarding the Water Conservation Plan for the Beaver Valley Water Service is presented.

[Staff Report-Beaver Valley Water System Water Conservation Plan-Utilities Committee-2020-10-14 - Pdf](#)

Recommendation: Stakeholder Vote
(RDKB Electoral Area A & Village of Fruitvale) Unweighted

That the Regional District of Kootenay Boundary Board of Directors approve the Beaver Valley Water Service (500) Water Conservation Plan as presented to the Board on October 14, 2020. **FURTHER** that staff be directed to implement the Plan.

14.h) A staff report from Brian Champlin, Manager of Building Inspection Services, regarding a Building Bylaw Contravention for the property described as:

35 Beacon Road, Carmi, B.C.
Electoral Area 'E' / West Boundary
Parcel Identifier: 027-348-237-Lot D District Lot 472S
Similkameen District Yale District Plan KAP85695
Owner: John Morice

[Staff Report-Bylaw Contravention Morice-Board-October 14, 2020 - Pdf](#)

Recommendation: Stakeholder Vote
(Electoral Area Directors) Unweighted

That the Regional District of Kootenay Boundary Board of Directors direct the Chief Administration Officer to file a Notice in the Land Title Office pursuant to Section 302 of the *Local Government Act* and Section 57 of the *Community Charter* against the property legally described as Lot D, District Lot 472S, Similkameen Division Yale District, Plan KAP85695.

14.i) G. Denkovski, Manager of Infrastructure and Sustainability
Re: Application for Gas Tax Funding- Rock Creek & Boundary Fair Association Renovation
Electoral Area 'E'/West Boundary

An application for the disbursement of Electoral Area 'E'/West Boundary Gas Tax funds to the Rock Creek & Boundary Fair Association is presented.

[RC&Boundary Fair Renovation Gas Tax Application September 2020](#)

Recommendation: Corporate Vote Weighted

That the Regional District of Kootenay Boundary Board of Directors approves the Gas Tax application submitted by the Rock Creek & Boundary Fair Association and the allocation of Gas Tax funding for \$50,000 from Electoral Area 'E'/West Boundary for the costs associated with the renovations of the washroom and meeting room. **FURTHER** that the Board approves the RDKB authorized signatories to sign and enter into the agreement.

14.j) D. Patterson, Planner

Re: Temporary Use Permit Referral from the City of Rossland

A staff report from Danielle Patterson, Planner presenting a referral received from the City of Rossland regarding a Temporary Use Permit for a parking lot abutting Electoral Area B/Lower Columbia-Old Glory.

[Staff Report-Rossland-Board-Oct 14 20](#)

Recommendation: Corporate Vote Unweighted

That the staff report regarding the City of Rossland referral for a proposed Temporary Use Permit for the parcel legally described as District Lot 1295 Kootenay District, the City of Rossland, be received.

14.k) D. Patterson, Planner

Re: Policy Directive 20-26 Liquor & Cannabis Regulation Branch

A staff report from Danielle Patterson, Planner regarding Liquor and Cannabis Regulation Branch Policy Directive 20-26 is presented.

[Staff Report-LCRB Board-BoD-Oct 14 20](#)

Recommendation: Corporate Vote Unweighted

That the staff report regarding the Liquor and Cannabis Regulation Branch Policy Directive 20-26 be presented to the Regional District of Kootenay Boundary Board of Directors for consideration, with a recommendation of support.

14.l) Grants in Aid - as of October 8, 2020

[Grants-in-Aid-Board-October 14 2020](#)

**Recommendation: Stakeholder Vote
(Electoral Area Directors) Weighted**

That the following grants-in-aid be approved:

1. JL Crowe Secondary School – Special Funding for less fortunate students’ notebook computers during COVID crisis – Electoral Area ‘A’ - \$1,470
2. JL Crowe Secondary School – Special Funding for less fortunate students’ notebook computers during COVID crisis – Electoral Area ‘B’/Lower Columbia-Old Glory - \$1,470
3. Twin Rivers Community Choir – Virtual Choir Presentation to West Kootenay Citizens – Electoral Area ‘B’/Lower Columbia-Old Glory - \$1,000
4. Grand Forks Border Bruin Association – Upgrade bathroom to meet COVID safety requirements – Electoral Area ‘D’/Rural Grand Forks - \$5,000
5. Grand Forks Seniors Society – New Carpet for Carpet Bowling – Electoral Area ‘D’/Rural Grand Forks - \$2,000
6. Beaverdell Community Club and Recreation Commission – Haunted House with COVID protocols – Electoral Area ‘E’/West Boundary - \$500
7. Kettle River Food Share Society -- QuickBooks Online Subscription and Bookkeeping Program – Electoral Area ‘E’/West Boundary - \$616
8. Westbridge Recreation Society – QuickBooks Subscription – Electoral Area ‘E’/West Boundary - \$588

15. Board Appointments Updates

Southern Interior Development Initiative Trust (S.I.D.I.T.)-Director McGregor

B.C. Rural Centre/Southern Interior Beetle Action Coalition (S.I.B.A.C.)-Director McGregor

Okanagan Film Commission-Director Gee
(See attached)

Boundary Weed Stakeholders Committee-Director Gee

Columbia River Treaty Local Government Committee (CRT LGC)-
Directors Worley & Langman
(See attached)

Columbia Basin Regional Advisory Committee (CBRAC)-Director Worley & Goran Denkovski, Manager of Infrastructure & Sustainability
(See attached)

West Kootenay Regional Transit Committee (Directors Cacchioni & Worley, Alternate Director Parkinson)

Rural Development Institute (RDI)-Director Worley
(See Attached)

Chair's Update-Chair Langman

[OK FilmCommission-Director Gee-Filming Booming in Okanagan-BoD Sept 17 20](#)

[CRT Monthly Update-LGC September 2020-BoD Oct 14 20](#)

[Columbia River Treaty Update-BoD Oct 14 20](#)

Recommendation: Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the Board Appointment Updates as presented on October 14, 2020.

16. Bylaws

There are no bylaws to consider.

17. Late (Emergent) Items

18. Discussion of Items for Future Meetings

19. Question Period for Public and Media

20. Closed Meeting

21. Adjournment



Board of Directors
Thursday, September 17, 2020
Via Zoom Online Video Conferencing
Minutes

Board Members Present:

Director D. Langman, Chair
Director G. McGregor, Vice-Chair
Director A. Grieve
Director R. Russell
Director V. Gee
Director S. Morissette
Director M. Walsh
Director R. Cacchioni
Director C. Korolek
Director R. Dunsdon
Alternate Director J. Nightingale
Alternate Director B. Edwards

Staff Present:

M. Andison, Chief Administrative Officer
T. Lenardon, Manager of Corporate Administration Corporate Officer/Recording Secretary
B. Ihlen, General Manager of Finance/Chief Financial Officer
J. Dougall, General Manager of Environmental Services
D. Dean, Manager of Planning and Development
D. Derby, Regional Fire Chief
M. Stephens, Interim Manager of Protective Services
G. Denkovski, Manager of Infrastructure & Sustainability
F. Phillips, Senior Energy Specialist
F. Maika, Corporate Communications Officer
B. Champion, Manager of Building Inspection

Applicants & Others Attending to Speak to Agenda Items

Hilary Wong, Project Engineer-in-Training
Jim Lapp, Senior Technologist
Nigel Sparling, Senior Civil Engineer

1. Call to Order

The Chair called the meeting to order at 1:00 p.m.

2. Land Acknowledgement

We acknowledge and appreciate that the land on which we gather is the converging, traditional and unceded territory of the Syilx, Secwepemc, Sinixt and Ktunaxa Peoples as well as the Metis Peoples whose footsteps have also marked these lands.

The Chair advised the meeting attendees that RDKB live Board meetings are recorded pursuant to the *Freedom of Information and Protection of Privacy Act*.

3. Consideration of the Agenda (additions/deletions)

The agenda for the Regional District of Kootenay Boundary Board of Directors meeting of September 17, 2020 was presented.

287-20

Moved / Seconded

Corporate Vote Unweighted

That the agenda for the Regional District of Kootenay Boundary Board of Directors meeting of September 17, 2020 be adopted as presented.

Carried.

Sustainable Communities Award

The Chair advised that the RDKB is the recipient of a Federation of Canadian Municipalities (FCM) 2020 Sustainable Communities Award for the tri-regional District Accelerate Kootenays project partnering with the Regional Districts of East Kootenay and Central Kootenay. The Chair noted that the project was the first community driven, collaborative strategy to build a clean transportation network.

Mark Andison, Chief Administrative Officer displayed the award for the Board to view and thanked Goran Denkovski, Manager of Infrastructure and Sustainability for his work on the project. He also acknowledged the partnership with the consultants and the other regional districts and congratulated the Board members for their vision.

4. Draft Minutes

The draft minutes of the Regional District of Kootenay Boundary Board of Directors meeting held August 27, 2020 were presented.

288-20

Moved / Seconded

Corporate Vote Unweighted

That the draft minutes of the Regional District of Kootenay Boundary Board of Directors meeting held August 27, 2020 be adopted as presented.

Carried.

5. Presentations

There were no presentations.

6. Delegation(s)

There were no delegations in attendance.

7. Applicants and Persons Attending to Speak to Agenda Items**7.a) J. Dougall, General Manager of Environmental Services****Re: McKelvey Creek Landfill Upgrade Project****Tetra Tech Representatives Attending**

Director Russell, Environmental Services Liaison

A staff report from Janine Dougall, General Manager of Environmental Services regarding the McKelvey Creek Landfill Upgrade Project-conceptual design options was presented.

Attending from Tetra Tech:

Hilary Wong, Project Engineer-in-Training

Jim Lapp, Senior Technologist

Nigel Sparling, Senior Civil Engineer

The Chair introduced the Tetra Tech representatives and turned the meeting over to Janine Dougall, General Manager of Environmental Services.

Staff reviewed the project which when completed will result in the construction of a transfer station facility at the McKelvey Creek Landfill. The completed work will facilitate the transport of collected food waste from residential and commercial sources to the RDKB facility.

Staff provided background and historical information and reviewed the proposed options for conceptual designs that include Class D cost estimates.

The Chair turned the meeting over to Hilary Wong, Project Engineer-in-training.

Ms. Wong thanked the Board for the opportunity to attend the meeting, and along with Jim Lapp and Nigel Sparling, provided a power-point presentation illustrating the project scope of work and considerations, concept design elements, Class D Cost Estimate and recommendations.

Staff and Tetra Tech answered questions from the Board.

The Chair thanked Ms. Wong, Mr. Lapp and Mr. Sparling for the information and they left the meeting, and it was;

289-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors identify Option 2, which includes a 50mm water service, on-site septic and two new scales as the preferred conceptual design for the McKelvey Creek Landfill Upgrade Project, as presented to the Board on September 17, 2020.

Carried.

8. Unfinished Business

8.a) J. Dougall, General Manager of Environmental Services

Re: Tipping Fee Increase Review

Director Russell, Environmental Services Liaison

A staff report from Janine Dougall, General Manager of Environmental Services regarding the review of the proposed increase in solid waste tipping fees was presented.

Staff reviewed the staff report and answered inquiries respecting the current tipping fee revenue stream and the impacts that COVID-19 and the implementation of expanded organics diversion programs have.

Staff provided rationale for the suggested increase in tipping fees, and answered inquiries regarding organics versus garbage and increases in tipping fees versus increases in taxation.

Director Cacchioni expressed his concerns with the proposed tipping fee increases noting he would prefer an increase in taxation.

After further review discussion, it was;

290-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors approve proceeding with the first phase of increasing tipping fees starting January 1, 2021, which would include household garbage rates increasing from \$110/tonne to \$120/tonne and source

separated organics rates increasing from \$40/tonne to \$55/tonne. **FURTHER** that the need for future increases to tipping fees be reviewed in the fall of 2022.

Carried.

(Director Cacchioni opposed).

**8.b) Brian Champlin, Manager of Building Inspection
Freya Phillips, Senior Energy Specialist
Re: Implementation of BC Energy Step Code**

Director Russell, Environmental Services Liaison

A staff report from Brian Champlin, Manager of Building Inspection Services and Freya Phillips, Senior Energy Specialist regarding the implementation of *BC Energy Step Code* was presented.

Staff reviewed the information provided in the staff report and explained the steps undertaken to increase energy-efficiency requirements in the *BC Building Code*.

The Board discussed possible local government incentives that would encourage the purchase of energy-efficient appliances such as cash incentives or building permit rebates.

Staff answered questions regarding energy advisors, the differences with the provision of incentives between FortisBC and BC Hydro and the Climate Action Revenue Incentive Program (CARIP).

The Board reviewed the three options for compliance with the *BC Energy Step Code*, which include 1) early mandatory compliance, 2) voluntary compliance and 3) wait for Province to adopt incentives through the *BC Building Code*.

After further review, it was

291-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors approve the implementation of voluntary compliance of the *BC Energy Step Code*, commencing on January 1, 2021, as per the staff report titled, *Implementation of BC Energy Step Code*, presented to the Board on September 17, 2020.

Carried.

9. Communications-RDKB Corporate Communications Officer

The Corporate Communications Officer will present information at a future Board meeting.

10. Refreshment Break

The Chair recessed the meeting at 2:33 p.m.

The Chair reconvened the meeting at 2:40 p.m.

Director Dunsdon left the meeting (time: 2:41 p.m.).

11. Communications-Information Only**11.a) Confirmation of UBCM Provincial Cabinet Minister Meetings**

At the June 25, 2020 meeting, the Board of Directors adopted the following resolution approving requests for Cabinet Minister Meetings at the upcoming 2020 UBCM Convention:

That the Regional District of Kootenay Boundary Board of Directors approve submission of the following advocacy issues to the relevant Provincial Ministries and/or Agencies requesting meetings at the 2020 UBCM Convention:

1. Moratorium on Commercial Water Bottling-Ministry of Forests, Lands, Natural Resource Operations and Natural Development (FLNROND).
2. Incentives for Use of High Efficiency Electrical Appliances-British Columbia Utilities Commission (BCUC)/Ministry of Energy, Mines & Petroleum Resources (EMPR).
3. More Sustainable Funding Model for Ongoing Local Government Programs-Ministry of Municipal Affairs & Housing (MAH).
4. Public Transportation to Medical Appointments-Ministry of Health (Interior Health, BC Transit to be invited).
5. Telehealth-Ministry of Health.

The UBCM has confirmed meetings 1-4 noted above. The Chair advised that meetings 2, 3 and 4 have already taken place. The Chair, Director Russell, Chair, Education Advocacy Committee and Mark Andison, CAO provided brief summaries on meeting discussions. Meeting 1 will be held on September 18. The UBCM was unable to accommodate Meeting 5 due to convention time constraints, and it was;

292-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the information respecting the RDKB's Cabinet Minister Meetings that have been arranged for the 2020 UBCM Convention, as presented to the Board on September 17, 2020.

Carried.

12. September 2020 Work Plan Update Reports & Proposed 2021 Projects

The purpose of the following reports 12.a) to 12.e) is to update the Board on the status of the 2020 Work Plans and to provide information respecting proposed projects for

2021. The Board reviewed the work plan updates and staff answered inquiries respecting timelines for completion and budgetary matters.

12.a) M. Andison, Chief Administrative Officer

**Re: 2020 Work Plan Update & Proposed 2021 Projects Report
General Government & Administration (001) Service**

293-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the September 2020 Work Plan Update and Proposed 2021 Projects Report for the RDKB General Government & Administration (001) Service as presented to the Board on September 17, 2020.

Carried.

12.b) B. Champlin, Manager of Building Inspection

**Re: September 2020 Work Plan Update & Proposed 2021 Projects Report
Building Inspection (004) Service**

294-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the September 2020 Work Plan Update and Proposed 2021 Projects Report for the RDKB Building Inspection (004) Service as presented to the Board on September 17, 2020.

Carried.

12.c) J. Dougall, General Manager of Environmental Services

Re: September 2020 Work Plan Updates & Proposed 2021 Projects Report

Director Russell, Environmental Services Liaison

Regional Solid Waste Management (010) Service

Big White Solid Waste Management (064) Service

295-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the September 2020 Work Plan Update and Proposed 2021 Projects Report for the RDKB Regional Solid Waste Management (010) Service and the Big White Solid Waste Management (064) Service, as presented to the Board on September 17, 2020.

Carried.

12.d) M. Stephens, Interim Manager of Emergency Programs
Re: September 2020 Work Plan Update & Proposed 2021 Projects
RDKB Emergency Preparedness (012) Service

Director Worley, Protective Services Liaison

296-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the September 2020 Work Plan Update and Proposed 2021 Projects Report for the RDKB Emergency Preparedness (012) Service as presented to the Board on September 17, 2020.

Carried.

12.e) D. Derby, Regional Fire Chief
Re: 2020 Work Plan Update & Proposed 2021 Projects
911 Emergency Communications (050) Service

Director Worley, Protective Services Liaison

297-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the September 2020 Work Plan Update and Proposed 2021 Projects Report for the RDKB 911 Emergency Communications (050) Service as presented to the Board on September 17, 2020.

Carried.

13. Reports

13.a) Monthly Cheque Register Summary

The Cheque Register Summary for the month of August 2020 was presented.

298-20

Moved / Seconded

Corporate Vote Unweighted

That the Cheque Register Summary for the month of August 2020 for \$2,277,249.93 be received.

Carried.

13.b) RDKB Committee Minutes

Minutes of RDKB Committee Meetings as adopted by the respective Committees were presented.

299-20

Moved / Seconded

Corporate Vote Unweighted

That the following Committee minutes, as adopted by the respective RDKB Committees, be received: Electoral Area Services (May 14/20), Utilities (May 20/20), East End Services (June 16/20) Policy & Personnel (June 25/20), Liquid Waste Management Plan Steering & Monitoring (July 2/20) and Boundary Community Development (July 7/20).

Carried.

13.c) Recreation Commission Minutes

Minutes of the RDKB Recreation Commission meetings as adopted by the respective Recreation Commissions were presented.

300-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors receive the minutes of the Grand Forks and District Recreation Commission meetings held on June 11, 2020 and July 9, 2020.

Carried.

13.d) Draft Advisory Planning Commission (APC) Minutes

The draft minutes of the Advisory Planning Commission meetings held on August 31, 2020 and September 1, 2020 were presented.

301-20

Moved / Seconded

Corporate Vote Unweighted

That the draft minutes of the Electoral Area A and Electoral Area B/Lower Columbia-Old Glory Advisory Planning Commission meetings held on August 31, 2020 and the draft minutes of the Electoral Area C/Christina Lake and Electoral Area E/West Boundary Advisory Planning Commission meetings held on September 1, 2020, be received.

Carried.

14. Committee Recommendations to Board of Directors

Recommendations to the Board of Directors as referred by the respective RDKB Committees were presented for consideration.

14.a) BCDC Sept. 2/20

Boundary Region Drought Response Plan

302-20

Moved / Seconded

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors adopt the RDKB Boundary Region Drought Response Plan as presented to the Boundary Community

Development Committee on September 2, 2020 and to the Board on September 17, 2020.

Carried.

15. New Business

15.a) A staff report from James Chandler, General Manager of Operations / Deputy CAO, regarding a Building Bylaw Contravention for the property described as:

35 Beacon Road, Carmi, B.C.-Electoral Area 'E' / West Boundary

Parcel Identifier: 027-348-237

Lot D District Lot 472S Similkameen District Yale District Plan KAP85695

Owner: John Morice

303-20

Moved / Seconded

Stakeholder Vote (Electoral Area Directors) Unweighted

That the Regional District of Kootenay Boundary Board of Directors invite the owner, John Morice, to appear before the Board to make a presentation relevant to the filing of a Notice in the Land Title Office pursuant to Section 302 of the *Local Government Act* and Section 57 of the *Community Charter* against the property legally described as Block D, District Lot 472S, Similkameen Division Yale District, Plan KAP85695.

Carried.

15.b) D. Patterson, Planner

**Re: FrontCounter BC Referral-Application for Right of Way
Electoral Area E/West Boundary**

A staff report from Danielle Patterson, Planner regarding a FrontCounter BC Referral for FortisBC Statutory Right of Way in Electoral Area E/West Boundary was presented.

304-20

Moved / Seconded

Corporate Vote Unweighted

That the staff report regarding FortisBC's Statutory Right of Way requests to provide overhead electric power lines on Crown land via Graff Road to service 20 Graff Road in Electoral Area E/West Boundary, be received.

Carried.

15.c) Danielle Patterson, Planner

Re: Forestry Referral-Small Scale Salvage Electoral Area C/Christina Lake

A staff report from Danielle Patterson, Planner presenting a referral received from Fleet Environmental Services, regarding a small scale salvage planned in the Moody Creek Community Watershed.

305-20

Moved / Seconded

Corporate Vote Unweighted

That the staff report regarding Fleet Environmental Services proposed small scale salvage for single tree and small patch removal on unsurveyed Crown land in Electoral Area 'C/Christina Lake, be received.

Carried.

15.d) Grant-in-Aid

306-20

Moved / Seconded

Stakeholder Vote (Electoral Area Directors) Weighted

That the following grant-in-aid be approved:

1. Beaver Valley Curling Club - COVID-19 expenses-\$5,000 Electoral Area A.

Carried.

16. Board Appointments Updates

The Board Appointment Updates will be provided at the next meeting.

Southern Interior Development Initiative Trust (S.I.D.I.T.)-Director McGregor
 B.C. Rural Centre/Southern Interior Beetle Action Coalition (S.I.B.A.C.)-Director McGregor
 Okanagan Film Commission-Director Gee
 Boundary Weed Stakeholders Committee-Director Gee
 Columbia River Treaty Local Government Committee (CRT LGC)-Directors Worley & Langman
 Columbia Basin Regional Advisory Committee (CBRAC)-Director Worley & Goran
 Denkovski, Manager of Infrastructure & Sustainability
 West Kootenay Regional Transit Committee (Directors Cacchioni & Worley, Alternate Director Parkinson)
 Rural Development Institute (RDI)-Director Worley
 Chair's Update-Chair Langman

17. Bylaws

There were no bylaws to consider.

18. Late (Emergent) Items

There were no late emergent items to consider.

19. Discussion of Items for Future Meetings

There were no items for future meetings to discuss.

20. Question Period for Public and Media

A question period was not necessary.

21. Closed Meeting

A closed meeting was not required.

22. Adjournment

There being no further business to discuss, the meeting was adjourned (time: 3:36 p.m.).

TL



STAFF REPORT

Date: 07 Oct 2020
To: Chair Langman and Board of Directors
From: Mark Andison, Chief Administrative Officer
Re: Review of the RDKB Services Restoration Plan

File COVID-19

Issue Introduction

A staff report from Mark Andison, CAO presenting for review the RDKB Services Restoration Plan which was approved by the Board of Directors on June 10, 2020 and provides a high level framework for the resumption and continuation of RDKB services in the context of the current COVID-19 pandemic.

History/Background Factors

When the Board of Directors approved the attached RDKB Services Restoration Plan in June, staff had commented that this is considered to be a living document that will be reviewed and revisited as circumstances change. The purpose of bringing the plan back to the Board at this point is to provide an opportunity for the Board to review the plan.

The COVID-19 pandemic has had an impact on the RDKB's ability to effectively deliver programs and services to its citizens over the past several months. Several Regional District services were temporarily ceased or modified in response to COVID-19. These services are primarily in the parks, recreation and culture areas, but also include areas such as customer service at the RDKB administrative offices in Trail and Grand Forks. These services were stopped or modified to ensure the health and well-being of the community and staff and in response to requirements by public health authorities for physical distancing among individuals.

The RDKB Services Restoration Plan was developed to inform and direct the gradual reopening of facilities and the resumption of services, including at the two RDKB administration offices. The restoration of Regional District services has been, and

continues to be, a gradual process and decisions are being guided by information and advice from health authorities, other levels of government, WorkSafeBC, and other stakeholder groups such as the BC Recreation & Parks Association (BCRPA), Lifesaving Society of BC, and provincial and national sport governing bodies. There is also a desire for alignment in the restoration of services with member municipalities in order to ensure balanced provision across the region and to avoid any one local government taking excessive risk and/or the load of participation from another local government.

Each RDKB program and service that has been affected by the COVID-19 pandemic is being evaluated on criteria, including workforce and workplace requirements, risk to vulnerable populations, ability to adhere to health protocols, financial impact, and more. The plan has adopted a staged approach, and assumes that there is no setback in the collective societal progress to flatten the curve of infections within the province.

Implications

Currently, we're in Stage 3 of the Plan (September & Beyond), characterized by expanded public access to programs and services, particularly at RDKB arenas, the Grand Forks Aquatic Centre, and at the Greater Trail Community Centre (Selkirk College). As a parallel process to the development of the RDKB Services Restoration Plan, staff developed safety plans for each of the RDKB facilities and sites as Provincially mandated through WorksafeBC guidelines. These safety plans have further informed the process, timeline, and financial implications of the gradual restoration of RDKB services. The facility safety plans for all RDKB facilities were developed in June and recently the RDKB's occupational safety staff toured each of the facilities to audit compliance with the plans.

The RDKB Services Restoration Plan is considered by management staff to be a living document, considering the fluidity of the current COVID-19 environment. As circumstances, regulations, and norms change, it is anticipated that the Plan may need to be revisited and revised by the Board of Directors to ensure that it remains timely and relevant.

Advancement of Strategic Planning Goals

The development of the RDKB Services Restoration Plan in response to the COVID-19 pandemic advances the Board of Directors strategic objectives of: providing exceptional cost effective and efficient services; and responding to demographic/economic/social change .

Background Information Provided

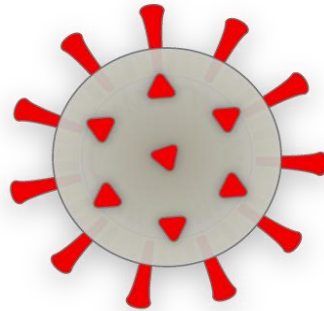
RDKB Services Restoration Plan

Alternatives

1. That the Board of Directors receive the staff report from Mark Andison, CAO reviewing the RDKB Services Restoration Plan;
2. That the Board of Directors receive the staff report from Mark Andison, CAO reviewing the RDKB Services Restoration Plan and amend the RDKB Services Restoration Plan and approve as amended;
3. Defer consideration of the Plan and refer to staff for further information.

Recommendation(s)

That the Board of Directors receive the staff report from Mark Andison, CAO reviewing the RDKB Services Restoration Plan.



Regional District of Kootenay Boundary
Services Restoration Plan (V. 1)



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1 Executive Summary

The Regional District of Kootenay Boundary (RDKB) plan for the restoration of programs and services affected by the COVID-19 pandemic ("RDKB COVID-19 Services Restoration Plan") is a coordinated corporate strategy.

The restoration of Regional District services will be a gradual process and decisions will be guided by information and advice from health authorities, other levels of government, WorkSafeBC, and other stakeholder groups. Each program and service offered by the Regional District that has been affected by the COVID-19 pandemic will be evaluated on criteria to mitigate risks to the public, staff, and the Regional District.

The RDKB Services Restoration Plan supports four primary strategic objectives guiding the Regional District's collective efforts to respond to and overcome the COVID-19 pandemic. The plan is a living document, and will be updated as necessary to reflect emerging information and advice from public health authorities, other levels of government, WorkSafeBC, and member municipalities.

The restoration of services will have a financial impact. In some cases, new administrative controls and workspace modifications may be necessary to ensure current health guidelines are adhered to.

1.1 Acknowledgement

This plan has been developed based on the City of Richmond's *Plan for the Restoration of Services and Programs Affected by the Covid-19 Pandemic* and the *Cowichan Valley Regional District Services Restoration Plan* and the RDKB appreciates the opportunity to build on their excellent work.

2 Introduction

The COVID-19 pandemic has had an impact on the RDKB's ability to effectively deliver programs and services to its citizens. Several Regional District services have temporarily ceased or have been modified in response to COVID-19. These services are primarily in the parks, recreation and culture areas, but also include areas such as customer service at the RDKB administrative offices in Trail and Grand Forks. These services were stopped or modified to ensure the health and well-being of the community and staff and in response to requirements by public health authorities for physical distancing among individuals. A summarized list of the Provincial Health Orders can be found in Appendix A.

The RDKB activated its Emergency Operations Centre (EOC) on March 10, 2020 in response to the developing COVID-19 pandemic. The impacts to the affected Regional District services occurred beginning March 17, 2020, with facility closures and service curtailments, and are ongoing. While some facilities were forced to close, most RDKB services have continued to function, however under new modified operating protocols designed to meet Public Health Orders and recommendations.

In response to communication by senior levels of government that there has been some success in flattening the curve of COVID-19 and signals appropriate segments of the economy may begin a slow re-opening, the Regional District has begun planning for the eventual restoration of programs services for when the timing is appropriate to do so. There will be some flexibility and discretion by the Regional District in many of the decisions around the restoration of services. Some actions to stop or modify services were originally taken in direct response to orders or advice from health authorities and senior levels of government, while other actions were in response to the public health protection considerations for the community.

The RDKB plan for the restoration of programs and services affected by the COVID-19 pandemic ("RDKB Services Restoration Plan") is a coordinated corporate strategy to re-open facilities and restore program and service delivery.

The restoration of Regional District services will be a gradual process and decisions will be guided by information and advice from health authorities, other levels of government, WorkSafeBC, and other stakeholder groups such as the BC Recreation & Parks Association (BCRPA), Lifesaving Society of BC, and provincial and national sport governing bodies. There is also a desire for alignment in the restoration of services with member municipalities in order to ensure balanced provision across the region and to avoid any one local government taking excessive risk and/or the load of participation from another local government.

The restoration of services will have a financial impact. It is anticipated that there will be extraordinary costs (both one-time and ongoing) of offering these services in a modified manner in order to continue to ensure the safety of the community and staff.

It is to be noted that the RDKB Services Restoration Plan is a living document. Information is subject to change based on changing advice and information from public health authorities, other levels of government, WorkSafeBC, and other stakeholder groups.

3 Strategic Objectives

The RDKB Services Restoration Plan supports four primary strategic objectives guiding the Regional District's collective efforts to respond to and overcome the COVID-19 pandemic. These include:

- Protect the health and safety of both employees and the public while serving as an essential service second line of defense against the COVID-19 pandemic as mandated by the Provincial Government;
- Protect Regional District assets while also continuing to the full extent possible to deliver Regional District services needed by the community, while adhering to restrictions and limits prescribed by the Provincial Health Officer and as mandated by the Regional District Board;
- Do the necessary planning and complete all work needed to ensure that all facilities, programs, services and equipment will be in optimum condition and at operational status when re-opened for community use; and
- Ensure that the appropriate staff resources and remote work assignments are in place to provide the administrative support services that will be needed over the full duration of the crisis to support all staff who are continuing to work on sustaining services as described above and on the recovery.

4 Restoring Programs & Services Along a Continuum

The restoration of programs and services consists of a carefully staged approach along a continuum that takes into account level of risk, exposure, and ability to effectively mobilize service delivery with strict adherence to health and safety guidelines.

4.1 Criteria

Each program and service offered by the Regional District that has been affected by the COVID-19 pandemic has been evaluated on criteria to mitigate risk and determine the appropriate timing to restore program and service offerings.

Factors considered to determine risk and impact of each service, or in some cases, groups of services, included the following:

1. Workforce and workplace safe work requirements

This includes the level of staff training required, the level of exposure of staff members and/or the public to other staff members and/or members of the public, the need for personal protective equipment, and the need to adapt the physical infrastructure of the work environment in order to mitigate risks and exposure.

2. Ability to adhere to health protocols

This includes physical distancing, proper and frequent hand washing, not touching one's own face, and any additional health protocols and guidelines put forward by the BC Centre for Disease Control or public health officers.

3. Risks to vulnerable populations

This includes seniors, those with compromised immune systems and/or pre-existing health conditions. Implementation of protective measures for vulnerable populations may be required. This may include phasing in senior-specific programs to a later point along the service restoration continuum.

4. Nature of participation in program or activity

This includes the mode of delivery (indoor, outdoor, or virtual), the extent to which equipment and materials are shared, the level of physical exertion involved, and the level of contact with others.

5. Additional risk

This includes any insurance implications, contractual agreements, and agreements with other user groups.

6. Timelines

This includes the length of time that it is estimated to take to be able to implement any necessary risk mitigation measures, train staff in necessary protocols, and/or complete physical adaptations needed.

7. Assumptions and prerequisites

This includes any assumptions made or prerequisites necessary in order to restore services according to the estimated timelines. This may include lifting of current government restrictions, access to other programs and amenities, or any other contingencies and dependencies for a particular program or service.

8. Financial Impact

This includes an analysis of the additional costs that will be incurred to mitigate risks, above and beyond existing expenses, timing of revenues, and any additional capital costs that may be required to modify facilities and work spaces.

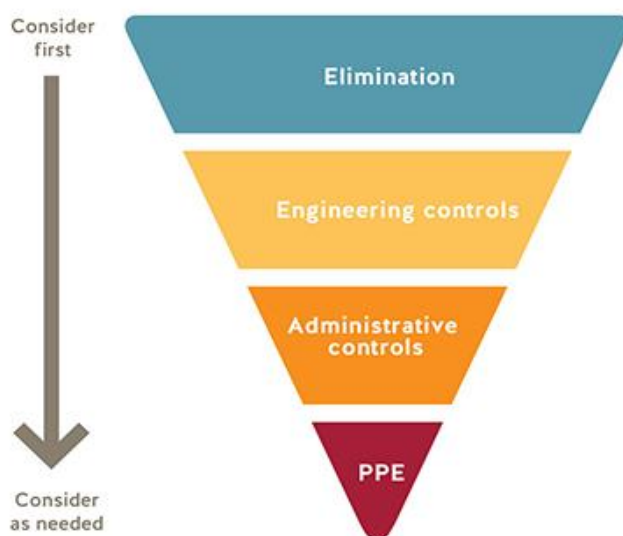
5 Staged Approach to Service Restoration

The Regional District Services Restoration Plan consists of stages. The timing of each stage, and the restoration of individual programs and services within each stage, is subject to change as the COVID-19 pandemic and Provincial direction evolves. This plan assumes that there is no setback in the collective societal progress to flatten the curve of infections.

The restoration of the Regional District's programs and services will necessitate changes in the way these services are conducted. A number of health and safety measures will be put in place across all facilities to ensure the safety of staff and the public.

WorksafeBC has provided the graphic below as a risk mitigation tool to be used as organizations consider operating protocols for workplaces. The WorksafeBC Occupational and Health Regulation requires organizations to implement infectious disease controls in the order shown below.

Note that different protocols offer different protection. Wherever possible, it is recommended that organizations use protocols that offer the highest level of protection and add additional protocols as required.



First level protection (elimination): Use policies and procedures to keep people at a safe physical distance from one another. Limit the number of people in your workplace at any one time, and implement protocols to keep workers at least 2 metres from other workers, customers, and members of the public. For example, this would include ensuring physical distancing is maintained where possible through more appointment-based service provision, holding virtual meetings, and ensuring service participants and staff stay home if they are sick.

Second level protection (engineering controls): If you cannot always maintain physical distancing, install barriers such as plexiglass to separate people.

Third level protection (administrative controls): Establish rules and guidelines, such as enhanced cleaning and disinfecting protocols, telling workers not to share tools/work stations, implementing one-way doors or walkways, and promoting high levels of handwashing and personal hygiene as a key preventative measure. This includes providing access to washroom facilities and hand sanitizing stations.

Fourth level protection (PPE): If the first three levels of protection are not enough to control the risk, consider the use of non-medical masks. Be aware of the limitation of non-medical masks to protect the wearer from respiratory droplets. Ensure workers are using masks appropriately.

6 Plan for Restoring Services

Mirroring the BC Restart Plan, the RDKB Service Restoration Plan envisions the resumption of regional services in a series of stages:

Stage 1 – (Mid-May – Mid-June) limited operations under enhanced protocols

Stage 2 – (Mid-June – September) expansion of operations to indoor facilities under enhanced protocols

Stage 3 - if transmission rates remain low or decline, further expanded service provision under enhanced protocols

Stage 4 – Return to normal operations, contingent upon: effective vaccination; “community” immunity; or broad successful treatments

6.1 Stage 1 (Mid-May Through Mid-June)

Characterized by the restoration of public access to most outdoor park amenities and outdoor programs with limits on group size. RDKB administrative offices re-opened, with limited hours and restrictions.

Parks & Trails Services

- Parks, playgrounds, dog park, disc golf, skate park re-opened with signage
- Sport courts with limited users and operating protocols for users
- Tennis courts/pickleball courts with limited users and operating protocols for users
- Campground at Beaver Valley Family Park
- Some washrooms open

Recreation Services

Some outdoor recreation programming where physical distancing can be maintained

RDKB Administrative Offices (Trail and Grand Forks)

- Following WorkSafeBC guidelines, front counter services limited to dog licenses, transit passes and drop-off of documents (simple, time-limited transactions)
- Public enquiries via email and phone
- Meetings with applicants via telephone or Zoom by appointment
- Site visits and inspections by appointment
- Development applications - electronic only
- Increased digital engagement including transition to web-based commission meetings and public hearings

6.2 Stage 2 (Late June Through September)

Characterized by the re-opening of recreation facilities with limited hours and/or restrictions. Registered programs are restored with modifications.

Recreation Services

- Outdoor programs
- Re-opening of RDKB recreation facilities (Grand Forks and District Aquatic Centre, Grand Forks and District Arena, Greater Trail Community Centre, Beaver Valley Arena)
- Indoor recreation programming where physical distancing can be maintained
- Indoor facility bookings where physical distancing can be maintained

RDKB Administrative Offices (Trail and Grand Forks)

- Continued modified service levels

6.3 Stage 3 (September & Beyond)

Characterized by expanded public access to programs and services.

Recreation Services

- Recreation programming and facility booking where physical distancing can not be maintained (hockey and other contact sports)

Theatre

- Bailey Theatre limited programming, no audiences (rehearsals, live streaming)

RDKB Administrative Offices (Trail and Grand Forks)

- Continued modified service levels

6.4 Stage 4

Characterized by full restoration of programs and services (return to normal operations)

Parks & Trails

- Lift restrictions on field bookings for sports tournaments
- Allow booking of park sites for third party special events

Recreation

- Events over 50 people

Theatre

- Bailey Theatre full programming with audiences

RDKB Administrative Offices (Trail and Grand Forks)

- Front counter services resume fully to pre-COVID levels (following applicable WorkSafeBC guidelines)
- Continued provision of web-based services and meetings to enhance overall service delivery
- In-person Board and Committee meetings, public hearings, public consultation, etc.

7 Financial Impact

The restoration of programs and services will have financial implications. It is anticipated that there will be extraordinary costs (both one-time and ongoing) of offering RDKB services in a modified manner in order to continue to ensure the safety of the community and staff. Further analysis will be required to consider these costs in the context of the Regional District's overall budget and quarterly reporting will be provided to the Board in this regard.

8 Concurrent Planning and Initiatives

While planning for the restoration of programs and services at an operational level, it is necessary to develop concurrent plans to support each stage and transition for the public and for employees. The following initiatives are recommended to be developed to support the RDKB Services Restoration Plan.

1. RDKB Exposure Control Plan: COVID-19

Just as the public will need clear information regarding the risk mitigation strategies that will be in place to protect the public, employees will need to understand their exposure risks and the resources that will be made available to them. RDKB employees may require additional support in the form of training, mental health services, or instruction on use of personal protective

equipment as they transition back to work or back to in-person service provision.

2. On-going Communications

As programs and services begin to open to the public, citizens will need to be informed about what is now available. They will also be looking to the Regional District for information to understand their risks and exposure, as well as to interpret the many, often ambiguous, guidelines provided by various authorities and the media. On-going communications during each Stage is recommended to support staff and the public as they navigate the various reactions that are to be expected as restrictions begin to ease and the economy begins to gradually expand in services. Public response to the COVID-19 pandemic locally has been commendable. Residents will need clear communication to understand and make decisions for themselves and their families about how to participate in programs and services as health authorities monitor the curve of transmission of COVID-19 on an ongoing basis.

3. A Cross-Functional Implementation

Upon approval of the RDKB Services Restoration Plan, the RDKB management team will continue ensure the Regional District is coordinated and cohesive throughout implementation of this plan. The management team will ensure that there is effective communication between departments and with senior management. As the plan is implemented, each stage will require careful review and monitoring to ensure it is current and relevant in light of any updates to health guidelines and other evolving factors

9 Appendix A: Provincial Health Orders & Guidelines

The RDKB Services Restoration Plan has been prepared following current Provincial Health Orders and guidelines and recommendations from local health authorities¹. The health and safety of RDKB employees and the public are at the forefront of any decisions regarding the restoration of programs and services. As Provincial Health Orders and guidelines and recommendations from health authorities and WorkSafeBC evolve, the plan will be evaluated to ensure current information and protocols are strictly adhered to.

The provision of in-person programs and services is planned following Provincial Health Orders and guidelines and advice received from Interior Health and WorkSafeBC. All plans will be updated according to new information available from local health authorities and WorkSafeBC. The following guidelines and recommendations pertain to the provision of RDKB programs and services.

9.1 Regarding Physical Distancing

- Ensure that when there are people on your premises there is sufficient space available to enable them to maintain a distance of two metres from one another.
- Encourage customers to maintain a two metre distance from one another in line-ups to entrances, washrooms and other places where line-ups may occur, by placing distance indicators.
- Install markers on the floor (two metres apart) to support physical distancing in locations such as reception desks.
- Install physical barriers (e.g. plexiglass sneeze guards) in locations such as reception desks.
- Must not host mass gatherings involving more than 50 people (but could have more than 50 people on site if physical distancing remains possible given the size of the facility).

9.2 Regarding Proper Hygiene & Sanitation

- Hand washing stations must be added if none currently exist.
- All common areas and surfaces should be cleaned at the end of each day. Examples include washrooms, shared offices, common tables, desks, light switches and door handles.

9.3 Regarding Signage & Communication

- Post signs encouraging people to maintain a two metre distance from one another throughout a space and ensure that there is sufficient space available for customers and staff to maintain that distance.

¹ <https://www2.gov.bc.ca/gov/content/health/about-bc-s-health-care-system/office-of-the-provincial-health-officer/current-health-topics/covid-19-novel-coronavirus>

- Post signs in your facility to encourage hand hygiene/regular hand washing among all staff and guests.
- Post signage that limits the number of occupants in any elevator to four people at a time.

9.4 Regarding the Handling of Equipment & Materials

- Do not provide eating facilities, such as picnic tables or tables with chairs.
- Encourage staff to avoid touching personal items of clients.
- Wherever possible, provide guests/clients with single-use personal items (e.g. pens, sugar packets, creamers).
- Follow routine cleaning practices with enhanced cleaning of high-touch surfaces or shared equipment.

9.5 Regarding Employee Interactions

- If an employee reports they are suspected or confirmed to have COVID-19 and have been at the workplace, clean and disinfect all areas where that person has worked.
- Reduce in-person meetings and other gatherings and hold shop meetings in open spaces or outside.
- Anyone with COVID-19-like symptoms, such as sore throat, fever, sneezing or coughing, must self-isolate at home for a minimum of 10 days from onset of symptoms, until their symptoms have completely resolved.

9.6 Regarding the Public

- Members of the public may be on your premises only for the time that it takes them to purchase and collect their purchase (simple, time-limited transactions).

9.7 Regarding the Handling of Food & Beverages

- Must NOT operate food or beverage services except for take-out or delivery service.

The Provincial Health Officer has not [explicitly] issued any orders requiring the closure of outdoor recreation facilities such as parks, dog parks, skate parks, playgrounds, picnic areas, walking, running and cycling trails, beaches, piers, boat launches, athletics fields, outdoor exercise equipment, tennis and basketball courts and golf courses as a result of the COVID-19 pandemic. The Provincial Health Officer believes that the risk of COVID-19 transmission in these environments is low and that it is possible to safely operate these facilities at this time.

There may be additional measures related to the type of facility that operators can implement to further reduce the risk of COVID-19 such as limiting the number of participants or modifying hours of operation.



STAFF REPORT

Date: 14 Oct 2020

File

ES – Solid Waste

To: Chair Langman and Board of Directors

From: Janine Dougall, General Manager of Environmental Services

Re: McKelvey Creek Landfill Upgrade Project – Authorization to Use Reserve Funds

Issue Introduction

A staff report from Janine Dougall, General Manager of Environmental Services regarding the McKelvey Creek Landfill Upgrade Project. The purpose of this report is to obtain authorization from the Board of Directors to utilize reserve funds from the Regional Solid Waste Service (010) to fund the project.

History/Background Factors

Included in the 2020 Regional Solid Waste Work Plan is the McKelvey Creek Landfill Upgrade Project.

The Regional District of Kootenay Boundary (RDKB) is committed to expanding its organics diversion capabilities across the regional district. The RDKB Board has provided direction that for the organic waste generated in the McKelvey Creek Wasteshed a partnership with the RDCK is the preferred option. As such, a letter of support and commitment was provided to supply and/or direct collected organic food waste to the Central Landfill facility once the organics processing infrastructure is constructed and operational and by no later than the end of 2022.

To facilitate the transport of collected food waste from residential and commercial sources to the RDCK facility, the RDKB will be proceeding with the construction of a transfer station facility at the McKelvey Creek Landfill.

The following includes the areas to be investigated/considered during the Project:

- Establishment of new Organic Material Transfer Station Infrastructure;
- Site servicing for water/sewer/fiber optic (eg. tying into Columbia Basin Broadband Corporation Infrastructure);
- Addition of second weigh scale;

- Optimized traffic flow with minimized health and safety issues;
- Potential relocation of existing recycling infrastructure;
- Minimizing impacts to available landfill space;
- Consideration for snow removal/stock pile areas;
- Stormwater collection and drainage.

On September 17, 2020 Tetra Tech Canada Inc. presented two conceptual design options along with Class D cost estimates for the upgrades to the McKelvey Creek Landfill. The purpose of providing the conceptual designs with cost estimates was to receive approval from the Board to proceed with one design, for which preliminary design can be completed and a grant application submitted with Class C cost estimates to the Investing in Canada Infrastructure Program - Rural and Northern Communities Infrastructure (ICIP-RNC) by October 22, 2020.

At the September 17, 2020 Board meeting the following resolution was passed:
289-20

Corporate Vote Unweighted

That the Regional District of Kootenay Boundary Board of Directors identify Option 2, which includes a 50mm water service, on-site septic and two new scales as the preferred conceptual design for the McKelvey Creek Landfill Upgrade Project, as presented to the Board on September 17, 2020.

The ICIP-RNC grant funding allocation is dependent on the location of the constructed infrastructure and population. As the McKelvey Creek Landfill is located within City of Trail boundaries, the population associated with the project is 7,709 (2016 Census Data, City of Trail). As this population number is greater than 5,000 but less than 25,000, the ICIP-RNC grant will cover up to 90% of eligible project costs. The remaining 10% is required to be funded by the applicant and should be secured prior to submitting the application.

Implications

The Class D cost estimates that were presented to the Board on September 17, 2020 for Conceptual Design Option 2 were \$1,939,877. Although this number may change as Class C cost estimates are developed, there are sufficient monies in the reserve funds for the 010 Service to cover the anticipated contribution required by the RDKB for the project. A 10% contribution value would equate to approximately \$200,000.

In the 2020-2024 approved 010 Service budget, a contribution to reserves for 2020 was estimated at \$870,000. This would bring the reserve balance at the end of December 2020 to approximately \$2.5 million. Please note however, that approximately \$1.3 million of this reserve has already been allocated to the Grand Forks Composting Facility Upgrade Project.

In addition, costs associated with meeting regulatory requirements at the West Boundary Landfill and other solid waste facilities, will require the future use of reserve funds, so the success in receiving a ICIP-RNC grant for the McKelvey Landfill Upgrade Project will be of significance.

A finalized report from Tetra Tech Canada Inc., which will have Class C cost estimates for the project, is anticipated to be submitted to the RDKB by no later than October 20, 2020 to allow for inclusion in the grant application. A staff report will be provided to the Board on October 29, 2020 to obtain the required resolution that formally authorizes staff to submit the application and outlines that the Board supports the project and commits to its share of the project, as well as cost overruns.

Relationship to Board Priorities



The initiation of food waste collection and diversion from landfill is a significant opportunity for the RDKB to minimize green house gas emissions from landfill.



The project will entail significant public and stakeholder engagement in infrastructure development as well as initiating curbside collection programs. Communications will also be required in the marketing of finished compost products.



The project has implications to cost effective and efficient services as the benefits will include extending landfill life and minimizing regulatory requirements surrounding landfill gas emissions. In addition, changes to traffic flow and the addition of a second scale will improve wait times and reduce congestion.

Background Information Provided

None

Alternatives

1. That the Regional District of Kootenay Boundary Board of Directors direct that the required contribution from the RDKB associated with the McKelvey Creek Landfill Upgrade Project for the Investing in Canada Infrastructure Program - Rural and Northern Communities Infrastructure application be obtained from the use of reserve funds from the Regional Solid Waste Service (010). Further, that any shortfall amounts be obtained through short-term borrowing if required.
2. That the Regional District of Kootenay Boundary Board of Directors direct staff to not submit an application to the Investing in Canada Infrastructure Program – Rural and Northern Communities Infrastructure program for the McKelvey Creek Landfill Upgrade Project.

Recommendation(s)

That the Regional District of Kootenay Boundary Board of Directors direct that the required contribution from the RDKB associated with the McKelvey Creek Landfill Upgrade Project for the Investing in Canada Infrastructure Program - Rural and Northern Communities Infrastructure application be obtained from the use of reserve funds from the Regional Solid Waste Service (010). Further, that any shortfall amounts be obtained through short-term borrowing if required.



Staff Report

Date: 08 Oct 2020

File

To: Chair Langman and members of the Board

From: Frances Maika, Corp. Comm. Officer & Dale Green, IT Manager

Re: RDKB Website Redesign Project Update

Issue Introduction

The RDKB Website Redesign Project will reach a major milestone with the public beta launch of the new website for staff and public input scheduled for the first week of November 2020.

Following website beta release, testing and feedback, staff will communicate results of the engagement process publicly then implement website changes through winter and spring 2021. Improvements to the site will be ongoing through 2021 as the site continues to develop and technical, content or design issues are resolved.

History/Background Factors

The RDKB Website Redesign Project began in late 2018/early 2019 with internal consultation and an analysis of organizational and public website needs carried out by Pathwise Solutions Inc., a user-experience (UX) website specialist.

IT staff confirmed the preferred option was to continue to use existing content management software and in-house web programming capacity to implement the new site once initial design was completed. This decision has reduced the cost of site development by an estimated several hundred thousand dollars based on consultant quotes and work estimates to date. Staff also planned to contract with Pathwise Solutions produce all new site content, but this proved impractical due to lack of staff availability to assist in content production initially, and the inability of an outside writer to efficiently produce suitable content in a cost-effective manner. Reliance on busy RDKB staff to complete content and programming has slowed the beta launch timeline.

The project has also been delayed a number of times due to three emergency activations in 2020 for COVID-19, freshet and wildfires, one IT staff member taking family leave with no immediate replacement, and the resulting increased workload for the CCO, IT Manager and Web Analyst.

Implications

This project is of the utmost importance as the existing site is extremely out of date in all respects, and no longer meets current Transport Layer Security (TLS) protocols.

The new website graphical design and navigational plan are fully completed and the new site is populated with about two thirds of the required content for beta launch. The priority is to have adequate content on each page to allow for a beta launch this fall and to update that content as we receive feedback from site users. Some additional features of the website including a dynamic map of the region, additional search features, and updates to our content management system and site editor will occur after the beta launch is underway.

The RDKB Corporate Communications Officer (CCO) and Web Analyst continue to work jointly to complete remaining web content over the coming weeks. The CCO is also developing an online engagement site and communications plan for that engagement this fall, so the Board, staff and public can provide feedback on the redesigned RDKB website through November and December 2020.

Advancement of Strategic Planning Goals

The RDKB Website Redesign Project directly advances three of four strategic planning goals with a focus primarily on improving and enhancing communication:



Exceptional Cost Effective and Efficient Services



Respond to Demographic / Economic / Social Change



Improve and Enhance Communication

Background Information Provided

There is no background information provided. Staff will provide a preview of the new site at the October 14, 2020 board meeting.

Alternatives

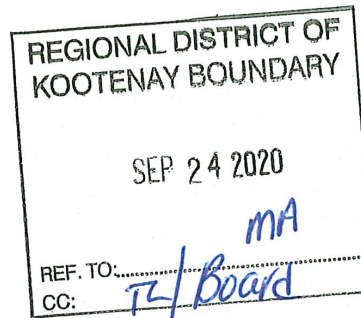
There are no alternative options presented with this report.

Recommendation(s)

That the staff report RDKB Website Redesign Project Update be received.



612 6th Ave
250-449-2620
Midway BC V0H 1M0



Vicki Gee and the RDKB board

Regarding: Access to Membership initiative at the MPL covering \$30.00 per membership

Dear Vicki Gee and the RDKB Board:

The Board of the MPL and the Director of the MPL would like to have a frank discussion with all of you in regards to the MPL – Access to Membership initiative for Area “E” residents. This is a grant initiative that has been running for three years plus at this time. While we appreciate any and all grants offered by the RDKB we are having some fundamental issues with the setup of receiving the funds for this particular grant. This membership grant, in the sum of \$4000.00 per year was initially suggested by Vicki Gee, not requested by our Library. It is to be use to cover the current cost of \$30.00/year membership for all Area E residents; with any remainder being allowed or agreed upon to go towards programs, supplies, materials, etc. We all agree that this is a very good offer for the Area E residents; it does have a cost however in more than one way to the library.

Back in June after the initial shut down from covid-19, the library postponed its AGM. On June 19th Chris contacted Vicki to ask about a revision to our agreed upon poster concerning covid-19, which lead to a follow up email from Lynda AT our chair, about the funds and the application. In response, on June 27th emailed back to Lynda was the following – “I like to be invited to a meeting with the Board every year to review the prior year outcomes & financials before I invite an application for the New Year”- Vicki. This is where we have a problem. The MPL do not have an agreement with the RDKB/Vicki that stipulates these kinds of terms regarding a meeting and review.

Our stats are as follows:

Current Stats from the 2019 Grant:

Grant total: \$4000.00

100 Registered members from Area E + 32 added BC one card holders

Total members from Area E = 132

132 x \$30.00 = \$3960.00

Not included = added costs of advertising / administration / printing.

Please note the number of Area E patrons has increased each year about 25%.

As you can see, while we wait to have an invitation for an application opened to us, we do not hold back on our offer of free membership to Area E. So if that invitation to make the grant application doesn't happen that particular year we are already in the hole for those memberships given out to that date. Like now for example, all funds of the 2019 grant are used up and then some; we have fronted the funds from January 2020 until now being September 2020. What happens if we don't get the grant?

We would also like to address at this time in writing that this “non-agreement agreement” made with Vicki does not allow us to make an increase in the cost of membership. At this time we would like to inform you of a proposed increase to patron memberships of \$15.00 as of January 2021 to help cover the increase in costs/expenses. New membership costs are proposed to be \$45.00 per person and a possible family rate of \$65.00 that would consist of two parents, children.

Due to how complicated and stressful Covid -19 has made running the library and having meetings, we thought that this year’s grant funds would be a lot smoother in receiving, for example, doing everything via email. While we appreciate Vicki’s offer to use her zoom account or to hold our meeting at the Riverside Centre that did not and does not work for us.

We do a number of reports and surveys etc., connected with our financial obligations with the province. It seems you are not taking into consideration our set up for reporting and obligations to the Province and the Libraries Branch that already exists. Our budget of time and resources are set up in a way that we budget not just our funds but our hours and time that we can afford to spend on projects to keep everything operating as it should.

An active plan to give resolution to this situation:

- Application to be open to the MPL January 15th of each year, or declined to allow us to plan for the situation of membership costs and whether or not to move forward in our charge for membership.
- Stats will be given to RDKB/Vicki after Annual report to the Province, being second week of March via email each year.

Due to Covid-19 this year’s report due date was extended, this may be a possibility in the future but should not hold up funds in any way because we do not pause the offer of membership.

We feel at this time that this grant should not be dependent on Vicki being invited to a MPL Board meeting. If Vicki would like to come to a meeting on any business other than this grant or important change to this grant, we would be happy to accommodate but it should not hold up the funds. We need you all to realize our situation; we are a very small library with a small board. We already have struggled for board members prior to Covid. Now with that added to the reality for people, meetings seem like a daunting task to the point that we just had two members leave the board due to health concerns. To entice people to the board we have only six meetings a year and try to keep those meetings to about an hour-hour and half.

With so much going on in the province for the library due to covid-19 and requirements to operate safely in accordance with WCB and the Ministry of Education, we would like to ask for your help to carry on this grant but please make this as simple as possible. We have much more work to do in achieving our obligations to the province and our patrons and cannot afford to spend more time on this grant. If we cannot come to an agreed plan then we are no longer interested in continuing this grant.

Thank you,

Chris Condon – Director

Lynda AT – MPL Board Chair



2775 Myers Creek Road E.
Midway, BC, V0H 1M0

Attn: Board of Directors
Regional District Kootenay Boundary
Board of Regional District of Kootenay Boundary
202 - 843 Rossland Ave,
Trail, BC, V1R 4S8

REGIONAL DISTRICT OF
KOOTENAY BOUNDARY

SEP 28 2020

REF. TO: *MF*
CC: *TR*

9/23/20

RE: Issuance of Licence for Standard Cultivation (Licence No. LIC-HU7CU4DYAO-2020-1) Under the Cannabis Act

Dear Board of Directors,

As required by Health Canada, I am writing to formally notify you that BZAM Management Inc. (the licence holder) has been issued a Standard Cultivation Licence in accordance with the *Cannabis Act* and *Cannabis Regulations* effective September 4th, 2020. The site address is:

2775 Myers Creek Road E., Midway, BC, V0H 1M0

As permitted under the *Cannabis Act* and *Cannabis Regulations*, this licence authorizes us to (1) possess cannabis, (2) obtain dried cannabis, fresh cannabis, cannabis plants or cannabis plant seeds by cultivating, propagating and harvesting cannabis, (3) sell cannabis to authorized parties in accordance with subsection 11(5) of the *Cannabis Regulations*, and (4) for the purpose of testing, to obtain cannabis by altering its chemical or physical properties by any means.

Additionally, these authorized activities will be conducted in accordance with all applicable federal and provincial regulations as well as all applicable municipal bylaws. These activities will take place in an outdoor cultivation area and three non-descript and professionally secured buildings.

If you have any questions, concerns, or comments regarding our *Cannabis Act* licence, please do not hesitate to contact me via email or phone.

Regards,

Stephanie Harpur
Responsible Person, BZAM Management Inc.
Phone: 778-877-3603
Email: responsible.mw@bzam.com

To: RDKB

September 23, 2020

I am writing to you about a great opportunity for your company to be corporate leaders in environmental conservation and show support for our magnificent provincial parks in British Columbia. The BC Government and insurer ICBC have released three special vehicle license plates with a few majestic images of our parks. The plates can be purchased for an initial \$50 upon renewal of your corporate fleet of light weight vehicles. Profits from the sales are contributed to the BC Park Enhancement Fund. The revenues from the Fund, in turn, support environmental park-related initiatives. The restoration at the King George Park near Rossland was partly funded by this program. Use this link to learn more about the program:

<http://bcparks.ca/licence-plates/program/#:~:text=The%20BC%20Parks%20Licence%20Plate,s%20parks%20and%20protected%20area>

I urge you to explore and consider this great opportunity as a means of expressing your support to the continued maintenance and enhancement of BC Provincial Parks. It really is a win-win. Your fleet of vehicles sport a beautiful coloured image of one of our majestic parks and environmental organizations and professionals benefit from the opportunity to engage in the enhancement or restoration of our environment for the enjoyment of future generations.

Thank you for your attention and cooperation.

Kootenay cheers,

Bill Coedy

Founder Rossland Streamkeepers
Director, Rossland Society for Environmental Action
1973 McLeod Ave
Rossland, BC
250-512-9955



June 4, 2020

Carolyn Gillis
Regional District of Kootenay Boundary
202 – 843 Rossland Avenue
Trail, BC
V1R 4S8

Hi Carolyn

I am writing to provide you with an update on the Community Initiatives and Affected Areas Programs.

As you are aware, these Programs are currently in their fifth year of a five-year Trust funding commitment.

I would like to advise you that our Board of Directors recently approved a renewal of the Community Initiatives and Affected Areas Programs for the 2021/22 year. This letter confirms that approval, and the Trust's commitment to fund the Programs at the current allocation for the 2021/22 year, a total grant of \$354,973.

We will prepare a Contribution Agreement for the Trust's grant at the start of the 2021/22 year (April 1, 2021). We will organize our regular meeting of administrators of the Programs this fall and reach out to you to confirm your availability. We appreciate the chance to connect with you on the Programs, and for you to share approaches and processes with other administrators.

As a key delivery partner, these Programs depend on the efforts of your staff teams and leadership to be successful. On behalf of the Trust, thank you for your efforts to deliver benefits to the Basin.

Sincerely,

A handwritten signature in black ink, appearing to read "Will Nixon", written in a cursive style.

Will Nixon
Senior Manager, Delivery of Benefits

Regional District of Kootenay Boundary**Cheque Register-Summary for month of September 2020**

Cheque Date	Supplier	Name	Amount
September 18, 2020	0731689	0731689 BC LTD DBA INTERIOR SIGNS	\$ 78.75
September 24, 2020	ARL010	THE ARLINGTON HOTEL	\$ 218.87
September 18, 2020	BCI001	B.C.I.T.	\$ 534.06
September 4, 2020	BEA480	BEAVER VALLEY MAY DAYS SOCIETY	\$ 1,613.48
September 18, 2020	BEL070	BELL MEDIA RADIO GP	\$ 218.48
September 18, 2020	BIP010	BI PURE WATER	\$ 88.76
September 24, 2020	BRI001	BRINK'S CANADA LIMITED	\$ 799.24
September 4, 2020	BRI005	BRIGHTER DAYS WINDOW WASHING	\$ 2,541.00
September 18, 2020	CAP060	CAPILANO UNIVERSITY	\$ 1,061.23
September 24, 2020	CAP060	CAPILANO UNIVERSITY	\$ 1,061.23
September 11, 2020	CAR020	CARLILE, DOMINIC, M.	\$ 80.00
September 18, 2020	CAS024	CASTLEGAR HYUNDAI	\$ 91,092.16
September 4, 2020	CAS026	CASINO WATER DISTRICT	\$ 17,500.00
September 24, 2020	CEN040	CENTRIX CONTROL SOLUTIONS LP	\$ 2,329.60
September 18, 2020	CHR018	CHRISTINA LAKE ARTS AND ARTISAN	\$ 3,500.00
September 18, 2020	CHR026	CHRISTINA LAKE CANNABIS CORP.	\$ 750.00
September 18, 2020	CHR270	CHRISTINA LAKE NEWS	\$ 504.00
September 24, 2020	CHR430	CHRISTINA LAKE PORTA POTTY & RV	\$ 1,500.00
September 18, 2020	CIA010	CIARDULLO, MARIA	\$ 250.00
September 11, 2020	COL026	COLUMBIA WIRELESS INC.	\$ 610.40
September 24, 2020	DIA050	DIAMOND SHINE CLEANING	\$ 105.00
September 18, 2020	DOM040	DOMEIJ, ERIKA	\$ 212.00
September 18, 2020	DUN100	DUNNET, KIYOMI	\$ 3.00
September 24, 2020	DUN100	DUNNET, KIYOMI	\$ 150.00
September 18, 2020	ELL001	ELLIS, LYNN	\$ 302.50
September 24, 2020	ENV010	ENVIRONMENTAL OPERATORS	\$ 420.00
September 24, 2020	FRI025	FRIENDS OF THE ROSSLAND RANGE	\$ 10,000.00
September 18, 2020	FRU020	FRUITVALE CO-OP	\$ 401.79
September 18, 2020	FUN030	FUNK, CASSIDY	\$ 137.84
September 24, 2020	GER030	GERICK CYCLE & SPORTS	\$ 1,985.48
September 18, 2020	GRA055	GRAND FORKS RENOVATION CENTRE	\$ 233.07
September 11, 2020	HEN140	HENDERSON, DEREK	\$ 95.24
September 24, 2020	HOM030	HOMEGOODS FURNITURE	\$ 840.40
September 18, 2020	JOS040	JOSH THE GARAGE DOOR GUY	\$ 1,463.91
September 24, 2020	KEN110	KENDRICK EQUIPMENT (2003) LTD.	\$ 89.05
September 18, 2020	KIW020	KIWANIS CLUB OF TRAIL	\$ 1,936.03
September 1, 2020	LAN030	BC LAND TITLE & SURVEY AUTHORITY	\$ 1,000.00
September 15, 2020	LAN030	BC LAND TITLE & SURVEY AUTHORITY	\$ 1,000.00
September 18, 2020	MAR028	MARTENS, LUKE	\$ 3.00
September 4, 2020	MIN040	MINISTER OF FINANCE	\$ 109.14
September 11, 2020	MIN040	MINISTER OF FINANCE	\$ 366.67
September 18, 2020	MIN040	MINISTER OF FINANCE	\$ 591.74
September 18, 2020	MIN230	MINISTER OF FINANCE	\$ 848.00
September 4, 2020	MUN002	MUNICIPAL PENSION PLAN 50151-	\$ 24,173.39
September 18, 2020	MUN002	MUNICIPAL PENSION PLAN 50151-	\$ 23,792.56

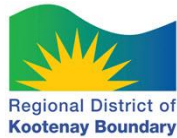
Regional District of Kootenay Boundary**Cheque Register-Summary for month of September 2020**

Cheque Date	Supplier	Name	Amount
September 4, 2020	MUN003	MUNICIPAL PENSION PLAN 00151-	\$ 35,343.37
September 18, 2020	MUN003	MUNICIPAL PENSION PLAN 00151-	\$ 35,825.32
September 4, 2020	OME040	OMEGA COMMUNICATIONS LTD.	\$ 309.12
September 24, 2020	OME040	OMEGA COMMUNICATIONS LTD.	\$ 428.43
September 1, 2020	ONT010	ONTERRA SYSTEMS	\$ 682.35
September 24, 2020	OPU020	OPUS CONSULTING GROUP LTD	\$ 9,289.00
September 18, 2020	PET004	PETIT, PHILIP	\$ 5,217.48
September 18, 2020	PET010	PETRO CANADA	\$ 6,802.98
September 4, 2020	REC002	RECEIVER GENERAL	\$ 900.19
September 18, 2020	REC002	RECEIVER GENERAL	\$ 804.96
September 4, 2020	REC010	RECEIVER GENERAL FOR CANADA	\$ 87,264.93
September 18, 2020	REC010	RECEIVER GENERAL FOR CANADA	\$ 81,985.51
September 18, 2020	REG070	REGIONAL DISTRICT OF CENTRAL	\$ 60,246.00
September 18, 2020	ROS120	ROSSLAND HISTORICAL MUSEUM &	\$ 1,760.00
September 4, 2020	SAV040	SAVE-ON-FOODS	\$ 1.10
September 18, 2020	SAV040	SAVE-ON-FOODS	\$ 34.01
September 24, 2020	SAV040	SAVE-ON-FOODS	\$ 11.07
September 18, 2020	SEL010	SELECT OFFICE PRODUCTS	\$ 236.83
September 11, 2020	SHA030	SHAW CABLE	\$ 233.35
September 24, 2020	SHA030	SHAW CABLE	\$ 316.28
September 18, 2020	SHR002	SHRED-IT	\$ 1,254.16
September 11, 2020	SIM006	SIMUNDSSON, JOHANN	\$ 103.00
September 11, 2020	SMI011	SMITH, DARLENE	\$ 550.00
September 18, 2020	SOU001	SOUND SOLUTIONS	\$ 69.44
September 4, 2020	SPC010	SOCIETY FOR PREVENTION OF	\$ 7,437.00
September 24, 2020	SPE030	SPEEDPRO SIGNS PLUS	\$ 184.80
September 18, 2020	STA007	DESJARDINS CARD SERVICES	\$ 71.23
September 24, 2020	STE130	STERICYCLE COMMUNICATION	\$ 888.82
September 4, 2020	TEL002	TELUS MOBILITY	\$ 4,685.48
September 11, 2020	TEL050	TELUS COMMUNICATIONS CO. C/O	\$ 2,893.31
September 18, 2020	TEL050	TELUS COMMUNICATIONS CO. C/O	\$ 2,911.11
September 4, 2020	TET010	TETRA TECH CANADA INC.	\$ 41,846.91
September 4, 2020	TOU005	TOURISM ROSSLAND SOCIETY	\$ 1,833.00
September 4, 2020	TRA054	TRAIL & DISTRICT AFTER SCHOOL BAND	\$ 14,820.82
September 11, 2020	UNI220	UNITEX NB CO. LTD	\$ 675.75
September 18, 2020	UPS010	UPS CANADA	\$ 39.55
September 4, 2020	VIP010	VIPER FUELS	\$ 262.50
September 18, 2020	VIP010	VIPER FUELS	\$ 787.50
September 18, 2020	VIS050	VISTA RADIO LTD.	\$ 960.75
September 18, 2020	WEN002	WENINGER CONSTRUCTION & DESIGN	\$ 31,463.25
September 4, 2020	WHI090	WHITLOCK INSURANCE SERVICES	\$ 558.00
September 18, 2020	WHI090	WHITLOCK INSURANCE SERVICES	\$ 1,596.00
September 18, 2020	WOO010	WOODY'S TIRE & AUTO LTD.	\$ 285.12
Total Accounts Paid			\$ 640,460.85

Regional District of Kootenay Boundary**Cheque Register-Summary for month of September 2020**

Cheque Date	Supplier	Name	Amount
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NB: Payments greater than \$100,000 related to Provincial Emergency Program (service 012) are marked with an asterisk.



Beaver Valley Regional Parks and Regional Trails Committee

Minutes Tuesday, June 16, 2020 Held via Zoom Online Conferencing

Committee members present:

Director A. Grieve, Chair
Director S. Morissette
Director M. Walsh

Staff present:

M. Daines, Manager of Facilities and Recreation
M. Forster, Executive Assistant/Recording Secretary

CALL TO ORDER

The Chair called the meeting to order at 9:00 am.

ACCEPTANCE OF THE AGENDA (additions/deletions)

The agenda for the June 16, 2020 Beaver Valley Regional Parks and Regional Trails Committee meeting was presented.

The agenda was amended by a late item: Director Walsh - Re: Skateboard Park Update.

Moved: Director Walsh Seconded: Director Morissette

That the agenda for the June 16, 2020 Beaver Valley Regional Parks and Regional Trails Committee meeting be adopted as amended.

Carried.

ADOPTION OF MINUTES

The minutes of the May 19, 2020, Beaver Valley Regional Parks and Regional Trails Committee meeting were presented.

Moved: Director Morissette Seconded: Director Walsh

That the minutes of the May 19, 2020 Beaver Valley Regional Parks and Regional Trails Committee meeting be adopted as presented.

Carried.

DELEGATIONS

There were no delegations present.

UNFINISHED BUSINESS

There was no unfinished business.

NEW BUSINESS

M. Daines, Manager of Facilities and Recreation

Re: Update on the Opening of BV Recreation Facilities.

A staff report from Mark Daines, Manager of Facilities and Recreation regarding the opening of outdoor recreation facilities in the Beaver Valley was presented.

The Committee was informed that Beaver Valley Family Park opened on June 1 with an Exposure Control Plan and Occupational Health and Safety Plan.

The Beaver Valley Skate Park, Mazzochi Playground, and Beaver Valley Family Park playground were opened on June 2 with signage that promotes the safe use of outdoor parks and playgrounds facilities as approved by the Regional Health Authorities.

The Committee discussed the 2020 summer camp program and there was general agreement to waive the program for the remainder of the year due to COVID-19 implications.

Moved: Director Walsh Seconded: Director Morissette

That the Beaver Valley Regional Parks and Trails Committee receive, for information, the June 8th staff report titled "Update on Opening of Outdoor Recreation Facilities" as presented to the Committee on June 16, 2020.

Carried.

M. Daines, Manager of Facilities and Recreation

Re: Update on the Beaver Valley Age Friendly Program

A staff report from Mark Daines, Manager of Facilities and Recreation presented an update on the Beaver Valley Age Friendly Program.

Moved: Director Morissette Seconded: Director Walsh

That the Beaver Valley Regional Trails and Parks Committee discuss the contents of the Manager's report as it pertains to the Beaver Valley Age Friendly Program and as presented to the Committee on June 16, 2020.

Carried.

M. Daines, Manager of Facilities and Recreation

Re: Special Projects Update

M. Daines provided the Committee members with an update on special projects. Some of the projects highlighted were:

1. flooring project in the Beaver Valley Arena,
2. potential purchase of a floor washing machine,
3. completion of power upgrade, and
4. installation of cameras.

Staff will include a write up on special projects in the next newsletter.

Moved: Director Walsh Seconded: Director Morissette

That the Beaver Valley Regional Trails and Parks Committee receive the verbal update on special projects as presented on June 16, 2020.

Carried.

M. Daines, Manager of Facilities and Recreation
Re: Arena Opening Update

M. Daines spoke to guidelines for opening the arena. The Committee will be kept informed when more is known around the Nite Hawks' and minor hockey plans for the hockey season.

Moved: Director Morissette Seconded: Director Walsh

That the Beaver Valley Regional Trails and Parks Committee receive the verbal report on the arena opening as presented on June 16, 2020.

Carried.

M. Daines, Manager of Facilities and Recreation
Re: Summer Parks Program Update

This item was discussed in 6a: Update on the Opening of BV Recreation Facilities.

Committee Action Items

There was nothing further to add outside of the discussion of other agenda items during the meeting.

Committee members will be provided with a link to the Committee Action Items report.

Newsletter Additions

Information will be submitted on arena improvements and why the summer programs were being waived for the year. The information for the newsletter will be sent to the Committee for review before being published. Flyers will be put out advertising programs as they are released.

LATE (EMERGENT) ITEMS

Director Walsh informed the Committee members of a recent incident at the Skateboard Park.

DISCUSSION OF ITEMS FOR FUTURE MEETINGS

Summer meetings will be scheduled as needed.

QUESTION PERIOD FOR PUBLIC AND MEDIA

A question period for public and media was not required.

CLOSED (IN CAMERA) SESSION

Proceed to a Closed Meeting pursuant to Section 90 (1) (k) of the *Community Charter*.

Moved: Director Morissette Seconded: Director Walsh

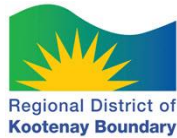
That the Beaver Valley Regional Parks and Regional Trails Committee proceed to a closed meeting pursuant to Section 90 (1)(j) of the *Community Charter* at 9:35 am.

Carried.

The Committee reconvened to the open meeting at 9:49 am.

ADJOURNMENT

The meeting was adjourned at 9:50 am.



Beaver Valley Regional Parks and Regional Trails Committee

Minutes September 21, 2020 Held Via Zoom Online Video Conferencing

Committee members present:

Director A. Grieve, Chair
Director S. Morissette
Director M. Walsh

Staff present:

M. Daines, Manager of Facilities and Recreation
M. Forster, Executive Assistant/Recording Secretary

CALL TO ORDER

The Chair called the meeting to order at 12:00 pm.

LAND ACKNOWLEDGEMENT

We acknowledge and appreciate that the land on which we gather is the converging, traditional and unceded territory of the Syilx, Secwepemc, Sinixt and Ktunaxa Peoples as well as the Metis Peoples whose footsteps have also marked these lands.

ACCEPTANCE OF THE AGENDA (additions/deletions)

The agenda for the September 21, 2020 Beaver Valley Regional Parks and Regional Trails Committee was presented.

The agenda was amended by the addition of a late item: Haynes Park Draft Master Plan - Information.

Moved / Seconded

That the agenda for the September 21, 2020 Beaver Valley Regional Parks and Regional Trails Committee be adopted as amended.

Carried.

ADOPTION OF MINUTES

The minutes of the June 16, 2020, Beaver Valley Regional Parks and Regional Trails Committee meeting were presented.

Moved / Seconded

That the minutes of the June 16, 2020 Beaver Valley Regional Parks and Regional Trails Committee meeting be adopted as presented.

Carried.

DELEGATIONS

There were no delegations in attendance.

UNFINISHED BUSINESS

There was no unfinished business for discussion.

NEW BUSINESS

M. Daines, Manager of Facilities and Recreation

Re: September 2020 - Work Plan Update and 2021 Look-a-Head - Beaver Valley Regional Parks and Regional Trails Service

To provide a progress update for the 2020 Work Plan and a look ahead for consideration to projects and priorities for 2021.

Staff will provide a summary of completed 2020 projects for the Village of Fruitvale October newsletter.

Moved / Seconded

That the Beaver Valley Regional Parks and Regional Trails Committee receive the September 2020 Work Plan Update Report and proposed 2021 projects for the Beaver Valley Regional Parks & Regional Trails Service (019) as presented to the Committee on September 21, 2020.

Carried.

M. Daines, Manager of Facilities and Recreation
Re: Return to Open Plan

On March 17, 2020, British Columbia's Provincial Health Officer Dr. Bonnie Henry declared a state of emergency for the province of BC based on the rising pandemic of the Covid 19 Virus.

In the wake of this declaration all public buildings and facilities in British Columbia closed and citizens were told to stay home and isolate. As of the writing of this Return to Open plan the Province of British Columbia is in Phase 3 of the Pandemic.

This 'Return to Open Plan' in draft form is a guideline for how the Beaver Valley Arena will operate now that restrictions on public facilities have softened.

Moved / Seconded

That the Beaver Valley Regional Parks and Regional Trails Committee receive the draft of the Return to Open Plan. **FURTHER**, that the Beaver Valley Regional Parks and Regional Trails Committee approve the draft of the Return to Open Plan.

Carried.

M. Daines, Manager of Facilities and Recreation
Re: Beaver Valley Age Friendly Program

A staff report from Mark Daines, Manager of Facilities and Recreation regarding an update on the Beaver Valley Age Friendly Program.

The Committee discussed seniors' activities during Covid-19.

Moved / Seconded

That the Beaver Valley Regional Parks and Regional Trails Committee receive and discuss the contents of the Manager's report as it pertains to the Beaver Valley Age Friendly Program.

Carried.

M. Daines, Manager of Facilities and Recreation
Re: Committee Action Items Update

A staff report from Mark Daines, Manager of Facilities and Recreation, about an update on Committee Action Items as they pertain to the Beaver Valley Recreation, Beaver Valley Arena and Beaver Valley Parks and Trails services.

Moved / Seconded

That the Beaver Valley Regional Parks and Regional Trails Committee receive and discuss the Committee Action Items attached. **FURTHER**, that the Beaver Valley Regional Parks and Regional Trails Committee approve the Committee Action Items to date.

Carried.

Director A. Grieve
Re: Park Siding School House - Discussion

Director Grieve addressed the Committee about recent communications from Craig Horsland regarding Park Siding School. Staff provided the Committee with information on routine maintenance performed by RDKB staff. Discussion ensued on relocation ideas for the Park Siding School in order to provide attraction exposure to the public.

Staff will write a letter to the Village of Fruitvale Mayor and Village Council and ask the Village if there is an interest to relocate it and, if so, coming up with a site to consider as a location for the Park Siding School House.

Moved / Seconded

That the Beaver Valley Regional Parks and Regional Trails Committee directs staff to write a letter to the Village of Fruitvale Mayor and Council and ask the Village if there is an appetite for the relocation of the Park Siding School House. **FURTHER**, that if agreeable to the relocation, the Village to consider

an appropriate sight, and **FURTHER**, that if agreeable, staff will seek a quote for the move.

Carried.

Staff will provide the Committee members with more information around the ownership of the property.

Director A. Grieve

Re: Status of Beaver Valley Arena and Programs - Marketing New Activities/School Use/Advertising

Director Grieve encouraged the Committee members to brainstorm ideas on how to better market the availability of the Beaver Valley Arena during the pandemic. The Committee was informed that minor hockey and the figure skating club expressed an interest in ice time. Staff will also reach out to the schools to see if there is any interest from them for arena usage.

Newsletter Additions - Discussion

This agenda item was discussed earlier in the meeting.

LATE (EMERGENT) ITEMS

Director S. Morissette

Re: Haynes Park Draft Master Plan - Information

Director S. Morissette informed the Committee members that they would receive a copy of the Haynes Park Draft Master Plan.

M. Daines, Manager of Facilities and Recreation, informed the Committee members of a successful disk golf tournament held by the Disk Golf Association at Marsh Creek Park. The Association expressed an interest in holding future tournaments at Marsh Creek Park. Staff will add this successful event to the Village of Fruitvale's November newsletter.

Director Grieve inquired about extending the camping season at Marsh Creek Park. Staff was requested to add the marketing and possible improvements/expansions to the Marsh Creek Park to the 2021 work plan in order to enable an extension of the camping season.

Director S. Morissette expressed his appreciation in the work and effort that M. Daines, Manager of Facilities and Recreation, put in to the development of the "Return to Open Plan".

DISCUSSION OF ITEMS FOR FUTURE MEETINGS

A discussion of items for future agendas was not required.

QUESTION PERIOD FOR PUBLIC AND MEDIA

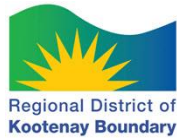
A question period for public and media was not required.

CLOSED (IN CAMERA) SESSION

A closed (in camera) session was not required.

ADJOURNMENT

The meeting was adjourned at 9:54 am.



Boundary Community Development Committee

**Wednesday, September 2, 2020
Via Zoom Online Video Conferencing**

Minutes

Committee Members Present:

Director G. McGregor, Chair
Director R. Russell, Vice Chair
Director V. Gee
Director R. Dunsdon
Director C. Korolek

Staff Present:

M. Andison, Chief Administrative Officer
J. Chandler, General Manager of Operations/Deputy CAO
T. Lenardon, Corporate Officer/Recording Secretary
D. Dean, Manager of Planning & Development
B. Ihlen, General Manager of Finance/Chief Financial Officer
J. Dougall, General Manager of Environmental Services
F. Maika, Corporate Communications Officer
K. Anderson, Watershed Planner
M. Stephens, Interim Manager of Emergency Programs

CALL TO ORDER

Committee Vice Chair Russell called the meeting to order at 10:00 a.m.

LAND ACKNOWLEDGEMENT

We acknowledge and appreciate that the land on which we gather is the converging, traditional and unceded territory of the Syilx, Secwepemc, Sinixt and Ktunaxa Peoples as well as the Metis Peoples whose footsteps have also marked these lands.

ADOPTION OF AGENDA (ADDITIONS/DELETIONS)

The agenda for the September 2, 2020 Boundary Community Development Committee meeting was presented.

Moved / Seconded

That the agenda for the September 2, 2020 Boundary Community Development Committee meeting be adopted as presented.

Carried.

ADOPTION OF MINUTES

The draft minutes of the July 7, 2020 Boundary Community Development Committee meeting were presented.

Director Gee requested an amendment to the discussion on the *Outback Snowmobile Tours Crown Land Tenure Application* on page 5 of the previous minutes by removing the reference to the "the Big White APC", and replacing it with "Electoral Area E/West Boundary APC" and it was;

Moved / Seconded

That the minutes of the Boundary Community Development Committee meeting held July 7, 2020 be adopted as amended.

Carried.

GENERAL DELEGATIONS

There were no delegations in attendance at the meeting.

OLD BUSINESS

J. Chandler, General Manager of Operations/Deputy CAO

Re: BC Transit Verbal Update

James Chandler, General Manager of Operations/Deputy Chief Administrative Officer advised that a verbal update on BC Transit/transportation in the Boundary will discussed later in the meeting at agenda item 7.e)-*Boundary Transit Service September-2020 Work Plan Update*.

NEW BUSINESS**J. Chandler, General Manager of Operations/Deputy CAO
Re: September 2020 Work Plan Update Reports and Proposed 2021
Projects - Boundary Economic Development Service - 008**

The purpose of these reports is to provide an update on the September 2020 Boundary Economic Development Service Work Plan and proposed 2021 projects.

James Chandler, General Manager of Operations/Deputy CAO reviewed the reports and provided updates on the status of the 2020 Work Plans for the Boundary Community Forest and the Boundary Trails Master Plan projects. He noted the impact that COVID-19 has on moving the projects forward and he advised that some work would be completed in 2021.

There was a discussion regarding the Boundary Meat Processing project and grant funds that have been received. For a future meeting, staff will provide a report on how this project may fit into a regional plan and the process to include it as part of Boundary Economic Development. Further discussions will take place with the presentation of the 2021 Work Plan.

There was a discussion regarding Boundary Community Forests. Staff will set out priorities to move this project forward (fund and formalize), and to continue with steps for partnering with First Nations, and it was;

Moved / Seconded

That the Boundary Community Development Committee receive the September 2020 Work Plan Update reports and proposed 2021 projects for Boundary Economic Development Service (008) as presented to the Committee on September 2, 2020.

Carried.

Committee Chair McGregor joined the meeting at 10:15 a.m. and she assumed the Chair from Vice Chair Russell.

**J. Chandler, General Manager of Operations/Deputy CAO
Re: September 2020 Work Plan Update Reports and Proposed 2021 Projects
Grand Forks Rural Fire Protection Service - 057**

The purpose of these reports is to provide an update on the September 2020 Grand Forks Rural Fire Protection Service Work Plan and proposed 2021 projects.

Staff provided an update on the costs of the project and noted that the Carson Fire Hall expansion and renovation project is not quite complete, but is on target with

good coordination with the City of Grand Forks. To date, the project is on budget. Staff provided a summary of the project components that will flow over into 2021.

The Committee discussed the contract for the delivery of rural fire protection by the City of Grand Forks. The Committee also discussed the local government legislative review of the service itself. Director Russell noted the differences between these reviews, and it was;

Moved / Seconded

That the Boundary Community Development Committee receive the September 2020 Work Plan Update reports and proposed 2021 projects for Grand Forks Rural Fire Protection Service (057) as presented to the Committee on September 2, 2020.

Carried.

J. Chandler, General Manager of Operations/Deputy CAO
Re: September 2020 Work Plan Update Reports and Proposed 2021 Projects
Kettle Valley Fire Protection Service - 058

The purpose of these reports is to provide an update on the September 2020 Kettle Valley Fire Protection Service work plan and proposed 2021 projects.

James Chandler, General Manager of Operations/Deputy CAO reviewed the progress on the review of the West Boundary Fire Service. Staff and the Committee members discussed planning for 2021. Staff advised that at this time, there are no specific projects scheduled for the service in 2021. However, further discussions regarding a service review will commence this fall 2020.

Moved / Seconded

That the Boundary Community Development Committee receive the September 2020 Work Plan Update reports and proposed 2021 projects for Kettle Valley Fire Protection Service (058) as presented to the Committee on September 2, 2020.

Carried.

J. Chandler, General Manager of Operations/Deputy CAO
Re: September 2020 Work Plan Update Report and Proposed 2021 Projects
Boundary Animal Control Service - 071

The purpose of these reports is to provide an update on the September 2020 Boundary Animal Control Service Work Plan and proposed 2021 projects.

Staff provided a verbal update on the 2020 Boundary Animal Control Activity Report and the RDKB Animal Control facility. The contract with the Commissionaires for the Boundary Animal Control Service expires at the end of 2021, and it was;

Moved / Seconded

That the Boundary Community Development Committee receive the September 2020 Work Plan Update reports and proposed 2021 projects for Boundary Animal Control Service (071) as presented to the Committee on September 2, 2020.

Carried.

J. Chandler, General Manager of Operations/Deputy CAO
Re: September 2020 Work Plan Update Reports and Proposed 2021 Projects
Boundary Transit Service - 950

The purpose of these reports is to provide an update on the September 2020 Boundary Transit Service Work Plan and proposed 2021 projects.

Staff updated the Committee on Trail Transit as the new Boundary Transit service provider. Staff continue to work through the service expectations and operational adjustments. Staff are also reviewing the availability of bus bays/garage for when the fleet is not in use, the availability of washrooms and other matters, which impact daily operations.

A discussion around public engagement with Trail Transit ensued. In October 2020, staff will provide more details respecting the completion of the plans for public engagement.

Staff will review the Friday morning Greenwood run to determine why it is different, what is allowed and whether BC Transit or the Operator, Trail Transit, could coordinate this run to what was done before. A discussion ensued regarding the inclusion of passengers from Phoenix on this run.

Moved / Seconded

That the Boundary Community Development Committee receive the September 2020 Work Plan Update reports and proposed 2021 projects for Boundary Transit Service (950) as presented to the Committee on September 2, 2020.

Carried.

J. Dougall, General Manager of Environmental Services
Re: September 2020 Work Plan Update Reports and Proposed 2021 Projects
Electoral Area D/Rural Grand Forks & City of Grand Forks Mosquito Control
Service-080 and
Electoral Area C/Christina Lake Mosquito Control Service-081

The purpose of these reports is to provide an update on the September 2020 Mosquito Control Services work plan and proposed 2021 projects.

Janine Dougall, General Manager of Environmental Services explained that the Pest Management Renewal Plan is a major project for both mosquito control services. The renewal process expires in May 2021. Staff have had initial discussions with the Ministry of Environment and Climate Change Strategy to confirm the process and consultation requirements, which include effective and significant communications and consultations with First Nations. Public engagement and messaging will ensue as part of the overall Pest Management Plan renewal process.

Staff noted that the requisition limit for delivery of the service is not enough. Staff are discussing the options and process for increasing the requisition limit.

Work associated with the Pest Management Plan Renewal projects included in the current 2020 Work Plans will carry over into 2021.

Moved / Seconded

That the Boundary Community Development Committee receive the September 2020 Work Plan Update reports and proposed 2021 projects for Mosquito Control Services (080/081) as presented to the Committee on September 2, 2020.

Carried.

P. Keys, Manager of Facilities and Recreation

**Re: September 2020 Work Plans Update Reports and Proposed 2021 Projects - Grand Forks & Christina Lake Recreation Services
021/023/024/027/030/031/040**

The purpose of these reports is to provide an update on the 2020 Grand Forks and Christina Lake Work Plans, including Program Services, Christina Lake Parks and Trails, Grand Forks Aquatic Centre and Arena and proposed 2021 projects.

James Chandler, General Manager of Operations/Deputy Chief Administrative Officer, on behalf of Paul Keys, Manager of Facilities and Recreation presented the September 2020 Work Plan update. He provided a summary on the reopening of the RDKB recreation facilities and the COVID-19 Safety Plans. Some projects have been delayed due to the Pandemic.

Staff provided information regarding proposed 2021 recreation projects, including a review of the current recreation programs and funding.

After further review, it was;

Moved / Seconded

That the Boundary Community Development Committee receive the September 2020 Work Plans Update reports and proposed 2021 projects for Grand Forks & Christina Lake Recreation (021/023/024/027/030/031/040) as presented to the Committee on September 2, 2020.

Carried.

D. Dean, Manager of Planning and Development
Re: September 2020 Work Plan Update Reports and Proposed 2021
Projects - Boundary Integrated Watershed Service (BIWS) - 170

The purpose of these reports is to provide an update on the September 2020 Boundary Integrated Watershed Service Work Plan and proposed 2021 projects.

Donna Dean, Manager of Planning and Development provided updates on the Watershed Service Work Plan and proposed projects for 2021 and she reviewed the 2020 budget and the projected 2021 budget.

The Manager of Planning and Development and Mark Stephens, Interim Manager of Emergency Programs Staff addressed concerns and answered inquiries regarding the Disaster Mitigation and Adaptation Fund (DMAF)-Riparian Restoration project and DMAF funding.

Staff also answered questions regarding flooding and geographical hazard risks that are forecasted for 2021, funding, and floodplain mapping.

Moved / Seconded

That the Boundary Community Development Committee receive the September 2020 Work Plans Update reports and proposed 2021 projects for Boundary Integrated Watershed Service (170) as presented to the Committee on September 2, 2020.

Carried.

K. Anderson, Watershed Planner
Re: Boundary Integrated Watershed Service Monthly Report
July & August 2020

The monthly Boundary Integrated Watershed Service Month Report (July & August 2020) was presented.

Staff provided an update on stakeholder engagement for the Boundary Regional Drought Response Plan and on the updates made to the present drought level condition that is posted on the RDKB website and social media sites.

Moved / Seconded

That the Boundary Community Development Committee receive the Boundary Integrated Watershed Service Monthly Update Report for July and August 2020 from Kristina Anderson, Watershed Planner, as presented to the Committee on September 2, 2020.

Carried.

K. Anderson, Watershed Planner

Re: RDKB Boundary Region Drought Response Plan

A staff report from Kristina Anderson, Watershed Planner regarding the Boundary Region Drought Response Plan was presented.

Moved / Seconded

That the Regional District of Kootenay Boundary Board of Directors adopt the RDKB Boundary Region Drought Response Plan as presented by Kristina Anderson, Watershed Planner, to the Boundary Community Development Committee on September 2, 2020.

Carried.

S. Carlisle-Smith, Managing Director - TOTA

Re: Tourism Report Update - July 2020

A report and update from S. Carlisle-Smith, Manager Director - TOTA, regarding tourism for July 2020 was presented.

Moved / Seconded

That the Boundary Community Development Community receive the TOTA Tourism update for July 2020 from S. Carlisle-Smith as presented to the Committee on September 2, 2020.

Carried.

Discussion-Boundary Transit

Re: Communications & Using to Bring People to Phoenix

This matter was discussed previously in the agenda at item 7.e) Boundary Transit Service September 2020 Work Plan update.

Discussion-Re: Divisions of Practice/Community Health Centres

Director Gee advised that she has attended meetings respecting community health and noted the potential for the RDKB to become involved. It is early stages and further discussions regarding this matter will be brought forward in the future.

Discussion-Re: Forestry Health Issues

Fuel Mitigation & Forest Health (G. Delisle's Work)

Invite Mr. George Delisle to attend a future BCDC meeting to provide the Committee with an update on forest health and the fir bark beetle.

Discussion-Re: Boundary Meat Processing Project

Director Gee gave an update on the project and noted the collaboration between the members of the community service club, who own the building and the project stakeholders. Presentations respecting the plans on the allocation of funds will be provided in the future.

LATE (EMERGENT) ITEMS

There were no late items to discuss.

DISCUSSION OF ITEMS FOR FUTURE AGENDAS

1. Invite George Delisle to a future meeting to present on forest health and the fir bark beetle.
2. Invite representatives from the BC Timber Sales (BCTS) Okanagan-Columbia Business Area to a future meeting.
3. As a group, the Committee members evaluate signage and billboards at Rock Creek and between Rock Creek and Midway.
4. Discussion regarding meetings with the Economic Development provider.

QUESTION PERIOD FOR PUBLIC AND MEDIA

A question period was not necessary.

CLOSED (IN CAMERA) SESSION

A closed session was not required.

ADJOURNMENT

There being no further business to discuss, the meeting was adjourned (time: 12.05 p.m.).

TL



**Utilities Committee
Minutes
Wednesday, September 9, 2020
Via Zoom Online Video Conferencing**

Committee Members Present:

Director R. Cacchioni, Chair
Director G. McGregor, Vice Chair
Director A. Grieve
Director V. Gee
Alternate Director A. Parkinson
Alternate Director J. Nightingale
Alternate Director L. Kenney

Staff Members Present:

J. Dougall, General Manager of Environmental Services
G. Denkovski, Manager of Infrastructure and Sustainability
S. Surinak, Secretary/Clerk/Receptionist/Recording Secretary

CALL TO ORDER

The Chair called the meeting to order at 11:00 am.

LAND ACKNOWLEDGEMENT

We acknowledge and appreciate that the land on which we gather is the converging, traditional and unceded territory of the Syilx, Secwepemc, Sinixt and Ktunaxa Peoples, as well as the Metis Peoples whose footsteps have also marked these lands.

ADOPTION OF AGENDA (ADDITIONS/DELETIONS)

The agenda for the September 9, 2020 Utilities Committee meeting was presented.

Moved/Seconded

That the agenda for the September 9, 2020 Utilities Committee meeting be adopted as presented.

Carried.

ADOPTION OF MINUTES

The minutes of the Utilities Committee meeting held on May 13, 2020 were presented.

Moved/Seconded

That the minutes of the Utilities Committee meeting held on May 13, 2020 be adopted as presented.

Carried.

GENERAL DELEGATIONS

There were no general delegations to this meeting.

UNFINISHED BUSINESS

G. Denkovski

Re: 2020 Utilities Services Workplan Update

A Staff Report from Goran Denkovski, Manager of Infrastructure and Sustainability regarding an update on the 2020 Utility services Workplans was presented.

Goran Denkovski, Manager of Infrastructure & Sustainability, reviewed each section and highlighted the updates that were made.

Director Grieve requested that in future reports that the location of each project be included in the body of the report.

The Committee wondered what the impact to staff would be as a result of the RDKB taking on new water systems. Director Gee stated she knows of someone in her area that could be considered for water service staff, if needed, in the Boundary.

Moved/Seconded

That the RDKB Utilities Committee receive the 2020 Utility Services Workplan Update Report.

Carried.

NEW BUSINESS

G. Wiebe

Re: Water Conservation Plan Beaver Valley Water Service

A Staff Report from Gabe Wiebe, Engineering and Safety Coordinator, regarding a review of the draft Water Conservation Plan for the Beaver Valley Water Service was presented.

The Committee suggested making the Water Conservation Plans uniform through out the RDKB.

Water Conservation Plans must be in place in order for jurisdictions to be eligible for the Rural and Northern Communities Grant.

Director Grieve suggested sending the Water Conservation Plan to the Fruitvale Council.

Moved/Seconded

That the Staff Report from Gabe Wiebe, Engineering and Safety Coordinator, regarding a review of a draft for the Beaver Valley Water Service Water Conservation Plan, be received.

Carried.

G. Denkovski

Re: Flow Meter Report for Volume Data Collected

Flow meter report summarizing volume data collected, is presented.

Moved/Seconded

That the Utilities Committee receive the flow meter report summarizing volume data collected for the months of April to July 2020.

Carried.

Jeff Paakkunainen

Re: CPCC Sanitary Sewer Monthly Report April to July 2020

A staff report by Jeff Paakkunainen, Chief Utilities Operator, regarding the Sanitary Sewer Monthly report for March 2020, is presented

Moved/Seconded

That the staff report by Jeff Paakkunainen, Chief Utilities Operator, regarding the Sanitary Sewer Monthly report for April to July 2020, be received.

Carried.

LATE (EMERGENT) ITEMS

There were no late (emergent) items for the Committee to discuss.

DISCUSSION OF ITEMS FOR FUTURE MEETINGS

Director Grieve requested two items for discussion at future meetings.

They are a review of how DCC costs have been applied since the bylaw was adopted and the number of new water connections that have been established in Area 'A'.

QUESTION PERIOD FOR PUBLIC AND MEDIA

A question period for the public and the media was not required.

CLOSED (IN CAMERA) SESSION

A closed (in camera) session was not required.

ADJOURNMENT

There being no further business to discuss, the Chair adjourned the meeting at 11:30 am.



Grand Forks & District Recreation Commission
Regular Meeting
Thursday, September 10th, 2020
Jack Goddard Arena - Viewing Room
8:45 AM
Minutes

Commission Members Present:

Brian Noble
Bob MacLean
Chris Moslin
Eric Gillette
Nigel James
Roly Russell
Susan Routley

Absent:

Jaime Massey
Terry Doody

Staff Present:

Paul Keys
Melina Van Hoogevest

1. Call to Order

1.a) The Chair called the meeting to order at 8:55am.

2. Consideration of the Agenda (additions/deletions)

2.a) The agenda for the September 10, 2020 Grand Forks & District Recreation Commission meeting was presented.

25-20 Moved: Susan Routley Seconded: Nigel James

That the Agenda for the September 10, 2020 Grand Forks & District Recreation Commission meeting be adopted as presented.

Carried

3. Draft Minutes

3.a) The draft minutes of the Grand Forks & District Recreation Commission meeting held on June 11, 2020, were presented and it was;

26-20 Moved: Roly Russell Seconded: Bob MacLean

That the draft minutes for the Grand Forks & District Recreation Commission meeting held on June 11, 2020, be adopted as presented.

Carried

Staff contacted RDKB to clarify the new Land Acknowledgment addition to the June 11, 2020 agenda and how it applies to Recreation Commission meetings, but did not receive a response as of September 10, 2020.

The Land acknowledgement is a new addition to the agenda as of June 11, 2020 and it was;

27-20 Moved: Bob MacLean Seconded: Nigel James

That staff remove the Land Acknowledgment addition from the Grand Forks & District Recreation Commission agenda.

Defeated
(C. Moslin, E. Gillette, R. Russell, S. Routley)

3.b) The draft minutes of the Grand Forks & District Recreation Commission special meeting held on July 9, 2020, were presented and it was;

28-20 Moved: Roly Russell Seconded: Chris Moslin

That the draft minutes for the Grand Forks & District Recreation Commission special meeting held on July 9, 2020, be adopted as presented.

Carried

4. Delegation

4.a) There were no delegations to be made.

5. Unfinished Business

5.a) Recruitment to the Recreation Commission

The Grand Forks & District Recreation Commission encouraged members to recruit their neighbours, friends and family to consider becoming a member of the Grand Forks & District Recreation Commission. Five membership seats will be vacant as of January 1st, 2021 with the addition of two vacant seats that have remained vacant this past term. All potential names can be submitted to staff for review.

6. New Business**6.a) Fortis Energy Assessment Staff Report**

A written Staff Report was included in the agenda package and staff followed up with a verbal report.

The Grand Forks Aquatic Centre is the RDKB's largest energy consumer and green house gas emitter across our facilities. Fortis is currently offering 2 fully funded programs, a Recommissioning Program, and a Custom Energy Efficiency Program that is available until March 31, 2021. The recommissioning process is identifying "low cost/no cost" operational improvements given the building's current usage to obtain comfort and energy savings. A Custom Energy Study provides a detailed engineering analysis of the facility to find areas for cost-effective natural gas and/or electricity projects. Given the solar infrastructure already in place at the Aquatic Centre, RDKB decided to apply for a grant to pursue a custom energy study. To take advantage of this opportunity, Administration has partnered with the RDKB's Senior Energy Specialist to develop an RFP to find a professional engineer that will fill out the detailed Fortis grant application, and once approved, carry out the Custom Energy Study at the Grand Forks Aquatic Centre. The RFP was posted August 21, with the goal of having a firm in place before the end of September. Financially, the grant application will cost approximately \$1000 to prepare at RDKB's cost. Once the grant is approved by Fortis, RDKB will have to pay for the engineering report. Fortis will reimburse 100% upon completion of the report.

The Fortis Energy Assessment Staff Report was provided for the Grand Forks & District Recreation Commission and it was;

29-20

Moved: Susan Routley

Seconded: Nigel James

That the Grand Forks & District Recreation Commission accept the direction that is defined in the Fortis Energy Assessment Staff Report.

Carried

6.b) BCDC Work Plan Update and Look Forward Staff Report

A written Staff Report was included in the agenda package and staff followed up with a verbal report.

The purpose of this report was to provide an update on the 2020 Grand Forks and Christina Lake Work Plans, including Program Services, Christina Lake Parks and Trails, Grand Forks Aquatic Centre and Arena. It was noted that administrative time has been stressed due to Covid-19 complications in operations. The increased administrative time required throughout the operation has made it difficult to move forward with project based work. In 2021 staff will

attempt to complete unfinished 2020 projects, push forward with new studies to inform future capital work, while dedicating a significant amount of administrative time towards review of programs and fees.

There was a verbal request from a Grand Forks & District Recreation Commission Member to improve the sound system at the Grand Forks Aquatic Centre.

There was an informative discussion in regards to the new Community Club Project that Grand Forks & District Recreation has implemented. Utilizing the local newspaper, radio, and social media, staff has requested that all cultural and recreational clubs contact Grand Forks & District Recreation with their information so staff can include them in the new Leisure Activities 2020 Guide. This comprehensive guide will provide the community with a list of activities and the appropriate contact information, for those who are interested.

BCDC Work Plan Update and Look Forward Staff Report were provided for the Grand Forks & District Recreation Commission and it was;

30-20

Moved: Chris Moslin

Seconded: Susan Routley

That the BCDC Work Plan Update and Look Forward Staff Report of the Grand Forks & District Recreation Commission meeting held on September 10, 2020, be adopted as presented.

Carried

7. Communications-Information Only

7.a) There was no communications for information to present.

8. Reports

9.a) Supervisor Reports

The following Supervisor Reports for the month of June/July/August 2020 were presented:

- Aquatic Maintenance Coordinator
- Aquatic Program Coordinator
- Arena Maintenance Chief Engineer
- Recreation Program Services Supervisor

Susan Routley made a request that the Grand Forks Aquatic Centre Aquafit Moderate fitness class return to the historical forty-five minute duration opposed to the sixty minute duration that is currently scheduled.

Nigel James expressed recognition for the excellent organization of registered programs at Grand Forks & District Recreation highlighting that they make sense, are easy to understand and that the recreation staff has been excellent.

Staff provided a brief verbal report of the reopening of the Grand Forks Curling Rink and the programs available at the Aquatic Centre and Jack Goddard Memorial Arena. A Registered Program List for September 2020 was included in the agenda package for the Grand Forks Aquatic Centre.

The Supervisor Reports of the Grand Forks & District Recreation Commission held on September 10, 2020, were presented and it was;

28-20 Moved: Susan Routley Seconded: Nigel James

That the Supervisor Reports of the Grand Forks & District Recreation Commission meeting held on June/July/August 2020, be adopted as presented.
Carried

It was noted that Roly Russell departed the meeting at 10:52am.

9. Round Table

10.a) School District #51

No report was provided.

10.b) Library and Arts Societies (Culture) – Vacant

10.c) Recreation and Culture Committee of City Council

Chris Moslin thanked the Grand Forks & District Recreation staff for providing the vulnerable population within our community an opportunity to utilize the showers at the Grand Forks Aquatic Centre this past summer. Appreciation was expressed for staff who arranged the September 10, 2020 Grand Forks & District Recreation Commission meeting face to face ensuring that physical distancing measures were in place. It was requested that the Grand Forks & District Recreation Meeting scheduled for October 8, 2020 be held in the same location. It was reported that City Council meetings are still being held electronically over Zoom.

10.d) Community Members at Large

Susan Routley expressed great satisfaction with the progression of The Learning Garden located adjacent to the Grand Forks Aquatic Centre. Susan commended the president of the Learning Garden, Angela Nichols, for outstanding workmanship.

Eric Gillette requested confirmation that the Border Bruins would be charged full ice fees and be expected to pay this for the 2020-2021 season. Staff confirmed that the Border Bruins would be charged full ice fees and would be expected to pay that amount in full.

10. Late (Emergent) Items

There were no late emergent items to consider.

11. Discussion of Items for Future Meetings

A discussion was not necessary.

12. Question Period for Public and Media

There weren't any questions from the public or media.

13. Adjournment

There being no further business to discuss, the meeting was adjourned (time 11:07am).

Melina Van Hoogevest,
Recording Secretary

Brian Noble,
Chairperson



**Regional District of
Kootenay Boundary**

STAFF REPORT

Date: October 1st 2020
To: Chair McGregor and BCDC Committee
From: James Chandler, General Manager Operations
Re: Christina Lake Pedestrian Bridge – Grant application October 2020, Funding plan

Issue Introduction

The purpose of this report is seek approval for the grant application to the ICIP Recreation and Culture stream and to support the proposed financing model for inclusion Christina Lake Regional Lake Parks and Trails budget for 2021.

History/Background Factors

In 2015 the Christina Lake Parks and Trails service established a concept design and estimate to construct a pedestrian bridge connecting across Christina Creek. Subsequently three grant applications have been submitted to seek federal and provincial infrastructure funding without success. With the recent application denied in 2019 to the ICIP Rural and Northern Communities grant stream, it was recommended and agreed to pursue an application in the Fall of 2020 to the ICIP Recreation and Culture stream, whereby, the Regional District will be accountable for a contributory 27% of eligible project costs.

A resolution passed at the Board of Directors meeting on August 27th 2020, supported the application due on October 1st, 2020 to the ICIP Recreation and Culture fund. As this direction was not established in the 2020-2024 5 year financial plan, the current budget does not have the corresponding 27% funding available at the time of application.

To further support the application, the applicant (The RDKB) is permitted up to one month following the application date, to add a supporting Board of Directors resolution in support of the project with an approved plan for currently unconfirmed funds in support of the project.

Implications

The application for funding support to the ICIP Recreation and Culture fund was made on October 1st 2020.

To support the financial commitments necessary with this application additional funding will need to be established within the 2021 budget and 5 year financial plan. A summary of the proposed financial plan is listed below, as included in the grant application.

2021 Budget Plan - Grant Application		
Pedestrian Bridge	\$2,116,075	<i>ICIP - 73/27% Prov-Federal/RDKB</i>
<i>Estimated costs at 2022 construction based on 5% cost escalation per year, 215 to 2022.</i>		
RDKB share at 27%	\$564,357	<i>RDKB</i>
Current reserves #027	\$220,000	<i>Reserves-estimate year end 2020</i>
Additional funds to establish in 2021 budget	\$344,357	<i>Short term borrowing MFA- estimated</i>

In consideration to the above table, staff recommend to provide the supporting funding for the estimated costs of the pedestrian bridge, at \$564,357, a combination of reserve funds and short term borrowing be established in the 2021 budget.

The amount indicated as \$344,357 is listed in the grant application as future unconfirmed funds. Staff recommend that the exact amount required through short term borrowing be established through the budget review process in 2020/2021 as a combination of reserves and borrowing will be required to provide the estimated total of \$536,357.

In support of the grant application staff recommend that up to a maximum of \$350,000 be considered for short term borrowing and inclusion in the 2021 budget, in support of the current application and that the final amount established in the budget will be a function of 2020 year balances, prioritisation of other projects and use of reserves.

It is anticipated that decisions from the Province related to these grants will not be made until the summer of 2021, as such if approved, our budget would be established on or before March 31st 2021 in advance of anticipated Provincial timelines.

Advancement of Strategic Planning Goals

Supporting the development on opportunity to construction this bridge provides opportunities to improve community connections, recreation and alternative transportation options, supporting the RDKB strategic goals in demographic and social change and environmental improvement.

Alternatives

1. That the Regional District does not support the funding plan for the Christina Lake pedestrian bridge and does support the financial plan presented in this report.
2. That staff withdraw the application from the Recreation and Culture grant 'steam' and apply for the 'Rural and Northern Communities stream',

Recommendation(s)

That the Regional District of Kootenay Board of Directors approve the Christina Lake Pedestrian Bridge – Grant application October 2020 Funding plan staff report, as presented to the Boundary Community Development Committee on October 7th 2020;

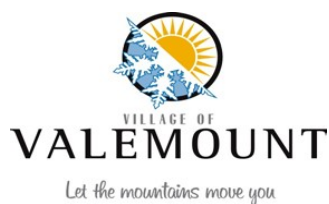
Further that the Board of Directors support the Regional District contribution for the project estimated at \$564,357 for a total project cost of \$2,116,075 and that up to \$350,000 will be considered through short term borrowing in support of the project and funded from the Christina Lake Parks and Trails service #027.

MEMORANDUM OF UNDERSTANDING

Southeastern BC Regional Connectivity Committee

This Memorandum of Understanding (MOU) is dated

for reference this ____ day of_____, 2020



Our Vision: World class connectivity throughout Southeastern BC that enables sustainable livelihoods and quality of life for our residents; and resilient, prosperous communities.

For the purposes of this MOU, references to “the Region” mean the area including the Columbia Basin, as defined in the Columbia Basin Act, and the Regional District of Kootenay Boundary, and the Columbia Shuswap Regional District.

The participating organizations (See Membership) have agreed to work together in creating the Southeastern BC Regional Connectivity Committee (the Committee) to lead a regional connectivity strategy and implementation plan as per the terms and ideals set out in this MOU.

Vision:

World class connectivity throughout Southeastern BC that enables sustainable livelihoods and quality of life for our residents; and resilient, prosperous communities.

Mission:

The Southeastern BC Regional Connectivity Committee advances access to world class connectivity services throughout the Region through advocacy, leadership, knowledge sharing and collaborative action.

Guiding Principles:

1. Recognizes connectivity as an essential service that should be available to all residents.
2. Be bold and nimble, seek innovative and sustainable solutions in technology, partnerships and operational models.
3. Proactively position projects to maximize ability to capitalize on emerging opportunities.
4. Value inclusivity in engagement, planning and project implementation.
5. Value collaboration with and seek to leverage resources of our strategic partners.
6. Measures of success based on community values, not just financial returns.

Objectives:

1. To conduct informed, end-to-end, strategic planning by mapping out the state of connectivity services in the Region to determine gaps and areas of priority.
2. To enumerate and communicate the communities of priority for connectivity in our Region.
3. To coordinate required capacity, funding, and resources for constructing using a ‘build once’ principle and to operate the required connectivity infrastructure for our Region.
4. To pursue innovative operational models in partnership with area public and private stakeholders that serve the Region’s vision for connectivity as an essential service.
5. To ensure that Official Community Plans (OCP), and Sustainability plans define connectivity services as a strategic area of focus and to use the levers overseen by local government (zoning, land use, bylaws, taxation) to facilitate the development of required connectivity infrastructure.
6. To advocate for regional connectivity priorities at all orders of government and with key private/public partners.

Roles and Responsibilities

1. Communicate the principle of connectivity as an essential service, along with the connectivity priorities of the region to local governments and the public.
2. Create a three-year strategic plan and provide input on an annual tactical plan. Update these plans on an annual basis.
3. Proactively coordinate the pooling of local funding dollars through prioritized planning and in anticipation of future funding opportunities at the Federal and Provincial level.
4. Inform local level planning by evaluating and making recommendations to member boards/councils on regional priority projects and operational models (e.g. publicly owned utility, public/private partnerships).
5. Meet monthly (or as needed) to review progress on strategic and tactical plans, receive updates and provide advice/feedback from key stakeholders such as the Province, the Columbia Basin Trust's Broadband Initiative and/or invited guests.
6. Liaise with key partners, to define roles and advance projects.
7. Conduct and communicate an annual assessment of the state of connectivity in the region as a key indicator for the committee's Vision.
8. Demonstrate a united voice with continued participation of its key members/partners including the Ktunaxa Nation Council, the four regional districts, and the Village of Valemount.

Membership:

Committee membership will consist of up to 2 members representing each of the following organizations:

- Columbia Shuswap Regional District
- Ktunaxa Nation Council
- Regional District of Kootenay Boundary
- Regional District of Central Kootenay
- Regional District of East Kootenay
- Village of Valemount

For matters requiring decision from the committee, each member will receive one vote. Member appointments are at the discretion of the participating organizations. Committee members can be elected or non-elected.

The following organizations will be Ex-Officio members (non-voting):

- The Province:
 - Regional Economic Operations Branch, Ministry of Forests, Lands, Natural Resource Operations and Rural Development
 - Connected Communities, Ministry of Jobs, Economic Development and Competitiveness
- Columbia Basin Trust (CBT)

The Committee may invite guests (e.g. community members, service providers, subject matter experts, industry and/or regulatory experts) to participate in thematic discussions as required.

Membership Skills:

The Committee will focus on strategic matters that will best advance connectivity solutions for the Region as a whole. While at times, topics will necessitate tactical discussions, members are encouraged to ensure focus remains on solving connectivity issues in a manner that best enables the Region to advance.

Secretariat:

In order to fulfill the stated Objectives and execute the Roles and Responsibilities, the Committee will require support by a secretariat function, (e.g. coordinating administrative staff and/or contractors). The required skillset and capacity of the secretariat will be discussed and determined by the Committee. A Secretariat resource and recommended funding plan will be advanced to member Boards/Councils for consideration.

Term:

This MOU shall remain in effect until October 31, 2023.

Meeting Expenses:

Members will be reimbursed by and in accordance with the policies of the organization they are representing.

Columbia Basin Trust (CBT) will provide financial and staff support to the Committee as appropriate and agreed upon by CBT and the Committee.

Participating Organizations confirm their agreement to the terms of this Memorandum of Understanding by having their authorized representatives sign below.

Columbia Shuswap Regional District

Name: _____

Title:

Date:

Regional District of Kootenay Boundary

Name: _____

Title:

Date:

Ktunaxa Nation Council

Name: _____

Title:

Date:

Regional District of Central Kootenay

Name: _____

Title:

Date:

Regional District of East Kootenay

Name: _____

Title:

Date:

Village of Valemount

Name: _____

Title:

Date:

Columbia Basin & Boundary Connectivity Strategy



Last Updated: September 13, 2018

Columbia Basin & Boundary Connectivity Strategy

Purpose of this document

The purpose of this Connectivity Strategy is to clearly communicate, develop awareness and to obtain support for a plan towards realizing the potential of a highly connected region. The audience for this plan is any community member who has an interest in the connectivity of their region. This strategy is based on a shared vision and objectives in relation to clear needs and identified strategic benefits.

This is not an engineering document. It should be used to establish a general approach and framework for prioritizing need for sustainably connecting the Region. This plan should be used to guide more detailed incremental connectivity plans, grant applications and connectivity deployments throughout the Region.

Ownership of this Plan

This strategy is owned and overseen by the Regional Broadband Committee (RBBC). The RBBC will act as curator for this plan ensuring that it is both updated with regularity and that milestones contained within it are tracked accordingly.

Region

References to the "Region" in this document mean the area including the Columbia Basin, as defined in the Columbia Basin Trust Act, and the Boundary Region of the Regional District of Kootenay Boundary.

Background

It is currently cheaper to provide fast and reliable Internet to densely-populated urban centres than it is to provide that same service to rural areas. The traditional economic motivators are clear for Internet providers and large incumbent carriers: the more people living in an area, the more people there are to pay for service. For large incumbent carriers, the business case for providing adequate connectivity in rural areas is absent. That disparity in service has put residents in rural BC at a significant disadvantage compared to urban counterparts. Within the Region, this issue is particularly acute.

Rural business owners, farmers, students, health and technology professionals in the Region are not able to keep up with their counterparts in centres like Vancouver or Kelowna. The magnitude of the task is further intensified by the challenging geography of the Region (mountainous, deep valleys). To address this challenge head-on, help is required both at all levels of government and within communities themselves. The effort to truly connect the Region will require partnerships both large and small.



Columbia Basin & Boundary Connectivity Strategy

Regional Broadband Committee

The Regional Broadband Committee (RBBC), established in 2014, has the following mission:

'The Regional Broadband Committee is a united voice to advocate for all our constituents through leadership, knowledge sharing, and a common understanding of the current and future needs of high speed broadband Internet services in the region.'

The RBBC membership consists of one elected official from each of:

- Columbia Shuswap Regional District
- Kootenay Boundary Regional District
- Ktunaxa Nation Council
- Regional District of Central Kootenay
- Regional District of East Kootenay
- Village of Valemount

Columbia Basin Broadband Corporation

Columbia Basin Broadband Corporation (CBBC) is a wholly owned subsidiary of Columbia Basin Trust (the Trust) created to improve connectivity to Basin communities and rural areas.

The Trust provides funding support for CBBC's ongoing operating costs and the costs of activating CBBC's Open Access¹ fibre optic network in the Region. CBBC acts as the network manager, operator and developer, and as a resource to service providers. CBBC works closely with the RBBC and Basin communities to provide support to those seeking to extend or improve local service.

Indigenous Connectivity

Comprehensive and robust connectivity is particularly important for Indigenous peoples in both the preservation of language and culture, as well as ensuring the ability to fully participate in the digital economy.

CRTC: Broadband a Basic Service for All Canadians

In December 2016, the Canadian Radio-television and Telecommunications Commission (CRTC) declared that broadband access Internet service is now considered a basic telecommunications service for all Canadians.²

CRTC has set the following Universal Service Objective (USO) targets for the basic telecommunications services that Canadians need to participate in the digital economy:

¹ <https://muninetworks.org/content/open-access>

² Telecom Regulatory Policy CRTC 2016-496, <https://crtc.gc.ca/eng/archive/2016/2016-496.htm>



Columbia Basin & Boundary Connectivity Strategy

- Speeds of 50 megabits per second (Mbps) download/10 Mbps upload for fixed broadband Internet access services.
- An unlimited data option for fixed broadband access services.
- The latest mobile wireless technology available not only in homes and businesses, but also along major Canadian roads.

RBBC's Vision

'Equitable, affordable high-speed broadband Internet services throughout the region, ensuring rural economic development and sustainable, healthy communities.'

RBBC's Benefit Statement

- Information and Communications Technology (ICT) and broadband infrastructure are strategically important tools for economic, education, health, public safety and civic growth and that all communities within the Region should have affordable and reliable Internet access;
- Community based broadband strategies are being developed and regional broadband infrastructure is being strengthened and expanded; and
- The participating organizations in the Region have expressed a desire to explore and develop a regional approach to developing broadband capacity within the Region in order to coordinate and maximize available resources and identify mutually beneficial opportunities.

Targeted Outcomes

1. Access to and adoption of broadband allows the Region to retain and grow businesses, create and retain skilled workers, and re-invigorate communities.
2. Access to health care through advanced tele-medicine diagnostic and specialty care is widely available in the Region, with broadband in the home sufficient to allow home tele-health services to be provided.
3. Regional educational institutions have network resources and the capacity to meet 21st century learning needs.
4. The Region has robust public safety communications systems to ensure that all residents are provided with timely information when needed.

Initiative Objectives and Scope

The essence of the objectives are simple: at completion of this plan, the Region should attain at minimum the standard defined by the CRTC Universal Service Objective (USO). Anticipating that the USO will evolve throughout the timespan of this plan, the objectives aim for standards beyond what is currently stated by the CRTC.

The RBBC sets out the following objectives:



Columbia Basin & Boundary Connectivity Strategy

1. 100% of critical community assets³ in the Region will have broadband Internet access speeds of at least 1/1 Gbps.
2. 85% of households in the Region will have broadband Internet access speeds capable of at least a committed 100/10 Mbps⁴.
3. The latest generally deployed mobile wireless technology will be available on every major transportation road⁵ in the Region.
4. Within the next 24 months, timelines will be established for achieving the first three objectives.

Quantifying the Connectivity Gap

While connectivity gaps are recognized and reported by residents of the Region. Empirical data is largely lacking. In 2017, the Northern Development Initiative Trust commissioned KPMG to produce a *Benchmarking Connectivity in British Columbia*⁶ report. While the report does provide some useful benchmarking information for urban areas, the CRTC data used⁷ to establish connectivity benchmarks for the Region has been found to be inaccurate and understates the actual connectivity gap.

It is important that accurate data be produced to empirically quantify the gap both to assist in determining the acuteness of the problem, as well as establishing a more accurate estimation of the cost of addressing the connectivity gap.

Cost and the Economics of Rural Connectivity

As noted above, accurate data describing the connectivity gap in the Region is largely lacking. The CRTC roughly estimates the cost to adequately connect rural Canada and the North at \$7 billion.⁸ The cost to adequately connect the Region could likely be in a magnitude of several-hundred million dollars.

The business case for large traditional broadband carriers is largely absent in the Region and in most rural areas of Canada. Communities who have waited for traditional broadband carriers to connect their communities have grown weary and discouraged. Unless economic factors for broadband deployment significantly change, waiting for large traditional carriers to address the Region's needs is not a sufficient strategy.

³ Critical municipal assets: Hospitals, schools, municipal & emergency services, and downtown business cores

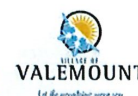
⁴ Given the costs and challenging topographies in the region it is not feasibility or realistic to attempt to establish a universal objective. It is hoped that the remaining 15% of households in The Region can achieve 50/10 Mbps

⁵ Every numbered highway: <https://www2.gov.bc.ca/gov/content/transportation/transportation-reports-and-reference/numbered-routes>

⁶ <https://www.northerndevlopment.bc.ca/connecting-british-columbia-resources/>

⁷ <https://crtc.gc.ca/eng/publications/reports/policymonitoring/2016/cmr.htm>

⁸ Broadband Connectivity in Rural Canada: Overcoming the Digital Divide: <http://www.ourcommons.ca/DocumentViewer/en/42-1/INDU/report-11>, Page 24



Columbia Basin & Boundary Connectivity Strategy

Regardless of the inaccuracy of cost, the order of magnitude of the likely cost indicates that no single entity can address the funding challenge alone, and numerous funding sources will need to be leveraged to close the gap in the Region.

Need for a Regional Approach: Prioritizing the Need

The existence of a coordinated regional approach will increasingly become a prerequisite for government grant funding applications.

The RBBC encourages the regional districts and First Nations communities to continue to coordinate with the Columbia Basin Trust's Broadband Initiative (CBBC) in broadband-related grant proposals.

General criteria for prioritizing a broadband project in the region:

- Number of communities benefiting
- Number of residents/households/businesses within those communities
- Magnitude of connectivity gap
- Cost per resident/household
- Existence of willing funding partners
- Existence of community champions
- Existence of technical, project management, and financial expertise required to complete and operate a project
- Long-term sustainability

Potential Funding Sources

Potential funding sources required to achieve this plan will be quite varied. The predominant funding sources are listed in the following table:

Government of Canada	Via programs such as those managed through either Innovation, Science and Economic Development, CRTC and/or Infrastructure Canada
BC Government	Via programs such as Connecting BC managed by NDIT
Regional Districts	Via Gas Tax funds, taxation
Municipalities	Via individual programs within given municipality
Columbia Basin Trust	Via the Trust's Broadband initiative
All Nations Trust Company (ANTCO)	e.g. Pathways to Technology
Carriers and Internet Service Providers	Individual service providers (both for-profit and non-profit)



Columbia Basin & Boundary Connectivity Strategy

Sustainability

Given the likely lengthy time-line of implementation and realization of this strategy, the rapid cycle to obsolescence of technology must be carefully monitored. Detailed construction/deployment and the associated operational plans must incorporate effective procedures and associated financial planning from implementation through to ongoing operations. In order to achieve optimal use of infrastructure, an asset lifecycle plan should be developed to ensure their proper servicing, upgrading, renewal and disposal.

Living Plan: Evolution of Technology

It is imperative that this plan remain 'living'. As technologies advance, so should the parameters of this strategy. A breakthrough in new technologies could completely change the profile of this plan. This plan should be reviewed and refreshed at minimum every 24 months. Some of the technologies that may prove impactful in the coming years include: **Low-Orbit Satellites⁹** and **5G¹⁰**.

Timelines, Risk and Probability

It is important to underscore that statements in this strategy have dependencies that are outside of the realm and control of the plan's authors. Specifically, addressing the connectivity gap in the region will require committed and sustained funding to do so. At the time of writing, adequate committed funding was largely absent. Therefore, this strategy cannot make confident statements about when objectives could be achieved. It is hoped that this strategy will assist in securing stable funding commitments so that objectives can be stated in more accurate time-related certainty in future versions of this document.

Without both a coordinated regional approach and secured and committed funding, there is a risk this strategy will not be viable.

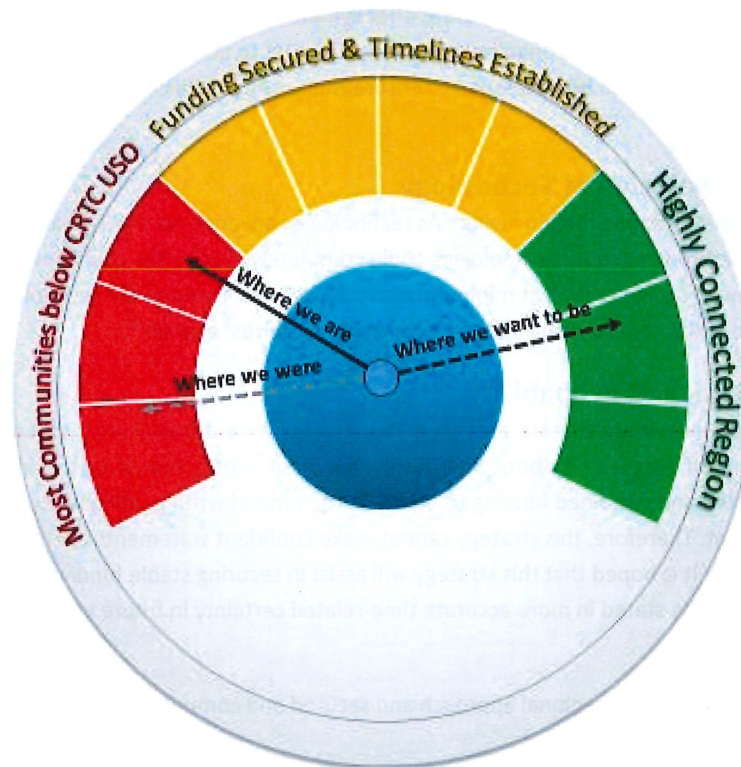
⁹ <https://www.wired.com/story/can-these-small-satellites-solve-the-riddle-of-Internet-from-space/>

¹⁰ <https://www.rcwireless.com/20180114/opinion/debunking-5-common-myths-about-5g-reality-check-Tag10>



Columbia Basin & Boundary Connectivity Strategy

A clear benchmark indicator needs to be established so that residents can clearly monitor progress:



Columbia Basin & Boundary Connectivity Strategy

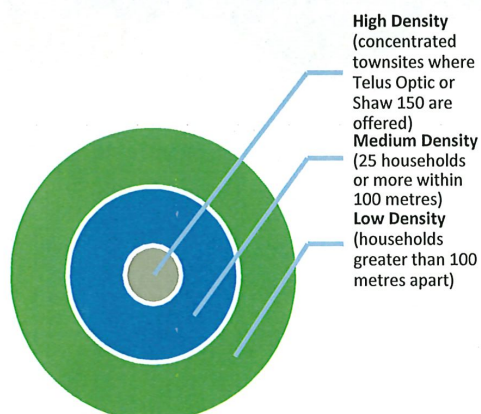
Appendix: Scope, Specific Objectives and Planned Measurements

Scope

The scope of this plan covers all communities and surrounding households in the Region that are considered underserved. The following table outlines the criteria for what is considered underserved and thus in scope of this plan:

Type	Minimum Standard
Critical Community Asset	Broadband Internet access speeds capable of at least 1/1 Gbps
Medium-Density Communities	Broadband Internet access speeds capable of at least a committed 100/10 Mbps
Low-Density Communities	Robust fixed wireless service capable of 50/10 Mbps
Major Transportation Road	Latest generally deployed mobile wireless technology available

Most high-density communities¹¹ (homes and businesses clustered within a concentration of 25 or more, within 100 metres of each other within the Region) are considered to have 'adequate' connectivity, where either Shaw 150 or Telus Optic have a service offering (e.g. services approximately capable of the CRTC USO) costs of bringing those communities to the stated standards are not the focus of this strategy. It should be noted that although connectivity within the core of high-density communities is largely considered adequate, surrounding areas are often underserved.



¹¹ Examples of high-density communities in The Region: Cranbrook, Castlegar, Rossland, Nelson, Grand Forks

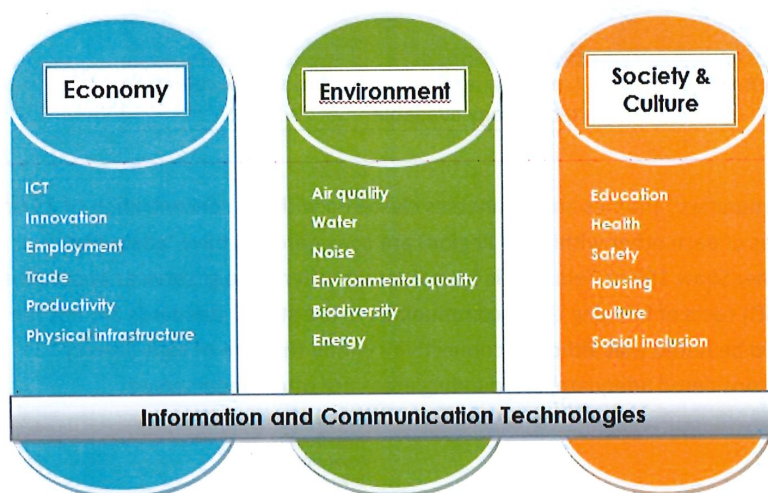


Columbia Basin & Boundary Connectivity Strategy

Specific Objectives

The United Nations Economic Commission for Europe (UNECE) in cooperation with the International Telecommunication Union (ITU) developed a proposal for a set of Smart Sustainable Cities Indicators.¹² The main objective of the UNECE “United Smart Cities” project, within which the draft Smart Sustainable Cities Indicators (SSCIs) have been elaborated, is to support regions/cities, *with economies in transition, to improve their sustainable growth while focusing on a more transparent and efficient use of their resources. Sustainable growth can also be achieved with easier access to new and affordable technologies and will result in better living conditions for citizens.*

The UNECE–ITU Smart Sustainable Cities Indicators (SSCI) visual representation:



¹² http://www.unece.org/fileadmin/DAM/hlm/documents/2015/ECE_HBP_2015_4.en.pdf



Columbia Basin & Boundary Connectivity Strategy

Targeted Outcomes and Planned Measurements

The RBBC proposes use of selected UNECE–ITU Smart Sustainable Cities Indicators (SSCI) to assist in measuring progress towards the targeted outcomes.

Targeted Outcomes	Smart Sustainable Cities Indicators (SSCI)
Access to and adoption of broadband allows the Region to retain and grow businesses, create and retain skilled workers, and re-invigorate communities.	<ul style="list-style-type: none"> • Attractiveness for skilled people • Employment trends • ICT infrastructure • Internet access in household • e-Commerce transactions
Access to health care through advanced tele-medicine diagnostic and specialty care is widely available in the Region, with broadband in the home sufficient to allow home tele-health services to be provided.	<ul style="list-style-type: none"> • Adoption of telemedicine • Life expectancy • Electronic records • Sharing of medical resources • Maternal mortality trends
Regional educational institutions have network resources and the capacity to meet 21st century learning needs.	<ul style="list-style-type: none"> • Students' ICT capability • Adult literacy trends • Higher education ratio
The Region has robust public safety communications systems to ensure that all residents are provided with timely information when needed.	<ul style="list-style-type: none"> • Vulnerability assessment • Disaster mitigation plans • Emergency response • Disaster and emergency alert



Columbia Basin & Boundary Connectivity Strategy

Endorsement

This strategy is endorsed by:

Chair, Columbia Shuswap Regional District

Date:



Chair, Kootenay Boundary Regional District Date:

Date: September 27, 2018

Chair, Ktunaxa Nation Council

Date:

Chair, Regional District of Central Kootenay

Date:

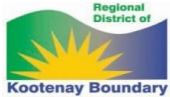
Chair, Regional District of East Kootenay

Date:

Mayor, Village of Valemount

Date:



**STAFF REPORT**

Date:	October 8, 2020	File:	
To:	Chair Langman and Board of Directors		
From:	James Chandler, General Manager of Operations/Deputy CAO		
RE:	BUDGET AMENDMENT FOR THE CHRISTINA LAKE FIRE DEPARTMENT - RESCUE TOOLS PURCHASE		

Issue Introduction:

To seek approval from the Board of Directors to use additional funding from the Christina Lake Fire Service reserve for the purchase of new tools and equipment for road rescue and auto extrication.

Background:

The Christina Lake Fire Department provides a wide range of protective services, including road rescue. Training and equipment is specific to this function and effective response to motor vehicle accidents requires that the training and equipment associated to this task is maintained and current.

Common to all Regional District services and fire departments, Christina Lake Fire Department has been developing an asset management plan and completing up to date condition assessment on all equipment. Specialist equipment, tools and vehicles are essential to maintain service levels and through 2020 more work has been completed to identify priorities for equipment replacement in the 2021-2025 budget.

The auto extrication tools, (equipment associated with road rescue) had been identified for a phased replacement. Based on the performance of the equipment and calls responded to in 2020, the replacement of the tools has become more urgent. The current tools are 20 years old and have exceeded their life expectancy. The current tools, the cutter and spreader, are excessively leaking hydraulic fluid and the hydraulic ram is beyond repair and currently out of service. The hydraulic pump is also leaking fluid and does not currently meet the required PSI to run the tools effectively. Considering the age of this equipment and that spare parts and servicing are not readily available, a more immediate solution is required to replace the equipment.

Implications:

The phased replacement of these tools was planned for investment in 2021. Based on the deterioration in the tools as indicated, staff are proposing that the department reserve funds be utilized to purchase a complete new tool system for auto extrication and that this be completed effective immediately to ensure that the service standards are maintained.

The development of equipment and technology has progressed significantly over the past decade and the most common options for this equipment now utilize battery powered hydraulic systems, allowing the tools to be more mobile, transportable and effective without 'plug-in' connection. These changes allow the tools to be carried by any vehicle, used on scene without trailing lines, and provide increased safety and mobility when attending rescues on embankments and ravines, common to our operational area.

Two comparable tools and suppliers are available in British Columbia and the summary of these tools and options are included in the attached document and included with this agenda.

Considering the attached information the preferred and recommend tools from the Christina Lake Fire Department are the KGC Fire Rescue Pantheon 'Halmatro'. Supplied complete with all tooling options the price is quoted at \$52,491.40 (incl PST). This is compared to \$50,546.80 from Rocky Mountain Phoenix. As a comparable quote and based on performance criteria the 'Halmatro' is rated as the preferred option. Key benefits include a lifetime warranty, ability to diagnose faults in-house and call for specific service. Additionally, all other Regional District Fire Departments have purchased similar tools in recent years, allowing for shared service and training.

An alternate option has been indicated for a used 'demonstrator model' Hurst tool, from Rocky Mountain Phoenix, however, as this is not evaluated as the preferred option when comparing the pros and cons for a new system, this option is not recommended on price alone. Additionally, KGC Fire can provide an immediate tool on loan while the department wait for the supply and delivery of a new tool.

Considering the deterioration and performance of the current rescue tools, staff are recommending that up to \$55,000 be allocated from the department reserve funds to purchase a new 'Halmatro' tool from KGC Fire.

The purchase can be accommodated from the reserves and a summary of the financial impact is included below.

Financial

The Fire Department currently has \$286,721.21 in reserve. The table below summarises the current reserve plan in our 5 year budget.

	Reserve Contribution	Planned Reserve Expenditure/Contributions for Capital	2019 year end Reserve Balance \$286,000
2020	\$10,000	\$100,000 (Boat and new Tender)	\$196,000
2021	\$15,000		\$211,000
2022	\$15,000	\$50,000 (contribution to new #1 engine)	\$176,000
2023	\$15,000		\$191,000
2024	\$15,000		\$206,000
	\$70,000	\$150,000	\$206,000

Considering the reserve table above, with the impact of an additional \$55,000 approved from the reserve this year, the estimated closing balance for year end 2020 will be **\$141,000**. If no further adjustments to capital or the reserve are made in the next 5 years and amendments are not made to make further reserve contribution, the estimated reserve balance at the end of five years will be \$151,000.

We do not anticipate that the reserve budget will remain static without change over the next five years, however, the intention of the table summary and this analysis is to indicate that the current five year plan shows a reasonable reserve balance, matched against planned expenditure for vehicles and capital projects.

Alternate Options:

Considering the criticality of the vehicle extrication rescue tools there are no other viable solutions considered to support the immediate procurement and replacement of the tools, other than purchase alternate rescue tool systems. Should this purchase be delayed, the ability for the Christina Lake Fire Rescue Department to continue to provide full road rescue services would be compromised.

Further analysis of the comparable and alternate rescue tools are provided as an attachment to this report and included with the agenda.

Recommendation:

That, as per the staff report titled, 'Budget Amendment for the Christina Lake Fire Department, Rescue Tools Purchase', the Regional District Board of Directors approve up to \$55,000 be utilized from the Christina Lake Fire Service reserves, for the purchase of new auto extrication tools.

Further, that staff be directed to initiate an amendment to Financial Plan Bylaw #1735, 2020.



Christina Lake Fire Rescue

1585 Swanson Road Christina Lake British Columbia V0H 1E0
Fire Chief (250) 444-0553 Email: jgeary@rdkb.com

October 7, 2020

Summary Analysis for Auto Extrication Tools

Christina Lake Fire Rescue (CLFR) is in immediate need for upgrading our auto extrication tools as the tools are 20 years old and currently have exceeded their life expectancy. The current tools; the Cutter and Spreader are excessively leaking hydraulic fluid and the ram is beyond repair and is currently out of service. The hydraulic pump is also leaking fluid and does not currently meet the required PSI to run the tools effectively.

Impacts

1. Safety Impact for First Responders and Patients
2. Environmental Impact
3. Will require Mutual Aid from Trail for all Auto Extrication Calls going forward without replacement of existing equipment.

Quotations

There are currently two companies that provide Auto Extrication tools. Please review the following quotations from Rocky Mountain Phoenix and KGC Fire Rescue.

Rocky Mountain Phoenix Original Quote: QT0043064

Item	Description	Price	PSTBC	Total with PST	GST	Total Quote
HUR-2722880009	S 788 EWXT 9AH PACKAGE 2 BATTERIES/1 CHARGER (Cutter)	\$ 16,465.00	\$ 1,152.55	\$ 17,617.55	\$ 823.25	\$ 18,440.80
HUR-2712550009	SP 555 EWXT SPREADER 9AH PACKAGE 2 BATTERIES/1 CHARGER (Spreader)	\$ 18,002.00	\$ 1,260.14	\$ 19,262.14	\$ 900.10	\$ 20,162.24
HUR-2742850009	R 521 EWXT RAM 9AH PACKAGE 2 BATTERIES/1 CHARGER (Ram)	\$ 12,773.00	\$ 894.11	\$ 13,667.11	\$ 638.65	\$ 14,305.76
Total Original Quote (10 Year Warranty)		\$ 47,240.00	\$ 3,306.80	\$ 50,546.80	\$ 2,362.00	\$ 52,908.80

Rocky Mountain Phoenix Demo Quote: QT0043064

Item	Description	Price	PSTBC	Total with PST	GST	Total Quote
HUR-2722880009	S 788 EWXT 9AH PACKAGE 2 BATTERIES/1 CHARGER (Cutter)	\$ 12,038.00	\$ 842.66	\$ 12,880.66	\$ 601.90	\$ 13,482.56
HUR-2712550009	SP 555 EWXT SPREADER 9AH PACKAGE 2 BATTERIES/1 CHARGER (Spreader)	\$ 13,163.00	\$ 921.41	\$ 14,084.41	\$ 658.15	\$ 14,742.56
HUR-2742850009	R 521 EWXT RAM 9AH PACKAGE 2 BATTERIES/1 CHARGER (Ram)	\$ 9,339.00	\$ 653.73	\$ 9,992.73	\$ 466.95	\$ 10,459.68
Total Demo Tool Quote (9 Year Warranty)		\$ 34,540.00	\$ 2,417.80	\$ 36,957.80	\$ 1,727.00	\$ 38,684.80

Savings Demo Tool Package	\$ 12,700.00	\$ 889.00	\$ 13,589.00	\$ 635.00	\$ 14,224.00
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KGC Fire Rescue Quote: 07-2020

Item	Description	Price	PSTBC	Total with PST	GST	Total Quote
PCU50	PENTHEON INCLINED HYDRULIC CUTTER 7AH Package 2 BATTERIES/1 CHARGER	\$ 16,718.51	\$ 1,170.30	\$ 17,888.81	\$ 835.93	\$ 18,724.73
PSP40	PENTHEON HYDRULIC SPREADER 7AH Package 2 BATTERIES/1 CHARGER	\$ 17,203.30	\$ 1,204.23	\$ 18,407.53	\$ 860.17	\$ 19,267.70
PTR50	PENTHEON HYDRULIC TELESCOPIC RAM 7AH Package 2 BATTERIES/1 CHARGER (INCLUDE SMART RAM EXTENSION PIPE)	\$ 15,135.57	\$ 1,059.49	\$ 16,195.06	\$ 756.78	\$ 16,951.84
Total Original Quote (Lifetime Warranty)		\$ 49,057.38	\$ 3,434.02	\$ 52,491.40	\$ 2,452.87	\$ 54,944.27

DIFFERENCE BETWEEN ROCKY ORIGINAL QUOTE & KGC FIRE RESCUE QUOTE	-\$ 1,817.38	-\$ 127.22	-\$ 1,944.60	-\$ 90.87	-\$ 2,035.47
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Christina Lake Fire Rescue

1585 Swanson Road Christina Lake British Columbia V0H 1E0
Fire Chief (250) 444-0553 Email: jgeary@rdkb.com

Pros and Cons

	PRO	CON
HURST	9AH BATTERIES	10 YR WARRANTY
	USED UNDER WATER	NOT ERGONOMIC
	BRUSHLESS DC ELECTRIC MOTOR	POOR LIGHTING
	NFPA 1936 COMPLIANT	HEAVIER WEIGHTED TOOLS
	LOWER PRICE POINT	OUT OF PROVINCE TECHNICAL SUPPORT
	DEMONSTRATION SET AVAILABLE AT LOWER PRICE (9 YR WARRANTY)	NOT VARIABLE SPEED
	LONGER SPREADING DISTANCE	LARGER BULKIER TOOL
	WIDER CUTTER OPENING	WEAKER CUTTING FORCE
		SHORTER RAM EXTENTION

	PRO	CON
HOLMATRO	LIFETIME WARRANTY	7AH BATTERIES
	USED UNDERWATER	HIGHER PRICE POINT
	BRUSHLESS DC ELECTRIC MOTOR	SHORTER SPREADING DISTANCE
	NFPA 1936 COMPLIANT	SHORTER CUTTER OPENING
	ERGONOMIC 360 DEGREE CARRYING HANDLES	
	LIGHTER WEIGHTED TOOLS	
	REAL TIME SELF DIAGONSTIC SOFTWARE	
	MULTIPLE ADD ONS AVAILABLE	
	EXCELLENT LIGHTING	
	VARIABLE SPEED	
	MORE COMPACT TOOL	
	IN PROVINCE TECHNICAL SUPPORT	
	LONGER RAM EXTENTION & LASER POINTER IN RAM HEAD	
	STRONGER CUTTING FORCE	



Christina Lake Fire Rescue

1585 Swanson Road Christina Lake British Columbia V0H 1E0
Fire Chief (250) 444-0553 Email: jgeary@rdkb.com

Recommendation

The CLFD recommendation is to go with KGC Fire Rescue for the Pentheon Holmatro set as it is a superior product and includes a loaner Core cutter, spreader, ram, pump and hoses until the cordless tools arrive. Currently, all other RDKB Fire Departments are replacing their tools with Holmatro; which will standardize the fire services in the RDKB and will help reduce costs for annual inspections and services and further provide consistency in training across our Region.

These tools will be safer for our First Responders and patients and provide an improved level of performance in operations and rescue capacity.



STAFF REPORT

Date: 14 Oct 2020

File Information Technology
Corporate Administration

To: **Members of the RDKB Board of Directors**

From: Dale Green, Manager of Information
Technology

Re: Primary HCI Storage Refresh

Issue Introduction

A report from Dale Green, Manager of Information Technology outlining the procurement of a new ecosystem of hyperconverged storage hardware and services to replace and enhance the existing, which will become ineligible for vendor support in February 2021.

History/Background Factors

The existing Nutanix HCI primary storage device from 2013 will need to be replaced before Q2 2021 when it will reach the end of its support service cycle. This device hosts nearly every RDKB digital service, so is a critical piece of infrastructure.

The RDKB issued an RFP in July 2020 for a new HCI ecosystem, advertised in BC Bid and on the rdkb.com website, and received 6 responses. The winning response was provided by Opus Consulting, who specified a small ecosystem of Nutanix-based technologies, including a 3-node HCI cluster for the primary Trail data center, a small branch office storage appliance for the Grand Forks secondary data center, 60 months of vendor support, and an offsite disaster recovery service hosted in Calgary.

RFP responses varied in pricing from \$101K – 263K, placing the Opus solution near the lower end of the range at **\$118,874** but the Opus proposal had a variety of tactical advantages irrespective of price, and consequently scored highest in a weighted evaluation. The Opus proposal also came in under the planned budget of \$140K.

Implications

- Replacement of the existing storage is necessary to continue to operate the IT program.
- 5 years of vendor support are prepaid in this requisition, and a layer of vendor complexity can be removed entirely by selecting Nutanix branded management

services. Together, those reduce the annual IT operating budget by approximately **\$26K.**

Advancement of Strategic Planning Goals

Exceptional Cost Effective and Efficient Services – the selection of a Nutanix ecosystem facilitates a 5 fold increase in storage capacity while reducing both operating costs and operating complexity substantially.

Continue to Focus on Organizational Excellence – this added capacity makes possible a range of net new services, like in house GIS services and the serving of large video files of recorded Board events.

Background Information Provided

1. RFP-RDKB-20-IT-STOR.pdf – original RFP document

Alternatives

Receive Report-no action

To authorize the expenditure of \$118,874.65 for storage hardware and services

Recommendation(s)

That the RDKB Board of Directors approve the agreement with Opus Consulting for the provision of storage hardware and services, at a cost of \$118,874.65 commencing October 2020 and expiring October 2025. FURTHER that the Board approve the authorized signatories to sign and enter into the agreement.



**Regional District of
Kootenay Boundary**

REQUEST FOR PROPOSALS

Hyperconverged Storage Refresh

Issued: Wednesday, July 15, 2020

Closing Time: 2:00 pm (Pacific Daylight Time),
Friday, August 7, 2020

Closing Location: Regional District of Kootenay Boundary
202 - 843 Rossland Ave
Trail, BC, Canada, V1R 4S8

Contact Person: Dale Green,
Manager of Information Technology
250-368-0238
dgreen@rdkb.com

RDKB-20-IT-STOR



HYPERCONVERGED STORAGE REFRESH
 REQUEST FOR PROPOSALS RDKB-20-IT-STOR
 ISSUED: July 15, 2020

REQUEST FOR PROPOSALS

HYPERCONVERGED STORAGE REFRESH

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1. INTRODUCTION

1.1. PURPOSE

The Regional District of Kootenay Boundary (RDKB) Information Technology (IT) program is seeking to purchase:

- a hyperconverged storage/compute cluster of 3 or 4 hardware nodes for the primary data centre location in Trail, BC;
- a smaller, branch office storage/compute device for a secondary data centre in Grand Forks, BC that is geographically distant from the primary site;
- offsite Disaster Recovery (DR) replication service(s) for a select subset of locally stored virtual machines (VM);

1.2. BACKGROUND

The RDKB is currently operating a 4-node Nutanix hyperconverged (HCI) storage appliance at the primary data centre in Trail, BC ('HQDC', from here onward) that will be replaced in 2020. Most virtual guests on that cluster run Windows 2012 R2, but a new version of Windows Server Datacenter will be introduced to house the majority of guests on the new HCI system(s). In order to control the cost of purchasing Windows Server Datacenter licensing, hosts with core counts less than or equal to 16/host, but that still provide sufficient processing power will receive a higher score in Appendix A. This cluster is connected to existing 10 Gb/s switching via copper Twinax, which could be repurposed for any new HCI cluster. If this switching is not sufficient for a proposed new system, if for instance, some proprietary, non-commodity switching is required for cluster operations to function, this must be made clear in proposals.

The existing Nutanix appliance is integrated with VMWare vSphere services, but replacing this system will also likely result in the introduction of a new hypervisor. As an ancillary consequence of this, a VMWare ESXi host at a remote administrative branch office in Grand Forks might also be replaced with a smaller host device that can participate in any new, overall, corporate HCI cluster management. The Grand Forks administrative branch office ('GFDC' from now on) is about 70km distant, but connected to the private wide area network (WAN) via L2 private fibre that provides roughly 400Mb/s symmetric to the HQDC in Trail with latency around 21ms. Proposals that include a device for the GFDC will have a higher potential score in the Methodology section of Appendix A.

In addition to the HCI hardware and software outlined above, RDKB IT is also seeking to replicate a select subset of guest VMs to an offsite replication service, preferably in such a way that replication can also be managed in a manner integrated with the HCI local management with a minimum of third party software, hardware or management tools. Any offsite replication must have a domestic, Canadian destination with an explicit policy that assures the domesticity of data residency. Replicated VMs will mostly be synchronized from the HQDC that is serviced by a fibre Internet service that



provides roughly 800Mb/s symmetric.

Any replication service(s) will be evaluated separately in Appendix A from the two local HCI devices, but if those replication services are not included with a response explicitly, provisions for integration of the local HCI devices with a replication service must be clearly laid out. More comprehensive proposals will have a higher maximum potential score.

Backup operations at HQDC use a Veeam dedicated hardware server that at this moment, is licensed for vSphere, but licensing may be changed to universal (Windows guest aware) licensing if made necessary by the introduction of a new hypervisor. It is the preference of RDKB IT to maintain the existing Veeam infrastructure for capture of backups. Any proposals that might impact how backups are captured should be discussed in advance, for instance, if some restore point capacity is built into normal cluster administration.

Any annual maintenance or support costs should be provided and clearly explained, at minimum for a year of support. Multi-year maintenance contracts may also be considered at the time of initial purchase if deemed advantageous by the RDKB. If known, the end of life (EOL) date for any hardware or software should also be provided. Any equipment or services must be supportable for a minimum of 60 months from the date of purchase.

1.3. CAPACITY ESTIMATES

The current Nutanix cluster usage in the HQDC breaks down roughly as follows;

- 2U, rack-mountable hardware format
- 30 guest VMs
- Disk usage – 5.03 TB
- IOPS – 1085 @ peak, 79 @ 95%
- Avg. daily writes – 68.38 GB
- Total CPU usage – ~19 GHz
- RAM usage – 267.98 GB

The standalone GFDC ESXi host is considerably smaller in all measurements;

- 2U, rack-mountable hardware format
- 4 guest VMs
- Disk usage - 604 GB
- Total CPU usage - ~300 MHz
- RAM usage - 20.44 GB

Any systems specified by the Proponent for the primary HQDC system must accommodate at a minimum;

- No more than 5U, rack mountable hardware format
- Individual NEMA 5-20P (or 5-15P) power cabling per node, although other Layer 1



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- power configurations may be considered
- Disk capacity – 30 TB of usable storage, after any data protection overhead
 - Total CPU capacity – no less than 44 GHz
 - Total RAM – no less than 512 GB
 - This cluster will have available 10 ports of 10 Gb/s, dedicated storage network Ethernet switching via copper Twinax

Any systems specified by the Proponent for the secondary GFDC system must accommodate at a minimum;

- No more than 2U, rack-mountable hardware format
- Individual NEMA 5-20p (or 5-15P) power cabling per node
- Disk capacity – 4 TB of usable storage, after any data protection overhead
- Total CPU capacity – no less than 8 GHz
- Total CPU core count 16 or less
- Total RAM – no less than 64 GB
- This unit will have available 2 ports of 1 Gb/s Ethernet switching to the local network, with roughly 400 Mb/s WAN connectivity to the Trail HQDC @ roughly 21 ms latency

Any replication service(s) specified by the Proponent must accommodate at a minimum;

- 8 guest VMs
- storage capacity – 2 TB of usable storage
- Total CPU capacity – no less than 8 GHz
- Total RAM – no less than 96 GB
- HQDC is serviced by 800 Mb/s symmetric fiber ISP service

1.4. TIMELINE

The proposed timeline for this RFP is as follows:

Date	Action
July 15, 2020	Release of RFP
2:00 p.m. (local time) on Friday, Aug 7, 2020	RFP Closing Time
Aug 10 – Aug 14, 2020	Proposal evaluation, selection of Preferred Proponent and any backup Proponents and commencement of any negotiations leading to a completed agreement



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Aug 19, 2020

Selection of Proposal

2. INSTRUCTIONS TO PROPONENTS

2.1. SUBMISSION OF PROPOSALS

Proposals may be submitted by email only, in PDF format until the Closing Time specified. It is the Proponent's sole responsibility to ensure its Proposal is received at the email address outlined below by the Closing Time.

The Proposals should be attached to, or linked to a Cloud storage service from within an email, clearly marked with the subject line '**RFP Response RDKB-20-IT-STOR - <Proponent's name>**', and be addressed to the following:

dgreen@rdkb.com
Manager of Information Technology
Regional District of Kootenay Boundary

Proposals must be received on or before the
Closing Time of:

TIME: **2:00 PM Pacific Daylight Time**
DATE: **Friday, August 7, 2020**

Proposals will not be opened publicly. The Proponent bears all risk associated with delivering its Proposal by electronic submission, including but not limited to delays in transmission between the Proponent's computer and the Regional District's mail system.

Proponents wishing to make changes to their Proposals after submission but prior to the Closing Time may do so by submitting the revisions by email to the address above.

It also is the Proponent's sole responsibility to ensure their revisions were received, at the e-mail set out above, prior to the Closing Time.

Proposals shall not exceed 25 pages using a 10pt font or larger.

Proposals received after the Closing Time will not be considered or evaluated.

2.2. ENQUIRIES

All enquiries related to this RFP are to be directed, via email, to the following person, no later than 3 business days prior to the closing time. Information obtained from any other source is not official and should not be relied upon.



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Dale Green, Manager of Information Technology

Email: dgreen@rdkb.com

Proponents shall carefully examine the RFP documents and shall fully inform themselves as to the intent, existing conditions and limitations which may affect their Proposal submission. No consideration will be given after submission of a Proposal to any claim that there was any misunderstanding with respect to the conditions imposed.

Proponents finding discrepancies or omissions in the Contract or RFP, or having doubts as to the meaning or intent of any provision, should immediately notify the above listed project contact. If there are any changes, additions, or deletions to the Proposal scope, conditions, or closing date, Proponents will be advised by means of the issuance of an Addenda. Receipt of Addenda should be acknowledged by the Proponent in the submission.

Verbal discussion between the Regional District directors or staff and a Proponent shall not become a part of the RFP or modify the RFP unless confirmed by written Addendum. The Regional District shall not be responsible for Proponents adjusting their Proposals based only on oral instructions by any representative of the Regional District.

3. GENERAL TERMS OF PROPOSAL PROCESS

3.1. DEFINITIONS

"Addenda" means all additional information regarding this RFP including amendments to the RFP.

"Agreement" or **"Contract"** means a contract that is issued to formalize the Work with the successful Proponent based on the proposal submitted and incorporate by reference the Request for Proposal, any addenda issued, the Proponent's response and acceptance by the Regional District.

"Consultant" means the person(s), firm(s) or corporation(s) appointed by the Regional District to carry out all duties, obligations, work and services first contemplated in the Request for Proposal and all associated documentation, which may also include mutually agreed revisions subsequent to submission of a Proposal.

"must" or **"mandatory"** or **"shall"** means a requirement that must be met.

"Proponent" means the responder to this RFP with the legal capacity to contract.

"Proposal" means a written response to the RFP that is submitted by a Proponent.

"Regional District" means the Regional District of Kootenay Boundary.



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ISSUED: July 15, 2020

"Request for Proposals" or **"RFP"** means the solicitation described in this document, including any attached or referenced appendices, schedules or exhibits and as may be modified in writing from time to time by the Regional District.

"Services" means and includes the provision by the successful Proponent of all services, duties and expectations as further described in this RFP.

"should" or **"may"** means a requirement having a significant degree of importance to the objectives of the RFP but is not a mandatory requirement.

"Work" means and includes anything and everything required to be done for fulfillment and completion of the project in accordance with this RFP and Proposal.

3.2. ACCEPTANCE OF TERMS AND CONDITIONS

Submitting a proposal indicates acceptance of all the terms and conditions set out in the RFP, including those that follow and that are included in all appendices and any Addenda. The Proponent shall provide a brief listing of all proposed modifications and /or deletions to the terms and conditions set out in the RFP, or it will be deemed that every clause will be strictly adhered to.

A Proposal must be signed by a person authorized to sign on behalf of the Proponent with the intent to bind the Proponent to the RFP and to the statements and representations in the Proponent's Proposal.

3.3. PROPOSAL PREPARATION COSTS

All expenses incurred by the Proponent in preparation and submission of this Proposal are to be borne by the Proponent, with the express understanding that no claims for reimbursements against the Regional District, or any of its member municipalities, will be accepted. The Regional District shall not be responsible for any costs involved in or associated with any meetings, discussion or negotiation following submission that could lead to acceptance of the Proposal and award of a contract.

3.4. PROPOSAL EVALUATION

The Regional District recognizes that "Best Value" is the essential part of purchasing a product and/ or service and therefore the Regional District may prefer a Proposal with a higher price, if it offers greater value and better serves the Regional District's interests, as determined by the Regional District, over a Proposal with a lower price.

Appendix A contains the information regarding how Proposals will be evaluated. The evaluation team will not be limited to the criteria listed in Appendix A, and the evaluation team may consider other criteria that the team identifies as relevant during the evaluation process. However, any criteria considered will be applied evenly and fairly to all



Proposals.

The Regional District, at its sole discretion, reserves the right to:

- reject any or all Proposals whether complete or not,
- reject any Proposal it considers not in its best interests,
- waive any minor irregularity or insufficiency in the Proposal submitted,
- not be liable for misunderstandings or errors in the Request for Proposals,
- contact references provided by the Proponents,
- retain independent persons or contractors for assistance in evaluating Proposals,
- request points of clarification to assist the Regional District in evaluating Proposals,
- negotiate changes with the successful Proponent,
- award separate contracts for separate work components, and
- withdrawal the Request for Proposals.

3.5. PROPOSAL PRESENTATION

The Regional District reserves the right to request one or more of the Proponents whose submissions are of particular interest to the Regional District, to make an oral presentation to the Regional District.

3.6. PROPOSAL VALIDITY

Proposals will be open for acceptance for at least 60 days after the closing date.

3.7. NO CONTRACT

This RFP is not a tender and does not commit the Regional District in any way to select a preferred Proponent. By submitting a Proposal and participating in the process as outlined in this RFP, Proponents expressly agree that no contractual, tort or other legal obligation of any kind is formed under or imposed on the Regional District by this RFP or submissions prior to the completed execution of a formal written Contract.

3.8. ACCEPTANCE OF PROPOSAL

The acceptance of a Proposal for the Work will be made via email only from the Regional District, and will be addressed to the successful Proponent at the email address given in the submitted Proposal. Following acceptance and approval to proceed with the Proposal, the Proponent is expected to enter into a contract with the Regional District to perform the works or services set out and agreed upon in the Proposal.

The agreement that the successful Proponent will be expected to execute with the Regional District will contain terms similar to those contained in the sample Consulting Services Agreement provided in Appendix B. The agreement attachments will include the entire Request for Proposal, the Proponent's total Proposal submission and any mutually agreed upon modifications, changes or negotiated adjustments. Any agreement arising from this Request for Proposals will be governed in accordance with the laws of the Province of British Columbia.



3.9. LIABILITY FOR ERRORS

While the Regional District has expended considerable efforts to ensure an accurate representation of information in this Request for Proposal, the information contained in this Request for Proposal is supplied solely as a guideline for Proponents. The information is not guaranteed or warranted to be accurate by the Regional District, nor is it comprehensive or exhaustive. Nothing in this Request for Proposals is intended to relieve Proponents from forming their own opinions and conclusions with respect to the matters addressed in the Scope of Work.

3.10. CONFIDENTIALITY AND PROPRIETARY INFORMATION

All submissions become the property of the Regional District and will not be returned to the Proponent. The Regional District will consider all Proposals submitted as confidential but reserves the right to make copies of all Proposals received for its internal review and for review by its financial, accounting, legal, and technical consultants.

Proponents should be aware that the Regional District is a "public body" as defined in and subject to the provisions of the *Freedom of Information and Protection of Privacy Act*.

If the Proponent believes any of the information requested in this RFP and provided by them is confidential, then they should identify it as such and provide a rationale as to why it should not be released under "Freedom of Information" legislation.

The rationale for keeping information confidential under this legislation includes:

- a) Trade secrets of the Proponent;
- b) Financial, commercial, scientific or technical information, the disclosure of which could reasonably be expected to result in material financial loss or gain or could reasonably be expected to prejudice the competitive position of the Proponent; or
- c) Information the disclosure of which could be reasonably expected to interfere with contractual or other negotiations of the Proponent.

3.11. CONFLICT OF INTEREST

A Proponent shall disclose in its Proposal any actual or potential conflicts of interest and existing business relationships it may have with the Regional District, its elected or appointed officials or employees, any property ownership direct or indirect in the Regional District jurisdiction. The Regional District may rely on such disclosure.

3.12. NO COLLUSION

Except as otherwise specified or as arising by reason of the provision of the contract documents, no person whether natural, or body corporate, other than the Proponent has or will have any interest or share in this Proposal or in the proposed contract which may be completed in respect thereof.

There is no collusion or arrangement between the Proponent and any other actual or



prospective Proponents in connection with Proposals submitted for this project and the Proponent has no knowledge of the contents of other Proposals and has made no comparison of figures or agreement or arrangement, express or implied, with any other party in connection with the making of the Proposal.

3.13. NOT AN EMPLOYEE

The successful Proponent will acknowledge and agree that neither the Proponent nor any person employed by or associated with the successful Proponent in the performance of the services or otherwise, is an employee of, or has an employment relationship of any kind with the Regional District or is in any way entitled to terms or conditions of employment or employment benefits of any kind whatsoever from the Regional District under any collective agreement or otherwise including but not limited to private programs or coverages and statutory programs and coverages, whether under the Employment Standards Act of British Columbia (as amended from time to time), the Workers Compensation Act of British Columbia (as amended from time to time), the Employment Insurance Act of Canada (as amended from time to time), health pay contributions or otherwise.

3.14. LITIGATION

Proponents who, either directly or indirectly through another corporation or entity, have been or are in litigation, or who have served notice with intent to proceed with court action against the Regional District in connection with any contract for works or services, may be considered ineligible Proponents. Receipt of Proposals from such Proponents may be disqualified from the evaluation process.

4. GENERAL PROPOSAL CONTENT

Content to be included in the Proposal at minimum includes:

4.1. CONSULTANT INFORMATION

- **COMPANY INFO:** Full name, address and telephone number of the submitting office of the Proponent and where applicable, the name, address and telephone number of any branch office, affiliate or sub-consultant(s) that will be involved in the project.
- **REFERENCES:** The Proposal shall provide no less than one (1) reference that is relevant to the proposed Work. The references should be from a third party who can provide information about the performance of the Proponent in delivering the works or services for the experience cited.

4.2. METHODOLOGY

In their own words, the Proponent must show that they have an understanding of what the



HYPERCONVERGED STORAGE REFRESH
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equipment and services required. At a minimum, any proposals must include a primary 3- or 4-node HCI device for the Trail HQDC. More comprehensive proposals that include a secondary device for the GFDC and some technique or service for Cloud replication will be given higher scores during evaluation in the Methodology section of Appendix A.

4.3. SCHEDULING

The Proposal shall contain a proposed work schedule showing the major activities or tasks, order and interdependence of the various milestones, sub-tasks and deliverables for each of the required tasks, including any proposed meetings.

4.4. FEES AND DISBURSEMENTS

The Proponent must specify in the proposal, the fees required to satisfy the terms of reference for the project, the work plan and methodology. The Proponent must clearly identify and detail all costs. The various stages of the work plan should be costed separately, with taxes and disbursements clearly identified.

Proponents must provide a schedule of hourly rates for all professional services that might be required on the project and a table summarizing the total estimated cost of the project with the hourly rates and the total hours anticipated.

The schedule shall include a total maximum or upset fee to complete the project including expenses and disbursements. If optional tasks are proposed, a separate cost for those tasks should be noted. Any costs incurred by the above the submitted maximum cost will be the sole responsibility of the Proponent unless pre-approved by the Regional District.

The Proponent must also provide in the proposal, a description of the cost control measures that will be employed to effectively manage the Work.

4.5. SUB-CONSULTANTS

The Proposal shall include the company name of all subcontractors and sub-consultants proposed to be used in the performance of the Work with a description of the work they would be performing.

The subcontractors and sub-consultants listed in the Proposal may not be changed without the written consent of the Regional District. If the Regional District so requires, the Proponent shall be prepared to confirm to the Regional District the competence of subcontractors and sub-consultants prior to acceptance of the Proposal.

4.6. PROPOSAL INNOVATION

The Proponent shall address in the Proposal submission, all the information as requested in the RFP documentation. The Proponent is also encouraged to include innovative, alternative or unique solutions to the project.

5. SCOPE OF WORK

While the Regional District has made considerable effort to ensure an accurate



HYPERCONVERGED STORAGE REFRESH
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representation of information in this RFP, the information contained herein is given solely as a guideline for Proponents. The information is not guaranteed to be accurate, nor is it necessarily comprehensive or exhaustive.

The following encompasses, at minimum, the areas to be investigated/considered during the Project:

- provision of a 3 or 4 node hyperconverged storage device for the main datacenter in Trail in a state of configuration where it is ready to receive client site specific information
- provision of or technical consideration for a secondary storage device for the Grand Forks branch office in a state where it is pre-configured and ready to receive client site specific information
- provision of or technical consideration for a integration with a Cloud based, offsite replication service that uses strictly Canadian data centers
- provision of or technical consideration for any migration software or services required to migrate existing VMWare guests into any new hypervisor introduced as a byproduct of changing HCI devices
- provision of any on-site configuration / professional services required that fall outside the in-house capacities of RDKB IT staff. It is incumbent on the proponent to establish which, if any, professional services the RDKB may require
- provision of any remote support necessary for RDKB IT staff to successfully install and configure any of the above

The successful Proponent; along with any required sub-consultants, will work collaboratively with RDKB staff to ensure successful project completion.

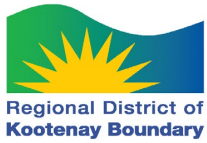
The Work Plan below is suggested by the RDKB as a methodology to complete the work required. The list of phases and tasks presented are not all inclusive of items required for completion of the Work. **Any items not listed, but are required based on Proponent expertise should be included in the submitted Proposal.**

Phase 1: Background Information Review

- Review existing capacity and usage statistics;
- Review existing RDKB HCI infrastructure;
- Review British Columbia (BC) Freedom of Information and Protection of Privacy Act (FIPPA), with special attention to Sec. 30.1, which describes how BC public agencies may consume Cloud products and services;

Phase 2: Specify HCI equipment / replication services

- Develop and present to RDKB staff for review and comment
 - 1..1. a list of equipment;
 - 1..2. a list of replication services where applicable;
 - 1..3. a list of professional services required for initial configuration of equipment and services;



-
- 1..4. any maintenance or support costs, broken out if paid by a single year and/or any multi-year contracts proposed;

Phase 3: Post-install configuration

- Assist RDKB IT staff with integration into datacenter operations to the extent agreed in the Scope of Work above;

6. REPORTING REQUIREMENTS

n/a

6.1. DOCUMENTS

The Regional District will require electronic copies of any architectural, product information sheets, or as-built diagram documents in formats that are compatible with the software available at the Regional District (i.e. Microsoft Visio, Excel, PDF or AutoCAD formats) that are necessary for completion of on-site configuration.



HYPERCONVERGED STORAGE REFRESH
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APPENDIX "A" – REQUEST FOR PROPOSALS EVALUATION FORM

Proponent's Name: _____			
Project Title: Hyperconverged Storage Refresh			
Evaluation Date: _____			
Evaluator: _____			
Step 1:		YES	NO
Mandatories	Proposal received prior to closing		
	Sub-consultant list submitted if applicable		
	Proposed schedule included		
	Reference List		
	Professional services rates provided if applicable		
	Complete proposal as requested		
Step 2:		Available Points	Awarded Points
Proponent (15 points)	Qualifications / experience of firm	5	
	Breadth of installed base of proposed technology	5	
	Past Performance / References	5	
Proposal (60 points)	Scope	5	
	Methodology – 20 pts available for HQDC equipment, 10 for GFDC equipment, and 10 for replication services	40	
	Scheduling	10	
	Clarity of Proposal	5	
Price (25 points)	Points for Price	25	
Total Score	Proponent + Proposal + Price Scores	100	

From: Tabatha Webber <info@bcimt.ca>

Sent: October 1, 2020 9:14 PM

To: aligrieve@telus.net

Subject: Support for improved medical transportation ~ Interior Medical Transport Society

Dear Ali,

I hope this email finds you well. I am writing you today in regards to Interior Medical Transport Society (IMTS). I have been a paramedic for 18 years and a past councillor for 10 year with the village of Fruitvale. In that time, I have seen a large gap in the services offered to the Interior of British Columbia. I have witnessed people not being able to reach medical appointments or finding adequate transportation that meet their needs. The lack of reliable, affordable transportation can sometimes affect a patients health and causes undue stress. Most times people must rely on family or friends to get to their destinations or delay their treatments or appointments.

IMTS is actively seeking your support for non-emergency medical transportation for citizens who can not be serviced by the Provincial Services. Our board is made up of diverse individuals with broad experiences in healthcare, the Canadian Military, fire service, law enforcement, education, heavy industries, politics, and over 40 years of combined paramedical experience.

IMTS believes that where you live should not determine your access to medical care! The cost of accessing medical appointments or treatments can be very costly and patients should not have to choose between their health and necessities like food or rent. Currently, patients are required to find their own transportation to and from medical services and many times at a significant personal cost.

With grant support, IMTS would like to be able to subsidize the cost of transportation and help individuals access their necessary medical services. While most medical transfers are non emergency, individuals may still require assistance beyond a simple taxi. Those vulnerably individuals with mobility issues, requiring personal care on route, those with no family support or seniors facing long distance driving in inclement weather are patients who need our help!

I ask that you reply to this email and share your thoughts on this project and if you feel this will benefit your community or family members. Please feel free to add your own comments or stories of how you, a family member, friend, or community could benefit from this program.

Thank you in advance.

Tabatha Webber

Chief Operations Officer

Direct: (250) 231-4867 | Office: (250) 368-7879

info@bcimt.ca | www.bcimt.ca

<image001.png>



STAFF REPORT

Date: 14 Oct 2020 **File**
To: Chair Cacchioni and Utilities Committee
From: Gabe Wiebe, Engineering and Safety Coordinator
Re: Rivervale Water and Streetlight Service Water Conservation Plan

Issue Introduction

A Staff Report from Gabe Wiebe, Engineering and Safety Coordinator, regarding the Water Conservation Plan for the Rivervale Water and Streetlight Service.

History/Background Factors

This proposed Rivervale Water and Streetlight Service Water Conservation Plan attempts to rationally develop and implement a water conservation strategy that will reduce water demand in the Rivervale Water and Streetlight Service by 20% from an average of 2017, 2018, and 2019 levels by the year 2024.

Highlights in this water conservation plan include:

- Updating watering regulations to be in line with other proposed RDKB Water Service Regulations,
 - The proposed watering regulations works on a weekly basis. In 'normal' conditions, odd numbered addresses allowed to water on Tuesday, Thursday, Saturday, and even numbered addresses are allowed to water on Wednesday, Friday, Sunday, and no one allowed to water on Monday.
- Highlighting a need to fund the 'Water Conservation Ambassador' program to promote water conservation in the Rivervale Water and Streetlight Service and other RDKB water utilities,
 - Promoting water conservation in the community.
 - Promoting the new watering regulations.

- Promoting the SWAT Irrigation Controller Rebate Program and indoor water conservation kits.
- SWAT Irrigation Controller Rebate Program for residents of Rivervale Water and Streetlight Service,
 - Promoting new technologies for irrigation controllers that reduce watering times if precipitation is measured in the area. These irrigation controllers are also easier to program to help residents comply with watering regulations.
 - Provide a number of rebates for these types of irrigation controllers annually to residents of Rivervale Water and Streetlight Service.
- Indoor Water Conservation Kit
 - Provide a number of indoor water conservation kits, including a kitchen faucet aerator, bathroom faucet aerator and reduced flow showerhead to residents of Rivervale Water and Streetlight Service. These indoor water conservation kits could reduce indoor water demand by 2,900 gallons or 11m³ annually per household according to the Environmental Protection Agency (EPA).

The initiatives proposed in the Rivervale Water and Streetlight Service Conservation plan are designed to reduce water demand in the Rivervale Water and Streetlight Service by 20% in 3 years.

Implications

That RDKB Staff will pursue funding to support the initiatives in the Rivervale Water and Streetlight Service Conservation Plan.

Advancement of Strategic Planning Goals

Completion of works related to the Rivervale Water and Streetlight Service Water Conservation Plan is consistent with the RDKB Board's overall goals related to Exceptional Cost Effective and Efficient Services and Environmental Stewardship / Climate Preparedness.

Background Information Provided

1. Draft Rivervale Water and Streetlight Water Conservation Plan
3. Proposed Rivervale Water and Streetlight Service Watering Regulation Table

Alternatives

1. That the Regional District of Kootenay Boundary Board of Directors approve the Rivervale Water and Streetlight Service (650) Water Conservation Plan as presented to the Board on October 14, 2020. **FURTHER** that staff be directed to implement the Plan.

2. Not Receive the Staff Report.

Recommendation(s)

That the Regional District of Kootenay Boundary Board of Directors approve the Rivervale Water and Streetlight Service (650) Water Conservation Plan as presented to the Board on October 14, 2020. **FURTHER** that staff be directed to implement the Plan.



Regional District of Kootenay Boundary

RIVERVALE WATER AND STREETLIGHT SERVICE WATER CONSERVATION PLAN 2021 to 2024

October 2020

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1.0 Executive Summary

The goal of water conservation is to reduce overall demand on the water supply. The benefits of reducing water demand for a water service include:

- reduced maintenance, treatment, and operation costs,
- longer life to infrastructure,
- better adaptation to water source changes due to climate change.

Previous water conservation efforts have been minimal for the Rivervale Water and Streetlight Service. The RDKB has set a goal to reduce water demand in the Rivervale Water and Streetlight Service by 20% from the average of 2017, 2018, and 2019 water demand levels by the year 2024, or in 3 years time. This would bring the average daily per capita demand from 624 Litres/Capita/Day (L/C/D) to 500 L/C/D. While a 20% reduction in water demand would result in water demand levels that are higher than the average in the Columbia Basin, it would start the conversation of water conservation in the community.

The RDKB expects to achieve the goal of 20% reduction in water demand over the average of 2017, 2018, and 2019 levels by implementing the recommendations from this water conservation plan.

Rivervale Water and Streetlight Service consists of approximately 120 service connections. A majority of these connections service residential properties (115 residential connections and 5 light industrial connections). From conversations with the Operators, the water demand from the light industrial connections is minimal. Also from these conversations, the Rivervale area does not experience a large increase in population during summer months.

This report examines summer and winter demand and attempts to determine how much water is being used for indoor and outdoor purposes. This is done by comparing the amount of water demand during winter months, where it is assumed most water is being used for indoor purposes, and summer months where outdoor water demand is at its maximum for the year.

The following review of the water demand data and the resulting recommendations are based on the best available data and assumptions. This examination of water demand for Rivervale Water and Streetlight Service does not take into account water leakage in the system infrastructure. All water systems experience some leakage through their infrastructure. The Columbia Basin Trust recommends that examining and reducing system leakage could significantly reduce the water demand for the system.¹

Table 1 summarizes the water demand for the Rivervale Water and Streetlight Service over the years 2015 to 2019 compared to the 2016 Columbia Basin Trust Water Smart Summary Report.

¹ Columbia Basin Trust Water Smart Summary 2016 Lesson #2 suggests leakage as one of the largest community water demand.

Table 1 Water Demand Break Down

Rivervale Water and Streetlight Service						
Indicator	2019	2018	2017	2016	2015	Basin Wide 2016
Total Average Daily Demand (Litres/Capita/Day)	659	591	622	654	692	354 (residential) ²
Average Outdoor Demand (Litres/Capita/Day)	295	333	334	306	360	Unknown
Average Indoor Demand (Litres/Capita/Day)	364	258	287	349	332	200 (estimate) ³
% Total Annual Outdoor Demand	45%	56%	54%	47%	52%	Unknown
Total Outdoor Demand (ML)	29	33	33	30	36	Unknown
Total Annual Demand (ML)	65	60	62	65	69	Unknown

The above table shows that there is a significant amount of outdoor water demand. In 2019, outdoor water demand contributes about 45% of the total yearly water demand.

Indoor and outdoor water demand and system leakage investigation were chosen as the areas to concentrate on for water conservation efforts.

Three water conservation efforts were explored to reduce outdoor water demand:

- **Water Conservation Measures**

- Depending on the amount of restriction, it can provide a varying amount of reduction to water demand. A draft of potential conservation measures is presented in Appendix A.
- This would involve hiring a 'Water Smart Ambassador', a temporary summertime position that would promote water conservation and the water conservation measures in Appendix A. Details of this program are provided in Appendix B.
- For this report, it is estimated that this conservation method will reduce outdoor water demand by 10%.

- **Rebates on SWAT Irrigation Controllers**

- A 3 year commitment to provide rebates on SWAT irrigation controllers. These controllers adjust the irrigation system's watering time according to current weather conditions and provide less watering when there is precipitation. An issue with existing irrigation controllers is that users do not manually adjust the watering time when there is precipitation. These irrigation controllers have shown to reduce outdoor water demand by as much as 20%⁴.

² Columbia Basin Trust Water Smart Summary 2016 – Average of 5 Basin communities with universal metering.

³ From City of Rossland Water Smart Action Plan 2015-2020. Note: 350+ L/C/D is considered a "high use home"; 200 L/C/D would be the expected demand in a home built to current building code standards.

⁴ From E-mail with Jessica Ahlstrom, Chair of SWAT Promotions Working Group, July 27, 2020

- By offering a rebate on these controllers, the RDKB would promote residents to use this type of irrigation controller. See Appendix C for a draft rebate program plan.
- **Indoor Water Conservation Kit**
 - By providing an indoor water conservation kit that includes faucet aerators and reduced flow showerheads, the Environmental Protection Agency (EPA) estimates that 2,900 gallons, or 11 m³ per household could be achieved.⁵
 - The indoor water savings packages include a kitchen faucet aerator, bathroom faucet aerator, and a high performance showerhead.
- **Leak Detection**
 - Getting a better understanding of how much leakage is occurring in the water system would be beneficial to get an idea of the next steps for water conservation. If a high amount of leakage is found, it would be beneficial to concentrate on repairing those leaks through a leakage detection and repair program. If a minimal amount of leakage is found, other water conservation methods could be explored.

By implementing new water conservation regulations and promoting water conservation with a water smart ambassador position, encouraging residents to install SWAT Irrigation Controllers, faucet aerators and a new showerhead, and determining how much water is lost due to leakage, and potentially fixing these leaks, over the next 3 years, the goal of reducing water demand by 20% is achievable. The implementation of water conservation is subject to available funding.

⁵ <https://www.epa.gov/watersense/watersense-calculator>

2.0 Introduction

The community of Rivervale is a small residential community approximately 5 km north of the City of Trail. The Rivervale Water and Streetlight Service (Water Service) is owned and operated by the Regional District of Kootenay Boundary (RDKB). The Water Service has approximately 120 service connections that service approximately 270 year round residents (based on 2.25 people per dwelling on average⁶). There are about 5 water service connections to light industrial properties and no commercial water service connections. From conversations with the Water Service Operators, water demand from the light industrial connections is minimal. For the purpose of this report, all water demand is assumed to be residential.

In 2011, the RDKB assumed ownership and operation of the Water Service from the Rivervale Improvement District (RID). The Water Service system was constructed in the early 1950's. The primary source for the water supply is from an infiltration gallery in Hanna Creek. The intake is located to the west of Highway 22, above the Rivervale Community. The Water Service also has 2 groundwater wells to supplement the Hanna Creek intake. The wells were drilled in the 2000's. About 75% to 95% of the water comes from the Hanna Creek Intake.

2.1 Purpose

The Water Service is facing challenges in the coming years. Aging infrastructure will lead to an increase in maintenance, operation and treatment costs. The Water Service's main source, Hanna Creek, is subject to high turbidity during spring freshet. Due to the high turbidity, water quality advisories are issued by the RDKB during spring freshet. In the late summer and fall, Hanna Creek can also experience low flow conditions. With climate change, Hanna Creek is expected to experience longer periods of low flow.

The RDKB wants to ensure that these issues are addressed and that there is safe and clean drinking water for all users for many years to come. This Water Conservation Plan supports the following directive:

Rivervale Water and Streetlight Service is committed to water sustainability and to finding solutions to meet our water quantity and quality demands at a reasonable price, while protecting the integrity of our local ecosystem and the health of our residents for generations to come.

2.2 Process

Rivervale Water and Streetlight Service's Water Conservation Plan has been developed through reviewing surrounding communities' water conservation plans, reviewing the Rivervale Improvement District Transition Plan, produced by True Consulting in 2010, along with examining historical water demand data. All recommendations in this report will require the support of RDKB Utilities Committee and the RDKB Board of Directors before implementation by RDKB Staff. Some recommendations from this report could require the help of outside funding and consultants to implement.

⁶ According to True Consulting Rivervale Improvement District Water Transition Study, 2010

2.3 Geographic Boundaries

The Water Service area is within RDKB's Electoral Area 'B'/Lower Columbia/Old Glory. The Water Service's area boundary is defined in RDKB's Bylaw 1459, 2010. Figure 1 shows the service area and location of water mains and hydrants.

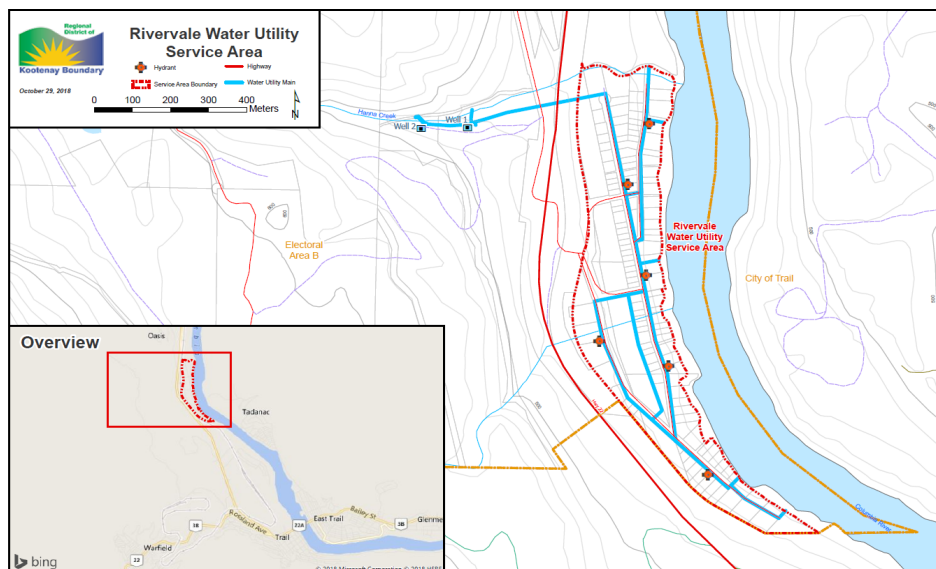


Figure 1 Service Area

2.4 Future Scenarios and Community Water Goals

The goal of the Water Service is to provide sustainable, clean and safe drinking water to everyone within the service area. This can be done through examination of historical water demand to determine how water is being used and develop recommendations to target high water demand activities. A goal of reducing water demand by 20% by 2024 has been set by the RDKB Utilities Committee. Future water conservation reports could be developed to further the Water Service's water conservation goals after 2024.

2.5 Plan Buy In

RDKB's Electoral Area 'B'/Lower Columbia/Old Glory Official Community Plan (OCP) was developed in 2013 after extensive consultation with the OCP Steering Committee and community input. The OCP provides objectives and policies to guide local government's decisions on planning and land use within Electoral Area 'B'. Section 18 of the OCP describes the objectives and policies for Water Services and Community Watersheds.

Objectives related to Water Service conservation include:

- To strive to have sufficient capacity in community water systems to mitigate against the potential negative impact of climate change on the quantity of water in those systems;

Policies related to Water Service conservation include:

- Support public outreach initiatives regarding water conservation measures;
- Support capital projects aimed at increasing the water storage capacity of the community water systems;
- Encourage Improvement Districts and water providers to increase public awareness of the sensitivity of Community Watersheds and the location of their boundaries;

This conservation plan will use these objectives and policies to guide the recommendations of this report.

3.0 Rivervale Water and Streetlight Service System Profile

3.1 Rivervale Community Profile

The Water Service serves a population of approximately 270 residents (based on 120 service connections and an average of 2.25 people per connection). From anecdotal evidence, a majority of the population is permanent and the area does not experience an increase in population during summer months.

The Water Service does not have any metered connections. Anecdotal evidence suggests that the water demand from the light industrial connections is minimal. For this report, all water demand is assumed to be residential as there are a far greater number of residential service connections than light industrial service connections.

The total amount of water consumed in 2019 was measured to be 65 ML. The average 2019 daily water demand is then estimated to be 659 Litres/Capita/Day (L/C/D). The Columbia Basin Wide residential average for 2016 was measured to be 354 L/C/D. Rivervale's water usage appears to be higher than the average for the Columbia Basin; water conservation measures are needed to ensure sustainable clean and safe drinking water.

3.2 Rivervale Water and Streetlight Service Intake Overview

75-95% of the Water Service's supply comes from Hanna Creek. Figure 2 shows an overview of the Hanna Creek Watershed.

The Water Service holds 2 water licenses for Hanna Creek for a total diversion of 909.6 m³/day. This exceeds the maximum day demands found to be 475 m³/day. The City of Rossland has 4 water licenses on Hanna Creek for 4785 m³/day. Rossland's water licenses pre-date the Water Service's licenses.

These licenses, however, do not factor the amount of water that can be sustainably diverted from Hanna Creek. According to the Rivervale Water Transition Study, the Water Service has only experienced water shortage during low flows of Hanna Creek once in 30 years. This could become an issue in the future given the expectation for a longer and drier climate in the summer which will lead to longer low flow periods on Hanna Creek.

The Water Service also has 2 groundwater wells capable of providing 130 m³/day, or just under 30% of the maximum daily demand (MDD). These groundwater wells are used as backup to the Hanna Creek intake. They are rarely used each year.

The Water Service experiences turbidity water quality issues during spring freshet every year. Each year, water quality notices are issued for the users of the Water Service.

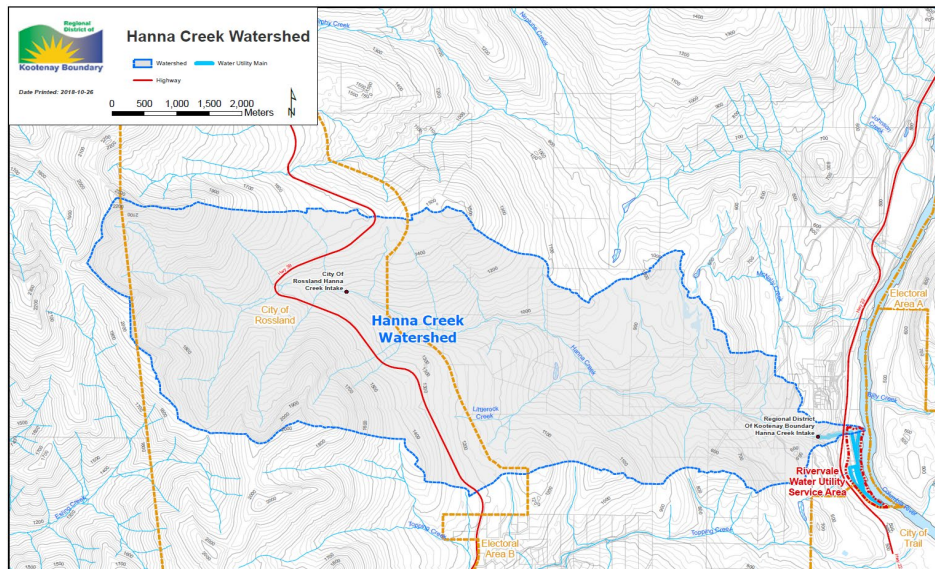


Figure 2 Hanna Creek Watershed

3.3 Rivervale Water and Streetlight Service Infrastructure Overview

In 2011, the RDKB assumed ownership and operation of the Rivervale Water and Streetlight Service. The Water Service system was constructed in the early 1950's. The primary source for the water supply is from an infiltration gallery, with stainless steel slotted well screens, located in Hanna Creek. The intake is located to the west of Highway 22, above the Rivervale Community.

In the 1960's and 1970's, two additional supply sources were utilized, the Dean/Durkin and McNally Springs. These springs were used until the 1990's, at which point they were abandoned due to liability concerns with potential contamination by Teck's upland operations. In 2003, two new wells were drilled (at a depth of 400ft and 500ft), with funding from Teck, near the Hanna Creek intake infrastructure. The Hanna Creek infiltration gallery provides 70% to 95% of water supply for the Rivervale Water and Streetlight Service. Well #2 supplements the remainder of the demand. Well #1 is only operated if reservoir levels drop beyond the supply capacity of the two primary sources. This might occur on occasion during the summer months during peak water demands.

Raw water is supplied by gravity from the infiltration gallery in Hanna Creek to a wet well which acts as a settling tank. From here, water is fed through the chlorination and filter system in the control building, and then into a buried concrete storage reservoir. The concrete storage reservoir has a capacity of 136 m³.

From the storage reservoir, water is fed through the distribution system by gravity to the approximately 120 service connections.

The Water Service also provides water for fire protection with the Kootenay Boundary Regional Fire Rescue (KBRFR) Department through 6 fire hydrants.

Table 2 summarizes the length, diameter and material type of the watermains in the Water Service. Figure 3 shows a map of the Water Service Infrastructure.

Table 2 Rivervale Water and Streetlight Service Summary of Water Main Material and Size

Material Type	Diameter (mm)	Length (m)	Approximate Year Installed ⁷
PVC	50	155	1990
PVC	100	745	1990
PVC	150	315	1990
AC	100	1200	1970
AC	150	415	1970
AC	200	490	1970

The water system also consists of:

- 6 fire hydrants
- flush locations comprising of either 50mm or 100mm piping above ground

⁷ From True Consulting Rivervale Improvement District Water Transition Study, 2010

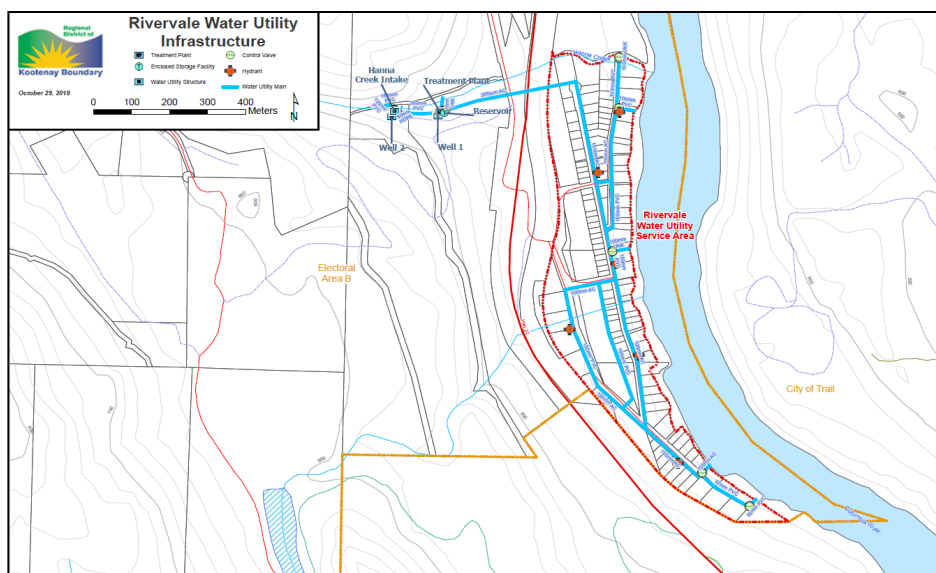


Figure 3 Map of Water Service Infrastructure

4.0 Rivervale Water and Streetlight Service Demand Profile

The following water demand profile has been developed based on the best available data provided by the Operators of the Water Service. Where assumptions have been made, they are based on industry standards and professional expertise and judgment of the RDKB Manager of Infrastructure and Sustainability.

The 2015 to 2019 gross water demand data are considered to be reliable and accurate. Population estimates, indoor water demand, outdoor water demand estimates have been derived from professional assumptions and standards, and working with available reliable data sets.

In conjunction with the review and input of RDKB staff, the data contained in Section 4 are considered sufficiently reliable to serve as a basis for developing the recommended actions found in sections 6 and 7. The RDKB may need to adjust the recommendations from this plan as more data becomes available.

4.1 Gross Water Demand

The total volume of water supplied by the Water Service in 2019 was 65 ML. This represents a slight decrease from 2015 levels, with no change in service connections. Figure 4 presents the monthly water demand profile based on the available data from 2015 through 2019.

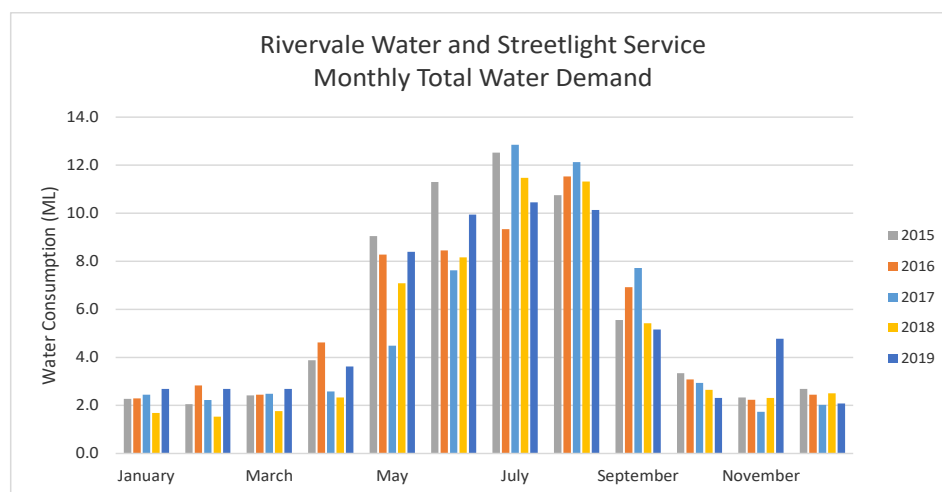


Figure 4 Monthly Water Demand

Table 3 shows the demands for Rivervale since 2015 and provides a comparison of local demand to average per capita demand within the Columbia Basin and British Columbia.

Table 3: 2015-2019 Indicators

Rivervale Water and Streetlight Service						
Indicator	2019	2018	2017	2016	2015	Basin Wide 2016
Total Average Daily Demand (Litres/Capita/Day)	659	591	622	654	692	354 (residential) ⁸
Average Outdoor Demand (Litres/Capita/Day)	295	333	334	306	360	Unknown
Average Indoor Demand (Litres/Capita/Day)	364	258	287	349	332	200 (estimate) ⁹
% Total Annual Outdoor Demand	45%	56%	54%	47%	52%	Unknown
Total Outdoor Demand (ML)	29	33	33	30	36	Unknown
Total Annual Demand (ML)	65	60	62	65	69	Unknown

4.2 Indoor Residential Demand

The indoor water demand was calculated by taking the average water demand for January, February, March, April, October, November and December for each year and extrapolating this

⁸ Columbia Basin Trust Water Smart Summary 2016 – Average of 5 Basin communities with universal metering.

⁹ From City of Rossland Water Smart Action Plan 2015-2020. Note: 350+ L/C/D is considered a "high use home"; 200 L/C/D would be the expected demand in a home built to current building code standards.

to a per day per capita basis. In 2019, an average of 364 litres were used daily per capita. This represents a 10% decrease in demand. 2019's daily indoor demand is still considered 44% more than the average demand in the Columbia Basin area. Indoor residential water demand could always be improved upon by upgrading indoor water fixtures with aerators and low flow fixtures.

4.3 Outdoor Residential Demand

The outdoor water demand was calculated by taking the water demand between May and September and subtracting an average indoor monthly demand over that same period. Water demand during summer months account for 68% of the yearly water use in 2019 and specifically outdoor water demand accounts for 45% of the yearly water demand. The outdoor water demand for 2019 was 18% less than in 2015.

4.4 Infrastructure Water Loss

Current annual real losses (CARL) is the measured amount of actual water loss in the distribution system, typically measured at night when consumption is low. This can be done through water use measurements made during overnight hours. This has not been done for the Water Service but is recommended to get a better idea of how much water is being lost due to the infrastructure.

5.0 Future Demand

The Rivervale Improvement District Water Transition Study provides a detailed examination of future demand that takes into account population growth. These future demand calculations do not take into account the effects of water conservation efforts. The results of that section are summarized for this report. For further details on these calculations, please refer to the transition study.

The Water Service currently has 120 service connections. There are 5 vacant lots within the service area that could potential be connected to the Water Service. That brings a total of 125 service connections to prepare for.¹⁰ Using the previously used measure of 2.25 people per service connection, that brings the population to 281, or a 4% increase in population.

Using the daily demand figure from 2019, 659 L/C/D, a 4% increase equates to a future annual water demand of 685.4 L/C/D and a future maximum daily demand of 475 m³/day.

As shown in section 3.2, the daily diversion allowed from Hanna Creek from the 2 licenses that the Water Service holds is 909.6 m³/day. The future daily demand is shown to be about 20% of the allowable demand from the water licenses.

Seasonal flow of Hanna Creek has not been studied over time. It is expected, with climate change, that there will be less snow pack and less water flow in Hanna Creek. Further investigation of seasonal flows of Hanna Creek is required to understand the effect of climate change on Hanna Creek and it's suitability as a viable intake for the Water Service in the future.

¹⁰ From True Consulting Rivervale Improvement District Water Transition Study, 2010

The Water Service also has 2 groundwater wells that can be used to supplement supply from Hanna Creek. These have shown to have a daily capacity of 130 m³/day. These wells have the capacity to compensate for demand during periods of low flow from Hanna Creek.

The Water Service has experienced water shortages from low flows of Hanna Creek on one occasion in the last 30 years¹¹.

Given that the two groundwater wells can supplement the Hanna Creek intake, the Water Service expects to be able to handle future demand. Water conservation efforts are required to reduce maintenance, treatment and operation costs.

5.1 Future Infrastructure Needs

Within the next 20 years there are several Water Service infrastructure components that will need to be replaced or rebuilt. Based on the preliminary asset management plan, the following infrastructure components need replacement or rebuilding:

- replace 2.1 km of AC water mains (Approximately 48 years old)
- rebuild Water Treatment Plant (Approximately 64 years old)
- rebuild or replace 6 hydrants (Approximately 28 years old)

The preliminary asset management plan graph is shown in Figure 5. The grey spikes in the year 2029 and 2030 show the above needed infrastructure replacement.

By reducing water demand, these spikes in years 2029 and 2030 can be lowered or deferred. A reduction in water demand leads to a decrease maintenance cost, operational costs and will extend the life of infrastructure.

¹¹ From True Consulting Rivervale Improvement District Water Transition Study, 2010

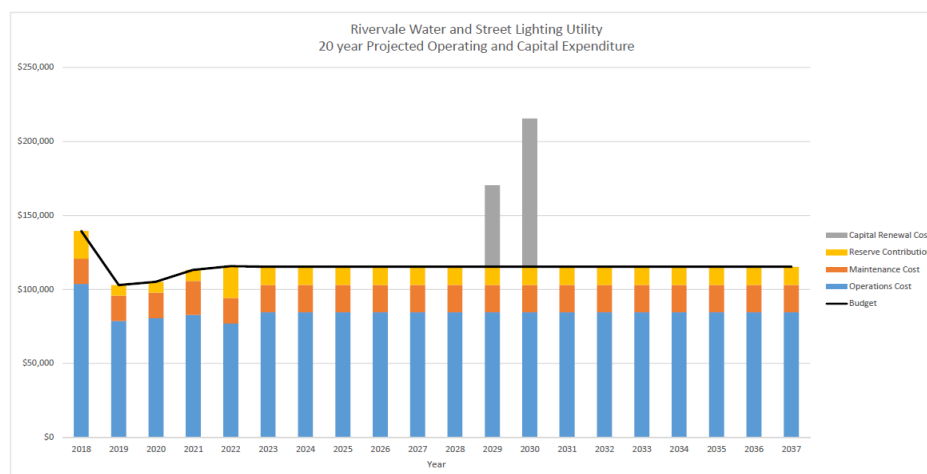


Figure 5 Preliminary Asset Management Plan

6.0 Conservation

As of the time of writing this report, there have been minimal water conservation efforts for the Rivervale Water and Streetlight Service. The RDKB has a goal to reduce water demand by 20% by 2024 from average of 2017, 2018, and 2019 water demand levels.

From the water demand profile in section 4, summer water demand and more specifically, outdoor water demand contributes a large amount to the overall water use. Also, it is unknown how much water is being lost to leaks in the water system infrastructure. For this report, indoor and outdoor water demand and system leakage investigation were chosen as the areas to concentrate on for water conservation efforts.

The Government of British Columbia released the "Water Conservation Guide" in 2013. The guide gives a step by step process on how to determine what conservation efforts could be introduced. That process was employed to determine the following conservation efforts:

- Water Conservation Measures
- SWAT Irrigation Controller Rebate Program
- Indoor Water Conservation Kit
- Leak detection

6.1 Water Conservation Measures

This effort would involve developing different levels of acceptable water use tied to the BC Provincial Drought Portal for the 'Lower Columbia' Region. The higher the drought level, the less watering would be allowed. Appendix A outlines a draft of the water conservation measures.

This conservation initiative would also involve funding a 'water smart ambassador' position for 3 years to help educate residents in the water conservation measures as well as promote other

methods to reduce water use in the home. This position would also help communicate changes in water conservation levels. The water smart ambassador position would split their time between the RDKB's 3 residential water systems (Christina Lake Water Utility, Rivervale Water and Streetlight Service, and Beaver Valley Water System). Appendix B outlines a draft water smart ambassador program.

6.2 SWAT Irrigation Controller Rebate

Programmable irrigation controllers historically suffer from the user 'setting and forgetting' the water days, times and durations. This can lead to an actual increase in water consumption because the user does not manually decrease their watering based on local weather conditions. SWAT irrigation controllers can fill that role if programmed correctly by having the ability to reduce watering times automatically.

"Smart" water application technologies (SWAT) take the human element out of the equation. Smart sensors and controllers monitor weather and other site conditions and adjust the irrigation system to apply just the right amount of water at just the right time. Water-saving nozzles and pressure regulators apply water precisely, just where it's needed. Together, these technologies can successfully reduce outdoor water use by as much as 20 to 40 percent annually, while maintaining a healthy, beautiful landscape.¹²

Appendix C outlines a draft of how the SWAT irrigation controller rebate program could work. The above mentioned 'water smart ambassador' position could help promote this program to residents.

Typically, users of these irrigation controllers can experience a 20% reduction in outdoor water demand if these controllers are used properly.¹³

6.3 Indoor Water Conservation Kit

Indoor water conservation kits, including a kitchen faucet aerator, bathroom faucet aerator, and reduced flow showerhead could reduce indoor water demand by 2,900 gallons per household¹⁴.

6.4 Leak detection

The CBT Water Smart Plan identified water system leaks could be a major contributor to water demand.

The practice of leak detection has evolved significantly over the years and the practices and techniques used will be highly system dependent and need to be based on the knowledge and experience of the local operators in consultation with leak detection specialists.

6.5 Conservation Measure Analysis

The values used to rank the difference conservation measures used a 1 to 5 scale, where 5 has the highest impact or acceptability for that category and 1 has the lowest impact in that

¹² <https://www.irrigation.org/SWAT/About/Background/SWAT/About/Background.aspx>

¹³ From E-mail with Jessica Ahlstrom, Chair of SWAT Promotions Working Group, July 27, 2020

¹⁴ <https://www.epa.gov/watersense/watersense-calculator>

category. The weights and scores were based on conversations with RDKB's Manager of Infrastructure and Sustainability.

Weights were used to place importance on certain categories. Water conservation measures that target the highest use of water (i.e. outdoor water use), the amount of water that could potentially be saved and political and societal acceptability were given the highest weights as these were deemed to be the most important factors for ranking the water conservation measures.

Table 4

Conservation Measure Criteria with Weighting							
Conservation Measure	Water Savings	Targets High Use	Savings Reliability	Technology Availability	Political/Social Acceptability	Internal Capacity	Total Score
Weight (%)	30	25	5	5	30	5	100
Multiplier (divide by 5)	6	5	1	1	6	1	
Water Conservation Measures	12	25	5	5	30	5	82
SWAT Irrigation Controller Rebate Program	30	25	5	5	30	2	97
Indoor Water Conservation Kit	12	20	5	5	30	3	75
Leak Detection	18	20	4	5	24	3	74

The above table shows the highest score as being implementing water conservation measures for the Water Service. The next highest score was implementing the SWAT Irrigation Controller Rebate Program, and offering indoor water conservation kits, followed by exploring a leak detection program.

Table 5 shows a cost breakdown and the total volume of water that could be saved if the programs were implemented. This table assumes that the SWAT Irrigation Controller Rebate Program is offered to 25 connections annually (out of 120 service connections total) as described in appendix C.

It is proposed that the RDKB offers 45 indoor water conservation kits annually to households in the Rivervale Water and Streetlight Service.

The baseline water demand is a percentage of the 120 service connections in the water service multiplied by the average water demand from 2019, 2018, and 2017. The amount of water savings is based off assuming water conservations measures alone will offer 10% reduction in water demand and each SWAT Irrigation Controller will reduce outdoor water demand by 20%, and indoor water conservation kits could provide 11 m³ or 2,900 gallons per household.

Table 5

Conservation Measure	Annual Water Demand Savings				
	% Connections Targeted	Baseline Water Demand (m ³)	Amount of Water Savings (m ³)	% Water Demand Reduction	Annual Cost (\$)
Water Conservation Measures	100%	61,478	6,148	10%	\$7,500
SWAT Irrigation Controller Rebate Program	21%	12,808	1,317	10%	\$5,000
Indoor Water Conservation Kit	38%	23,054	500	2%	\$1,170
Leak Detection	100%	Unknown	Unknown	Unknown	Unknown

The above cost and water savings are estimated based on the following:

- 'Water Smart Ambassador' approximately \$30,000 per year to cover 3 RDKB water services. Water Savings based on 10% reduction in outdoor water demand.
- 'SWAT Irrigation Controller Rebate Program' water savings based on 20% reduction in outdoor water demand.
- 'Indoor Water Conservation Kit' water savings based on 2,900 gallons per household in water demand reduction.

Based on the above analysis, the first step is to develop water conservation measures, implement the SWAT Irrigation Controller Rebate Program, and provide the Indoor Water Conservation Kits.

It is recommended to explore the cost of a leak detection program. While the actual amount of savings and cost are unknown at the time of writing this report, getting a better idea of how much water is being lost due to leaks in the infrastructure would be beneficial to determine where to concentrate for water conservation efforts.

7.0 Implementation

7.1 Water Conservation Measures

RDKB Bylaw 1592, 2016, allows the RDKB to implement water conservation measures. These conservation measures are expected to be put into effect in the summer of 2021 after consultation with the RDKB Electoral Area 'B' Director and Water Service users. Conservation measures of this nature need to have the support of the RDKB Utilities Committee and approved by the RDKB Board of Directors.

The water conservation measures that primarily target outdoor water use will be tied to the provincial drought level for the 'Lower Columbia Area' according to the BC Drought Information Portal.¹⁵ RDKB staff will research other water utilities water conservation measures to ensure that the conservation measures encompass the values of the Water Service and the RDKB. Appendix A contains a draft of what the conservation measures could include.

To help implement the water conservation measures, a 'Water Smart Ambassador' position would start in the summer of 2021. This position will be based from the Columbia Basin Trust's (CBT's) 'Water Smart Ambassador' program from CBT's Water Smart Initiative launched in the 2010's. This temporary, May to August position will have similar duties to previous CBT 'Water Smart Ambassador' positions. Primary duties would be:

¹⁵ BC Drought Information Portal <https://governmentofbc.maps.arcgis.com/apps/MapSeries/index.html>

- Promote overall water conservation
- Promote outdoor water conservation
- Flag lawns found using water outside of existing water conservation table
- Residential landscape and irrigation system assessments
- Landscape and irrigation system audits at parks, schools, government buildings and public spaces
- Commercial Accommodation Audits
- Flag lawns that have been observed as water wasters
- Record Keeping/Reporting
- Promote and help implement the SWAT Irrigation Controller Rebate Program and Indoor Water Conservation Kit

RDKB staff will research other water utilities water conservation measures to ensure that the existing water conservation measures encompass the values of the BVWS and the RDKB.

Appendix A outlines the proposed new water conservation levels. Appendix B contains a draft outline of the water smart ambassador program. The 'Water Smart Ambassador' position would have their time shared among the 3 RDKB residential water systems (Rivervale Water and Streetlight Service, Beaver Valley Water System, and Christina Lake Water Utility).

7.1.1 Communication Plan

Part of the implementation of the water conservation measures is a communications plan. To communicate the conservation measures to users of the water Service, this report proposes the following methods:

- Newsletter or pamphlet development and mail out.
- Social media posts and advertising.
- Two meetings with the public.
- Have signs and sandwich boards posted at locations in the community to advise water users of the current level of water conservation if the drought level is higher than level 1.
- Presence at community events.

7.2 SWAT Irrigation Controller Rebate Program

Appendix C outlines a draft SWAT Irrigation Controller Rebate Program. By providing rebates to users for these types of controllers, an estimated 20% reduction in water demand can be observed for at the residence where each controller is installed and set up properly.¹⁶ This rebate program would rely on the 'Water Smart Ambassador' to implement.

7.3 Indoor Water Conservation Kit

The indoor water conservation kits would consist of faucet aerators and a reduced flow showerhead. The kits would contain installation instructions that do not require a plumber to install. By installing these devices, an immediate reduction in water demand can be observed. This program would rely on the 'Water Smart Ambassador' position to advertise and implement.

¹⁶ From E-mail with Jessica Ahlstrom, Chair of SWAT Promotions Working Group, July 27, 2020

7.4 Leak Detection

It is unknown how much water is being lost due to leakage of infrastructure. Water leakage is deemed to be one of the single largest contributor to water demand.¹⁷ To get a better understanding of water being lost due to leakage, the following steps are proposed:

- Record night time flows at source and from reservoir several times throughout the year, during times of least water use.
- Install meters at the source, reservoir and potential industrial users.
- Estimate water usage for authorized usage (main flushing and fire usage).
- Review system for unauthorized usage.
- Estimate system leakage.
- Test a sample of the service connections, estimate leakage from residential services.

If leakage is found to be greater than 15% of the total usage from the system, leakage detection and prevention program should be concentrated on for further water conservation.

7.5 Water Demand Review

Upon implementation of the water conservation measures, offering rebates on SWAT irrigation controllers, offering indoor water conservation kits and possibly exploring how much water is being lost to leaks, the Rivervale Water and Streetlight Service could see a reduction of 20% in water demand in the households that have implemented the water conservation steps detailed in this report. If these programs were implemented on all households in the water service, a significant reduction in water demand could be observed.

Water demand should be reviewed on an annual basis to determine the effectiveness. In 2024, or after 3 years of water use under water conservation measures, this water conservation plan should be reviewed to determine the effectiveness and see if the goal of 20% reduction in water demand from the average of 2017, 2018, and 2019 levels was achieved.

8.0 References

- 1 "Rivervale Improvement District Water Transition Study", True Consulting, 2010
- 2 "Water Conservation Guide for British Columbia", 2013
- 3 "Water Conservation Calculator, <http://waterconservationcalculator.ca>
4. "Water Smart Summary 2016" Columbia Basin Trust, December 2016
5. BC Drought Information Portal, <https://governmentofbc.maps.arcgis.com/apps/MapSeries/index.html>
6. "City of Rossland Water Smart Action Plan 2015-2020", WSP, 2016
7. "City of Trail Water Smart Action Plan 2015-2020", WSP, 2016

¹⁷ Columbia Basin Trust – Water Smart Summary 2016

9.0 Appendix A – Draft Water Conservation Measures

Activity	Rivervale Water Utility Conservation Stages			
	Stage 1 Normal	Stage 2 Dry	Stage 3 Very Dry	Stage 4 Extremely Dry
Lawn, trees, shrubs, vegetables, flower gardens watered by sprinkler or irrigation system. Allowed 4:00 am to 9:00 am and 7:00 pm to 10:00 pm	Even Numbered Addresses Tuesday, Thursday, Saturday Odd Numbered Addresses Wednesday, Friday, Sunday No Watering Allowed on Monday	Even Numbered Addresses Tuesday, Saturday Odd Numbered Addresses Wednesday, Sunday No Watering Allowed on Monday, Thursday, Friday	Even Numbered Addresses Saturday Odd Numbered Addresses Sunday No Watering Allowed on Monday to Friday	Prohibited
Micro Irrigation or Drip Irrigation System	Allowed	Allowed	Allowed	4:00 am to 9:00 am and 7:00 pm to 10:00 pm
Watering with handheld container or hose with shut off nozzle	Allowed	Allowed	Between 7 pm and 7 am	Prohibited
Washing Personal Vehicles (does not apply to commercial car wash stations)	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited
Cleaning surfaces, sidewalks, driveways	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited	Prohibited
Filling fountains, hot tubs, and pools	Allowed	Allowed	Prohibited	Prohibited
Watering Sod, new grass, plantings	Allowed with authorization from RDKB Environmental Services	Allowed with authorization from RDKB Environmental Services	Prohibited	Prohibited

10.0Appendix B – Draft Water Smart Ambassador Program

Water Smart Ambassador Program Manual

Draft August 2020

1.0 OVERVIEW

The Water Smart Ambassador Program (Water Smart) presented here is based off the successful Water Smart Program administered by the Columbia Basin Trust (CBT) between 2009 and 2016. The Water Smart Program was a Columbia Basin-wide water conservation initiative that provided support to participating Regional Districts, Municipalities, and First Nations to assess their local water conservation needs, and then to plan for the most locally effective actions to reduce community-wide water consumption.

The goal of Water Smart is to provide capacity and support to the Regional District of Kootenay Boundary's (RDKB's) Water Services (Beaver Valley Water System, Rivervale Water and Streetlight Service, and Christina Lake Water Utility) to achieve community-specific water conservation targets that contribute to an overall 20 per cent reduction from outdoor water demand over the average of 2017, 2018, and 2019 levels.

The CBT program that this is based on included 22 communities signing on to the Water Smart Charter demonstrating their commitment to work with CBT and Basin communities to reduce community water consumption. CBT has worked with 20 communities in the Columbia Basin to complete Water Smart Action Plans. Most of the Water Smart Action plans identified residential, commercial and/or local government irrigation during summer months as one of the highest water uses in the community. While watering restrictions such as odd-even day watering schedules may be effective in lowering daily irrigation peaks, they have proven to be less effective in reducing overall water consumption.

To address high outdoor water use, the RDKB has adapted the CBT Water Smart Ambassador program for implementation by participating local governments in the summer of 2021.

Public education programs that simply provide static information (such as brochures and adverts) are generally not effective means of changing individual behaviours. The Water Smart Ambassadors support individuals to make the link between information and action, providing each participating community with a helpful human resource who can interact with the public.

This document is intended to assist the RDKB to implement the Water Smart Ambassador Program. It includes information on:

- Program Structure
- Duties and responsibilities
- Hiring protocol
- Training, supervision, and reporting
- Communication

2.0 PROGRAM STRUCTURE

Each Water Service will likely take a somewhat different approach to the Water Smart Ambassador program, based on their individual resources and goals. The idea is to share Water Service resources to hire a full-time Water Smart Ambassador that will have presence in the community of each Water Service.

The RDKB responsibilities are as follows:

- Advertising the position, interviewing, and hiring
- Determining pay level, and other Human Resource issues
- Provide Job Description and recommendations on where to place ads (Appendix B)
- Assistance in coordinating "shared" summer students
- Initial and ongoing training
- Providing some communications materials.
- Ongoing support
- Providing necessary resources (work space, computer, telephone, etc)
- Daily supervision and project management

Water Smart Ambassadors who will conduct Landscape and Irrigation System Audits will require specific equipment outlined in Appendix A. This equipment will be provided to Ambassadors by CBT at the Water Smart Ambassador Training in May.

Because each community is slightly different from the next, there is no single structure for the Water Smart Ambassador Program. Instead, there is a "shopping list" of possible objectives with associated duties and responsibilities; the Ambassador will carry out those tasks relevant to the objectives of the individual community.

Various communication materials will be created and may include CMHC's Household Guide to Water Efficiency, Water Smart Ambassador T-Shirts and hats, bike flags, and doorknockers.

The number of tasks, along with the physical size and population of each community, will help determine if the Ambassador position is part-time, full-time, shared with another community, or included in the duties of existing staff.

Rolling out the Program

The individual Water Service's Water Conservation Plan include the recommended Public Education activities for each community. These tasks will determine the specific timeline for the Ambassador Program; however, following is a general timeline:

- April: Advertise Water Smart Ambassador position
- April/Early May: Interviewing and Hiring
- May: Orientation and Training
- May: Advertise Water Smart Ambassador Services to the Public

- June/Ongoing: Utilize doorknockers to generate appointments
- June/Ongoing: Water Audits
- July: Advertise Testimonials
- End of August: Final Report

A “hotline” telephone number should be assigned to the Water Smart Ambassador by each community at the beginning of the program, and this number should be used for all water conservation related inquiries, including:

- Questions about Watering Restrictions
- Reporting of customers who are breaking watering restrictions
- Requests for general water conservation information
- Requests for landscape and irrigation system audits
- Requests for accommodation sector audits

The Water Smart Ambassador ‘hotline’ number should be published in all water conservation related communications, including websites, water bills (if available), newsletters, advertisements, etc.

3.0 WATER SMART AMBASSADOR DUTIES AND RESPONSIBILITIES

The Water Smart Ambassadors will have two tasks:

- 1) Generating and responding to residential inquiries;
- 2) Carrying out pre-determined and ongoing water audits at major facilities.

The residential inquiries will be irregular and sporadic at first, so it is important that the Ambassador has pre-determined and on-going tasks to avoid downtime.

Following is a suite of potential activities that the Ambassador could carry out. The RDKB will provide comprehensive training as well as a detailed Water Smart Ambassador Manual to assist the Ambassador to carry out the tasks listed here.

Residential landscape and irrigation system assessments: This is the cornerstone of the program. An assessment can take anywhere from thirty minutes to several hours, depending on the size of the property and how much the customer wants to learn. The Water Smart Ambassador will be responsible for generating customer appointments through the distribution of doorknockers.

Landscape and irrigation system audits at parks, schools, government buildings and public spaces: An assessment at a large park or a school could take up to a full day, or possibly two days depending on the size. The Ambassador will be responsible for organizing these audits, and providing a report to the staff member responsible for maintenance.

Commercial Accommodations Audits: Indoor/outdoor water audits at hotels/motels. The Ambassador will be responsible for contacting the owner/managers, setting up times, conducting the audits, and providing a report. (It is not recommended that the

Ambassador carry out ICI or agriculture audits because of the specialized knowledge required).

In home water audits/residential water fixture survey: This would be a basic walk-through of a home, noting the existing fixtures and water using processes, and recommending where more efficient fixtures can be used. The water audits may also be helpful for those communities that are undertaking a residential water fixture survey. Also, any communities with low-flow showerheads to give away could utilize the Ambassador to actually install the showerheads.

Water Wasters: It is expected that the Water Smart Ambassador will receive telephone calls about customers who are breaking watering restrictions, or wasting water through some other behaviour. It will be the Ambassadors' responsibility to take action on these calls. We do not recommend the Ambassador to be a bylaw enforcer; they should not be responsible for handing out fines. Instead, the Ambassador will be presented as a helpful resource that is there to provide assistance and recommendations to reduce outdoor water use.

Record keeping/Reporting: The Ambassador will be required to keep records of all customer visits and water audits and compile them into a report at the end of the summer. RDKB will provide the template for all record keeping and reports. The data will be analyzed to determine the effectiveness of the Ambassador program and to improve the program for future years if it has merit.

The intention is for the Water Smart Ambassador to be highly visible in the community. Wherever possible, it would be preferred that the student carry out their duties on a bicycle with a uniform that clearly identifies them as the Water Smart Ambassador.

The students will carry with them copies of the Canada Mortgage and Housing Corporation's Household Guide to Water Efficiency. These will be distributed to customers during a water audit, or during a customer visit in response to a complaint about water waste.

4.0 HIRING AND TRAINING

It is essential that the right person with the right personality be hired or assigned to the job. Despite the technical nature of many of the tasks outlined above, no prior experience in irrigation system maintenance is required.

Who to hire?

If communities have the resources to hire a full or part time Water Smart Ambassador, the best candidates will be those individuals who already have a passion for environmental issues. The specific job tasks such as how to program an irrigation timer, how to calculate distribution uniformity, how to audit water fixtures, etc. can be taught - enthusiasm for the job cannot!

First and foremost, the RDKB will be looking for someone who has excellent interpersonal communication skills. The Water Smart Ambassador will spend the bulk of their days interacting with people. The successful candidate will also have to be highly motivated and organized because a great deal of their work will be done without direct supervision, and it may be necessary to compile a great deal of data in an organized and consistent manner.

In addition to a passion for the environment, high self-motivation, and organizational skills, the ideal candidate would also have:

- Knowledge of local flora as well as an aptitude for gardening;
- Some experience with public education and/or dealing with the public at a one-on-one level; and
- Basic computer skills (word, excel, power point, etc).

A first-year college or university student is often a good choice, A student who can return year after year will retain, and expand upon, their knowledge. Please see Appendix B for a job description template.

Advertising the Position

Each community is responsible for determining in which publications the advertisement will run, and paying for the ad placements.

Training

The RDKB will sponsor a three-day training sessions in the first or second week of May. These training sessions will be accompanied by the detailed Water Smart Ambassador Manual that outlines the entire job from how to make customer appointments, to how to carry out a complex water audit and how to effectively market the program to reach a wide variety of customers.

The Water Smart Ambassador Manual will also include templates for conducting water audits and a comprehensive section on how to complete landscape assessments.

The training sessions will include field work in addition to classroom exercises so the Ambassadors can get some hands on experience before heading back to their community.

5.0 THE FUTURE

It is important to keep in mind that this is a 3 year initiative, and that water conservation will likely be an ongoing area of action for each Water Service. As such, a strategic and phased approach to water conservation education will ensure that each barrier and opportunity is addressed in order of highest priority and most significant potential results.

Information gathered from the Water Smart Ambassador Program and through annual

reporting and monitoring for the action plans will likely help determine more specific programs and activities for following years. While some Water Services will remain primarily focused on outdoor conservation over the full 3 year period, others may transition quickly to addressing indoor water conservation issues as well. Movement along this spectrum should be determined primarily by the results of the program and ongoing water demand data analysis.

6.0 APPENDIX A

EQUIPMENT REQUIRED TO CARRY OUT IRRIGATION SYSTEM AUDITS

Landscape and Irrigation system audits at private residences do not require any special equipment except for a soil probe/sampler (see photo to right).

Irrigation system audits at parks, schools, government buildings, and other large irrigated spaces will require the following equipment.

- 1 (one) stop watch
- 1 (one) 100'/30, tape measure
- 1 (one) Tunnel Soil Probe/Sampler
- 1 (one) 100 ml measuring cup
- 1 (one) garden spade
- 20 (twenty) 3 X 10 flat-bottom, clear plastic catch basins



RDKB will provide the equipment package to Water Smart Ambassadors at the Orientation and Training Session.

Because irrigation audits in public spaces must be carried out during working hours, it will be necessary to run the sprinklers during the day. This could result in some people complaining about water waste. To help alleviate those concerns, RDKB will provide a "sandwich board" style sign to inform residents what is happening.

Transportation

It would be ideal for the Water Smart Ambassador to carry out their duties in their own vehicle with mileage paid by the RDKB. The Water Smart Ambassador could also use a bicycle upon arriving at each Water Service whenever possible. A small bike trailer will be necessary in order for the Ambassador to safely carry doorknockers, the CMHC Guides, and other equipment.

The equipment necessary for audits at parks, schools, government buildings, and other large irrigated spaces is too large and cumbersome to mobilize with a bicycle. A car or truck will be necessary.

7.0 APPENDIX B

WATER AMBASSADOR JOB DESCRIPTION

This is a four-month position starting at the beginning of May, 2021. The Water Smart Ambassador is responsible for providing water conservation education to residents and businesses.

Duties:

- Conduct landscape and irrigation system audits at private residences
- Patrol neighborhoods on bicycle to identify water waste and distribute water conservation information
- Promote water conservation at public events throughout the summer
- Respond to customer requests to information about water conservation
- Provide reports on customer visits and irrigation system audits.

Skills and Experience:

- Excellent interpersonal communication skills
- Basic computer skills (word, excel, power point, etc)
- Self motivated and highly organized
- Some experience with public education and/or working with the public at a one-on-one level
- Knowledge of local flora as well as an aptitude for gardening is an asset
- Some prior experience with automatic irrigation systems is ideal, but is not necessary

Additional Requirements:

- Valid BC Driver's License
- Access to a vehicle
- Use of a well-maintained bicycle and appropriate safety gear

Qualifications:

Must be working towards or have completed post secondary education. The successful candidate must have a passion for the environment and the desire to make a difference. Training will be provided.

**11.0Appendix C – Draft SWAT Irrigation Controller
Rebate Program**



Irrigation Controller Rebate Program - DRAFT

Overview

Outdoor water use contributes to over half of the overall water used in RDKB owned water utilities such as Rivervale Water Utility, Christina Lake Water Utility, and Beaver Valley Water Service. The RDKB has estimated that in 2019, 54% of water use in the Christina Lake Water Utility, 49% of water use in the Rivervale Water and Streetlight Utility was used outdoors, and 33% of water use in the Beaver Valley Water Service was used outdoors.

It should be noted that the Beaver Valley Water Service has been a part of the CBT Water Smart plan from 2009 to 2014. This included introducing water conservation measures, hiring a water smart ambassador, and developing an implementation plan for universal water metering. These measures have been successful to date, but to further enhance water conservation in Beaver Valley Water Service, offering irrigation controllers would further reduce water demand.

Most outdoor water is used to irrigate lawns and gardens. These irrigation systems can be controlled by an irrigation controller. Most irrigation controllers can be programmed to use water on pre programmed days and times. This helps residents comply with water use regulations developed for each water utility.

Modern irrigation controllers with Smart Water Application Technology (SWAT, <https://www.irrigation.org/SWAT>) are irrigation controllers that can be connected to sensors that are able to sense amount of rainfall or moisture content in soil and adjust the amount of water delivered by the irrigation controller according to these sensors.

SWAT irrigation controllers can drastically reduce the amount of water used. This will save money on operations and maintenance of water utilities and increase the life expectancy of water utility assets.

SWAT irrigation controllers can be purchased for as low as \$300 to \$400 (from a quick Amazon.ca search).

The RDKB can encourage the purchase and installation of SWAT irrigation controllers with weather or soil moisture sensors by partially subsidizing the cost of these controllers through a rebate program. A rebate program would entice water users to choose a SWAT irrigation controller with rain or soil moisture sensors when purchasing a new irrigation controller.

For this program to achieve its goal of drastically reducing outdoor water use, a multi year commitment of rebates on SWAT irrigation controllers is necessary. This program could be offered for 3 so that most residents of RDKB owned water utilities will have access to these funds over the duration that the program is offered.

The rebate program would require a budgeted amount for each water utility owned by the RDKB. This report is proposing that 50 rebates per year be available for residents of Christina Lake Water Utility, 100 rebates per year for residents in the Beaver Valley Water Service, and 25 rebates per year be available to residents of Rivervale Water Utility. If the rebate amount is set to \$200 per rebate, \$10,000 per year will have to be budgeted for Christina Lake Water Utility and Beaver Valley Water Utility, and \$5,000 per year will have to be budgeted for the Rivervale Water Utility for the rebate program.

The rebate program would be in effect for a given year until the budgeted funds for rebates is used up for a given water utility. The program would re-open in January of the following year. If there are funds



Irrigation Controller Rebate Program - DRAFT

budgeted in a water utility that are not used, the funds would carry over to the following year. The program can be reviewed in February of each year to determine if the RDKB wishes to keep the program.

This document outlines how a program might exist at the RDKB, including a proposed per year budget.

Edit – FortisBC has potentially come on board to offer a showerhead and faucet aerators to households that receive this rebate up to the end of 2022 (so the first 2 years of the 3 year commitment for this program). This would further reduce water demand in each water service. The EPA has estimated that this reduces water demand by 2,900 gallons of water per household that have installed these products.

Conditions for Rebate

1. Applicants must be registered owners of commercial or residential properties connected to a Water Utility owned by the RDKB excluding the Columbia Gardens Water Utility.
2. Properties serviced by private wells or other utilities not owned by RDKB (e.g. Sutherland Water District) do not qualify. The program is funded only by those connected to water systems owned by the RDKB excluding Columbia Gardens Water Utility.
3. Must have purchased and installed a SWAT (Smart Water Application Technologies) approved smart irrigation controller (see list on RDKB website).
4. There is a maximum of one rebate per installation address.
5. Indoor water conservation devices must be proven to be installed by provided pictures of the device installed. (to avoid RDKB staff from entering premises).
6. Must have a sales receipt dated January 1, 2021 or later.
7. Must have an inspection receipt. An onsite inspection by the RDKB is required after installation. Applicants will be issued an inspection receipt if the unit has been installed correctly and meets eligibility requirements.
8. Must have had a plumbing permit to install the irrigation system.
9. All receipts need to be submitted with the application form.
10. Rebate cheques will be issued to registered owners of property only.

Procedure

1. Applicant decides to replace irrigation controller
2. Applicant logs on to rdkb website and obtains irrigation controller model list and application form, or applicant goes to retail outlet in the RDKB and is supplied with a list of irrigation controllers that qualify for rebate
3. Applicant installs controller
4. Applicant contacts RDKB's Water Smart Ambassador to set up inspection appointment
5. Water Smart Ambassador sets up appointment in conjunction with Operator
6. Water Smart Ambassador performs inspection and issues inspection receipt
7. Applicant downloads application form and fills out necessary information and attaches receipt for irrigation controller and inspection receipt
8. Applicant submits application in person, via e-mail, or by mail.
9. Application is forwarded to Engineering Safety Coordinator who reviews application



Irrigation Controller Rebate Program - DRAFT

10. Engineering Safety Coordinator records application information in spreadsheet.
11. Engineering Safety Coordinator issues request for cheque to finance department.
12. Applicant receives cheque from RDKB.

Budget

Christina Lake Water Utility per year

# of Connections	# Rebates	% Connections Targeted Annually	\$/Rebate	\$ Total
466	50	11%	\$200	\$10,000

Rivervale Water and Streetlight Utility per year

# of Connections	# Rebates	% Connections Targeted Annually	\$/Rebate	\$ Total
120	25	21%	\$200	\$5,000

Beaver Valley Water Service per year

# of Connections	# Rebates	% Connections Targeted Annually	\$/Rebate	\$ Total
1225	100	8%	\$200	\$20,000

A communication budget is needed to advertise the program to the residents of these water utilities. It is expected to cost about \$500 per year for advertising material to be developed and put out to the public.

Timeline

Spring/April

- Present Program to RDKB Utilities Committee for comment and ideas.
- Finalize program budget, details, and procedure.
- Contact retailers in the RDKB to produce product list and ensure retailers know about the program and can offer support.

Spring/April/May

- Hold training session with RDKB Operators
- Hold information session with RDKB front end staff
- Update website with forms and information about the program

May/June/July/August

- Issue ads on social media, print ads, and a news release about the program.
- Start receiving inquiries from public.



Irrigation Controller Rebate Program - DRAFT

- Start receiving applications.
- Issue inspections.

June/July through end of year

- Receive and review applications.
- Perform inspections.
- Issue rebate cheques to approved applications.

Following February

- Review program performance and determine whether to continue for next year.

Staff Requirements

Water Smart Ambassador:

- Promote SWAT Irrigation Controller Rebate Program in the community
- Set up inspection appointments
- Perform inspections
- Fill out inspection forms and submit to Engineering Safety Coordinator

Engineering Safety Coordinator:

- Create irrigation controller model list
- Create application form
- Set up advertising of rebate program through social media, website, print ads, coordinate with Communications Coordinator for news release
- Review application forms
- Respond to information inquiries
- Provide rebate details to front end staff, finance staff, operators, retailers

RDKB Operators:

- Advertise program to residents through conversations

RDKB Front End Staff:

- Take in applications
 - Ensure application is fully filled out
 - Forward application to Engineering and Safety coordinator
- Answer phone questions or direct questions to Engineering and Safety Coordinator

Technical Requirements

- Create e-mail 'irrigationrebate@rdkb.com'
- Create Irrigation controller rebate list
- Create application form
- Update website with program details



Irrigation Controller Rebate Program - DRAFT

Training Sessions Required

- Inquire with Retailers and irrigation installers regarding how they could support the program.
- Develop Product list with help from Retailers.
- Hold training session with Operators for inspection procedure and program details
- Hold training session with front end staff, finance staff regarding program details and procedures
- Hold training session with Retailers regarding finalized program details and procedures



Regional District of
Kootenay Boundary

RIVERVALE WATER AND STREETLIGHT SERVICE WATER RESTRICTIONS

ACTIVITY	STAGE 1 Normal	STAGE 2 Dry	STAGE 3 Very Dry	STAGE 4 Extremely Dry
Lawn, trees, shrubs, vegetables, flower gardens watered by sprinkler or irrigation system Allowed 4:00 am to 9:00 am and 7:00 pm to 10:00 pm	Even Numbered Addresses Tuesday, Thursday, Saturday Odd Numbered Addresses Wednesday, Friday, Sunday No Watering Allowed on Mondays	Even Numbered Addresses Tuesday, Saturday Odd Numbered Addresses Wednesday, Sunday No Watering Allowed on Monday, Thursday, Friday	Even Numbered Addresses Saturday Odd Numbered Addresses Sunday No Watering Allowed Monday to Friday	Prohibited
Micro Irrigation or Drip Irrigation System	Allowed	Allowed	Allowed	Allowed 4:00 am to 9:00 am and 7:00 pm to 10:00 pm
Watering with handheld container or hose with shut off nozzle	Allowed	Allowed	Between 7:00 pm and 7:00 am	Prohibited
Washing personal vehicles (does not apply to commercial car wash stations)	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited
Cleaning surfaces, sidewalks, driveways	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited	Prohibited
Filling fountains, hot tubs, and pools	Allowed	Allowed	Prohibited	Prohibited
Watering sod, new grass, plantings	Allowed with authorization from RDKB Environmental Services	Allowed with authorization from RDKB Environmental Services	Prohibited	Prohibited

Questions? Please contact RDKB at 250.368.9148 or 1.800.355.7352

rdkb.com



STAFF REPORT

Date: 14 Oct 2020 **File**
To: Chair Cacchioni and Utilities Committee
From: Gabe Wiebe, Engineering and Safety Coordinator
Re: Christina Lake Water Utility Conservation Plan

Issue Introduction

A Staff Report from Gabe Wiebe, Engineering and Safety Coordinator, regarding the Water Conservation Plan for the Christina Lake Water Utility.

History/Background Factors

This proposed Christina Lake Water Utility Water Conservation Plan attempts to rationally develop and implement a water conservation strategy that will reduce water demand in the Christina Lake Water Utility by 20% from an average of 2017, 2018, and 2019 levels by the year 2024.

Highlights in this water conservation plan include:

- Updating watering regulations to be in line with other proposed RDKB Water Service Regulations,
 - The proposed watering regulations works on a weekly basis. In 'normal' conditions, odd numbered addresses allowed to water on Tuesday, Thursday, Saturday, and even numbered addresses are allowed to water on Wednesday, Friday, Sunday, and no one allowed to water on Monday.
- Highlighting a need to fund the 'Water Conservation Ambassador' program to promote water conservation in the Christina Lake Water Utility and other RDKB water utilities,
 - Promoting water conservation in the community.
 - Promoting the new watering regulations.

- Promoting the SWAT Irrigation Controller Rebate Program and indoor water conservation kits.
- SWAT Irrigation Controller Rebate Program for residents of Christina Lake Water Utility,
 - Promoting new technologies for irrigation controllers that reduce watering times if precipitation is measured in the area. These irrigation controllers are also easier to program to help residents comply with watering regulations.
 - Provide a number of rebates for these types of irrigation controllers annually to residents of Christina Lake Water Utility.
- Indoor Water Conservation Kit
 - Provide a number of indoor water conservation kits, including a kitchen faucet aerator, bathroom faucet aerator and reduced flow showerhead to residents of Christina Lake Water Utility. These indoor water conservation kits could reduce indoor water demand by 2,900 gallons or 11m³ annually per household according to the Environmental Protection Agency (EPA).

The initiatives proposed in the Christina Lake Water Utility Conservation plan are designed to reduce water demand in the Christina Lake Water Utility by 20% in 3 years.

Implications

That RDKB Staff will pursue funding to support the initiatives in the Christina Lake Water Utility Conservation Plan.

Advancement of Strategic Planning Goals

Completion of works related to the Christina Lake Water Utility Water Conservation Plan is consistent with the RDKB Board's overall goals related to Exceptional Cost Effective and Efficient Services and Environmental Stewardship / Climate Preparedness.

Background Information Provided

1. Draft Christina Lake Water Utility Water Conservation Plan
2. Proposed Christina Lake Water Utility Watering Regulation Table

Alternatives

1. That the Regional District of Kootenay Boundary Board of Directors approve the Christina Lake Water Utility (550) Water Conservation Plan as presented to the Board on October 14, 2020. **FURTHER** that staff be directed to implement the Plan.

2. Not Receive the Staff Report.

Recommendation(s)

That the Regional District of Kootenay Boundary Board of Directors approve the Christina Lake Water Utility (550) Water Conservation Plan as presented to the Board on October 14, 2020. **FURTHER** that staff be directed to implement the Plan.



Regional District of Kootenay Boundary

CHRISTINA LAKE WATER UTILITY WATER CONSERVATION PLAN 2021 - 2024

October 2020

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1.0 Executive Summary

The goal of water conservation is to reduce overall demand on the water supply. The benefits of reducing water demand for a water utility include:

- reduced maintenance, treatment, and operation costs,
- longer life to infrastructure,
- better adaptation to water source changes due to climate change.

Previous water conservation efforts have been minimal for the Christina Lake Water Utility. The RDKB has set a goal to reduce water demand in the Christina Lake Water Utility by 20% from the average of 2017, 2018, and 2019 water demand levels by the year 2024, or in 3 years time. This would bring the average daily per capita demand from 687 Litres/Capita/Day (L/C/D) to 549 L/C/D. While a 20% reduction in water demand would result in water demand levels that are higher than the average in the Columbia Basin¹, it would start the conversation of water conservation in the community.

The RDKB expects to achieve the goal of 20% reduction in water demand over the average of 2017, 2018, and 2019 levels by implementing the recommendations from this water conservation plan.

Christina Lake Water Utility consists of approximately 466 service connections. A majority of these connections service residential properties (443 residential connections and 23 commercial connections). From conversations with the Operators, the water demand from the commercial connections is minimal.

Christina Lake experiences a large population increase in the summer. The actual amount of people that come to the area in the summer is unknown. For this report, it is assumed that population is consistent throughout the year.

This report examines summer and winter demand and attempts to determine how much water is being used for indoor and outdoor purposes. This is done by comparing the amount of water demand during winter months, where it is assumed most water is being used for indoor purposes, and summer months where outdoor water demand it at its maximum for the year.

The following review of the water demand data and the resulting recommendations are based on the best available data and assumptions. While the Christina Lake Water Utility is not in the Columbia Basin Trust area, it is near the area and will be used for comparison.

This examination of water demand for Christina Lake Water Utility does not take into account water leakage in the system infrastructure. All water systems experience some leakage through their infrastructure. The Columbia Basin Trust recommends that examining and reducing system leakage could significantly reduce the water demand for the system.²

¹ While Christina Lake is not in the Columbia Basin, it is very close and provides a good comparison region.

² Columbia Basin Trust Water Smart Summary 2016 Lesson #2 suggests leakage as one of the largest community water demand.

Table 1 summarizes the water demand for the Christina Lake Water Utility over the years 2015 to 2019 compared to the 2016 Columbia Basin Trust Water Smart Summary Report.

Table 1 Water Demand Break Down

Christina Lake Water Utility						
Indicator	2019	2018	2017	2016	2015	Basin Wide 2016
Total Average Daily Demand (Litres/Capita/Day)	645	745	670	637	672	354 (residential) ³
Average Outdoor Demand (Litres/Capita/Day)	355	402	403	349	430	Unknown
Average Indoor Demand (Litres/Capita/Day)	291	343	267	287	243	200 (estimate) ⁴
% Total Annual Outdoor Demand	55%	54%	60%	55%	64%	Unknown
Total Outdoor Demand (ML)	185	210	210	182	224	Unknown
Total Annual Demand (ML)	337	389	350	332	351	Unknown

The above table shows that there is a significant amount of outdoor water demand. This sector contributes about 60% of the total yearly water demand.

Indoor and outdoor water demand and system leakage investigation were chosen as the areas to concentrate on for water conservation efforts.

- **Water Conservation Measures**

- Depending on the amount of restriction, it can provide a varying amount of reduction to water demand. A draft of potential conservation measures is presented in Appendix A.
- This would involve hiring a 'Water Smart Ambassador', a temporary summertime position that would promote water conservation and the water conservation measures in Appendix A. Details can be found in Appendix B
- For this report, it is estimated that this conservation method will reduce water demand by 10%.

- **Rebates on SWAT Irrigation Controllers**

- A 3 year commitment to provide rebates on SWAT irrigation controllers. These controllers adjust the irrigation system's watering time according to current weather conditions and provide less watering when there is precipitation. An issue with existing irrigation controllers is that users do not manually adjust the watering time when there is precipitation. These irrigation controllers have shown to reduce outdoor water demand by as much as 20%⁵.

³ Columbia Basin Trust Water Smart Summary 2016 – Average of 5 Basin communities with universal metering.

⁴ From City of Rossland Water Smart Action Plan 2015-2020. Note: 350+ L/C/D is considered a "high use home"; 200 L/C/D would be the expected demand in a home built to current building code standards.

⁵ From E-mail with Jessica Ahlstrom, Chair of SWAT Promotions Working Group, July 27, 2020

- By offering a rebate on these controllers, the RDKB would promote residents to use this type of irrigation controller. See Appendix C for a draft rebate program plan.
- **Indoor Water Conservation Kit**
 - By providing an indoor water conservation kit that includes faucet aerators and reduced flow showerheads, the Environmental Protection Agency (EPA) estimates that 2,900 gallons, or 11 m³ per household could be achieved.⁶
 - The indoor water savings packages include a kitchen faucet aerator, bathroom faucet aerator, and a high performance showerhead.
- **Leak Detection**
 - Getting a better understanding of how much leakage is occurring in the water system would be beneficial to get an idea of the next steps for water conservation. If a high amount of leakage is found, it would be beneficial to concentrate on repairing those leaks through a leakage detection and repair program. If a minimal amount of leakage is found, other water conservation methods could be explored.

By implementing new water conservation regulations and promoting water conservation with a water smart ambassador position, encouraging residents to install SWAT Irrigation Controllers, faucet aerators and a new showerhead, and determining how much water is lost due to leakage, and potentially fixing these leaks, over the next 3 years, the goal of reducing water demand by 20% is achievable. The implementation of water conservation is subject to available funding.

⁶ <https://www.epa.gov/watersense/watersense-calculator>

2.0 Introduction

The community of Christina Lake is a small residential community approximately 21 km east of the City of Grand Forks. The Christina Lake Water Utility (Water Utility) is owned and operated by the Regional District of Kootenay Boundary (RDKB). The Water Utility has approximately 467 service connections that service approximately 1430 year round residents⁷. There are about 23 water service connections to commercial operations. From conversations with the Water Utility Operators, water demand from the commercial connections is minimal. For the purpose of this report, all water demand is assumed to be residential.

In 2017, the RDKB assumed ownership and operation of the Water Utility from the Christina Waterworks District (CWD). The current system is actually composed of two systems which were initially separate. The Moody Creek system was established in 1946 and fed the lower town site, while the Wolverton System (initiation date unknown) fed the upper town site. The Wolverton system was originally fed from nearby surface water source. In 1989, the two systems were joined and the Wolverton source was decommissioned. Water for the Water Utility is supplied solely from Christina Lake.

The Water Utility provides water supply for fire protection to the Christina Lake Fire Department for the area within the Water Utility service area.

2.1 Purpose

The Water Utility is facing challenges in the coming years. Aging infrastructure will lead to an increase in maintenance, operation and treatment costs.

The RDKB wants to ensure that these issues are addressed and that there is safe and clean drinking water for all users for many years to come. This Water Conservation Plan supports the following directive:

Christina Lake Water Utility is committed to water sustainability and to finding solutions to meet our water quantity and quality demands at a reasonable price, while protecting the integrity of our local ecosystem and the health of our residents for generations to come.

2.2 Process

Christina Lake Water Utility's Water Conservation Plan has been developed through reviewing surrounding communities' water conservation plans, reviewing the Christina Lake Water System Transition Plan, produced by MMM Group in 2014, along with examining historical water demand data. All recommendations in this report will require the support of RDKB Utilities Committee and the RDKB Board of Directors before implementation by RDKB Staff. Some recommendations from this report could require the help of outside funding and consultants to implement.

The RDKB does not know how many people visit the Christina Lake area during the summer months. For the analysis of water demand for this report, the RDKB has assumed that the population stays the same year round.

⁷ According to MMM Group Christina Lake Water System Transition Study, 2014

2.3 Geographic Boundaries

The Water Utility service area is within RDKB's Electoral Area 'C'/Christina Lake. The Water Utility's service area boundary is defined in RDKB's Bylaw 1625, 2017. Figure 1 shows the service area and location of the water mains and hydrants.

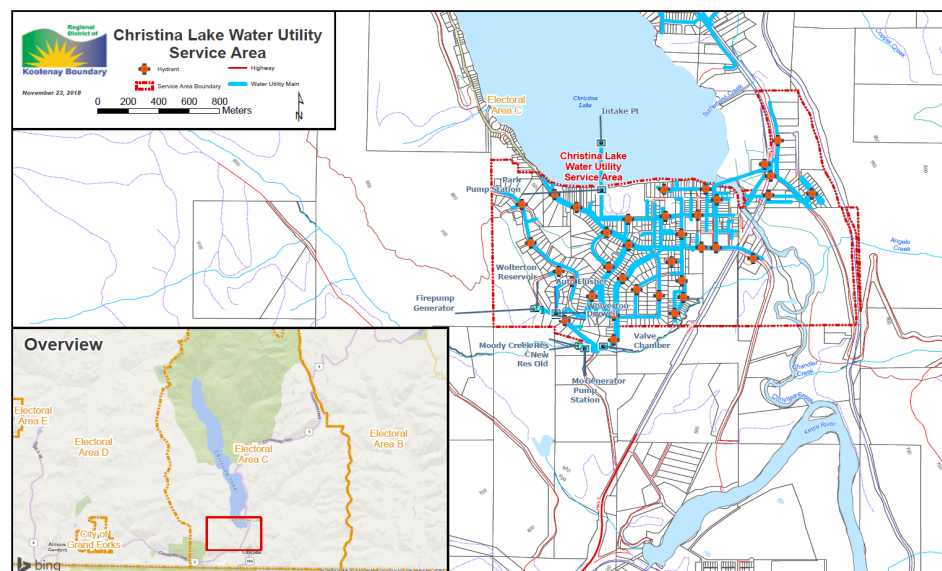


Figure 1 Service Area

2.4 Future Scenarios and Community Water Goals

The goal of the Water Utility is to provide sustainable, clean and safe drinking water to everyone within the service area. This can be done through examination of historical water demand to determine how water is being used and develop recommendations to target high water demand activities. A goal of reducing water demand by 20% by 2024 has been set by the RDKB Utilities Committee. Future water conservation reports could be developed to further the Water Utility's water conservation goals after 3 years.

2.5 Plan Buy In

RDKB's Electoral Area 'C'/Christina Lake Official Community Plan (OCP) was developed in 2004 after extensive consultation with the OCP Steering Committee and community input. The OCP provides goals and objectives to guide local government's decisions on planning and land use within Electoral Area 'C'. Section 2.10 of the OCP describes the objectives and policies for Water Services and Community Watersheds.

Goals related to Water Utility conservation include:

- Cost effective, environmentally and economically sustainable water and sewer systems are implemented.

Objectives related to Water Utility conservation include:

- To encourage designs of water and sewer services which promote community safety and sustainability.

The Electoral Area 'C'/Christina Lake OCP is currently under review. There are couple of draft policies that directly pertain to water conservation. These could be changed by the time the OCP review is finalized. These draft policies are:

- Support public outreach initiatives regarding water conservation measures.
- Support the efforts of water service providers in the implementation of water conservation and drought management plans.
- Support public education and subsidy programs aimed at conserving water, protecting groundwater quality, capping abandoned wells, and protecting wellhead areas.

This conservation plan will use these goals and objectives to guide the recommendations of this report.

3.0 Christina Lake Water Utility System Profile

3.1 Christina Lake Community Profile

Figure 2 shows an overview of the Christina Lake area. The Water Utility serves a population of approximately 1430 residents and 23 commercial properties⁸. The Water Utility does not have any metered connections.

The population of the service area increases significantly during the summer months. The RDKB does not know how much the population increases in the area during the summer months. Because of this increase in population, the commercial properties also mainly operate during summer months. Anecdotal evidence suggests that the water demand from the commercial connections is minimal. For this report, all water demand is assumed to be residential as there are a far greater number of residential service connections than commercial connections.

The total amount of water consumed in 2019 was measured to be 336,874 m³. The average daily water demand is then estimated to be 645 Litres/Capita/Day (L/C/D). The Columbia Basin Wide residential average for 2016 was measured to be 354 L/C/D. Christina Lake's water usage appears to be higher than the average for the Columbia Basin; water conservation measures are needed to ensure sustainable clean and safe drinking water.

⁸ According to MMM Group Christina Lake Water System Transition Study, 2014

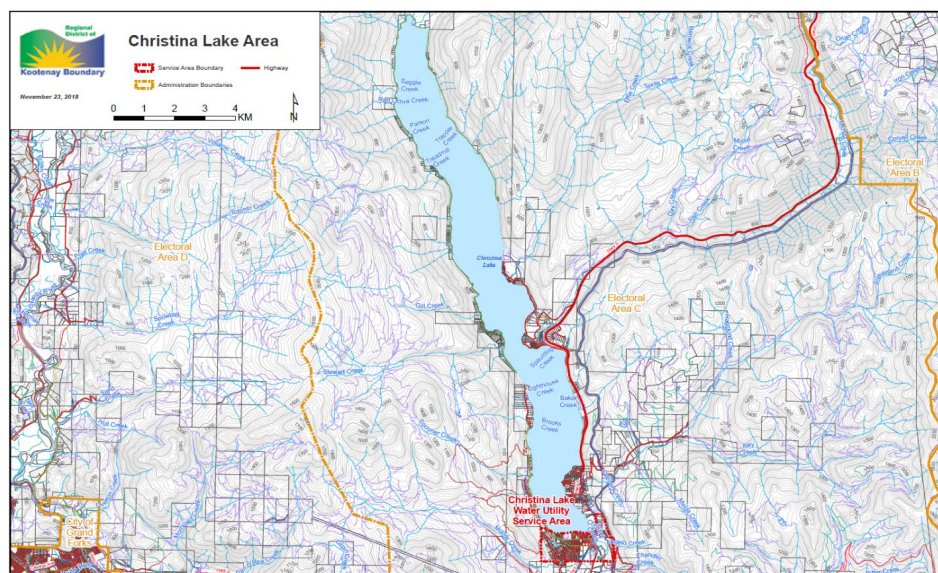


Figure 2 Christina Lake Area

3.2 Christina Lake Water Utility Intake Overview

The Water Utility has a water license to divert 682,000 m³ and a daily amount of 4,670 m³ from Christina Lake. This exceeds the maximum day demand in 2017 found to be 3,833 m³.

3.3 Christina Lake Water Utility Infrastructure Overview

3.3.1 Source

The water supply for Christina Lake originates from a wet well that has a 16 inch (40cm) intake from Christina Lake which extends 1500 feet (457m) into the lake at a depth of 40 feet (12m). The well was constructed and commissioned in 2005 and is housed in the Park Pump Station. Sole treatment of the water takes place in this well through chlorination. It should be noted that Christina Lake is considered pristine due to low-density population around the lake and no industrial operations in the area.

Following chlorination, the water is then pumped through 50 hp and 75 hp pumps with capacities of 32.8 L/s (520 USGPM) and 55 L/s (870 USGPM) respectively at 83m of Total Dynamic Head (TDH). The pump station is equipped with a Supervisory Control and Data Acquisition (SCADA) controller for collecting water production data. In 2017, a backup generator was installed at the Park Pump Station. This generator will supply power to the pumps in the event of a power outage.

3.3.2 Storage

Chlorinated water from the well is pumped, via a dedicated 200 mm asbestos concrete (AC) main, to 25 Chase Road where it is then upsized to a 250mm PVC main and finally ending up in two in-ground concrete storage reservoirs at Moody Creek with a combined capacity of 1,052

m3 (277,930 USG) and a top water level of 509m. Further storage is located at the Wolverton Reservoir which has a capacity of 205 m3 (54,150 USG) and a top water level of 548m.

Storage at the reservoirs serves to balance the fluctuations in demands, allow for reasonable cycling of the pumps, and also provides fire flow and emergency storage. Water is fed from the reservoirs by gravity back into the distribution system and to the ultimate end user.

In 2017, a backup generator was installed at the Moody Creek Pump Station. This generator will supply power to the pumps in the event of a power outage. Also, as part of the same upgrade, a fire pump was installed at the Wolverton reservoir to provide adequate fire flow pressure when a hydrant is open.

The lower town site is supplied by the Moody Creek Reservoir, while the upper town site is supplied by the Wolverton Reservoir. The upper area of Chase Road is supplied by pumping from the Moody Creek Reservoir under normal conditions. There is the ability to feed Chase Road from Wolverton if pumping fails at Moody Creek; however, this results in pressures below standard operating ranges.

It is understood that the connections between the upper and lower systems are closed. Storage at the Wolverton Reservoir cannot supply the lower town site.

3.3.3 Distribution System

In total, the Water Utility has approximated 18.6 km of water mains within the Christina Lake Town Site. These are comprised of galvanized iron, AC pipe, PVC pipe, HDPE pipe, Steel pipe, and pipes of unknown material. The table below summarizes the water main pipe size and material.

Size (mm)	Length (m)	Percent
25-50	1,660	9%
100	4,970	27%
150	8,860	48%
200	1,380	7%
250	1,350	7%
Unknown	340	2%
Total	18,560	100%

Material	Length (m)	Percent
Galv. Iron	590	3%
AC	8,210	44%
PVC	8,230	44%
HDPE	690	4%
Steel	110	1%
Unknown	730	4%
Total	18,560	100%

There are 2 pressure zones within the upper town site which are controlled by 2 Pressure Reducing Valves (PRVs) at the intersection of Thompson Road and Olsen Road and at 25 Chase Road. There is also an area on Chase Road that is above the service elevation of the Wolverton Reservoir and is fed by pumping from the Moody Creek Reservoir.

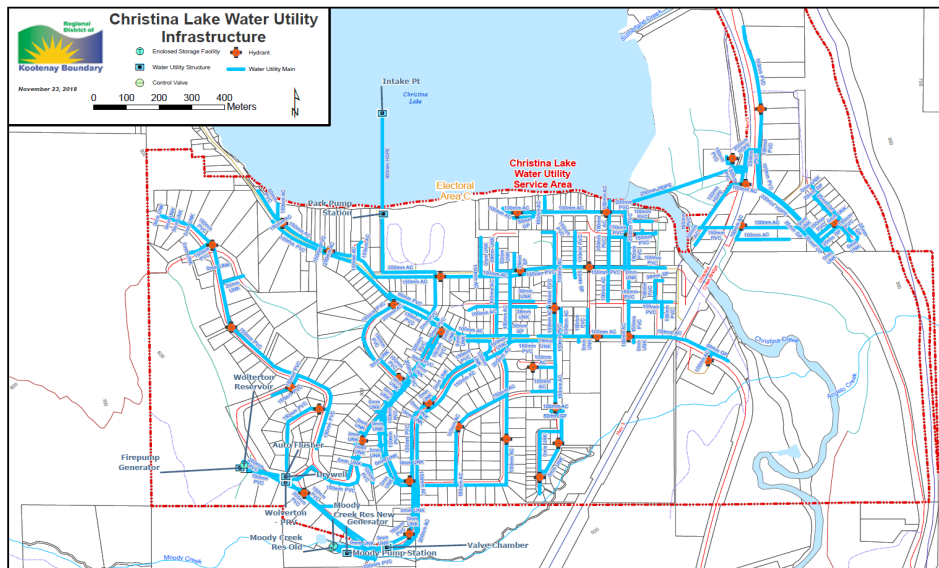


Figure 3 Map of Water Utility Infrastructure

4.0 Christina Lake Water Utility Demand Profile

The following water demand profile has been developed based on the best available data provided by the Operators of the Water Utility. Where assumptions have been made, they are

based on industry standards and professional expertise and judgment of the RDKB Manager of Infrastructure and Sustainability.

The 2015 to 2019 gross water demand data are considered to be reliable and accurate. While it is known that the population of the Christina Lake area increases significantly during the summer months, the RDKB does not know how much the population increases. The population increase also leads to increased commercial water demand. For the analysis of indoor and outdoor water demand in this report, it is assumed that the population stays the same year round. This was done to allow for the analysis for this report. The results from this analysis for indoor and outdoor water demand are approximate but provide a baseline on where to focus water conservation efforts.

In conjunction with the review and input of RDKB staff, the data contained in Section 4 are considered sufficiently reliable to serve as a basis for developing the recommended actions found in sections 6 and 7. The RDKB may need to adjust the recommendations from this plan as more data becomes available.

4.1 Gross Water Demand

The total volume of water supplied by the Water Utility in 2019 was 337 ML. This represents a 3.99% decrease in annual water demand since 2015, with no change in service connections. Overall, over the past 5 years, annual water demand is increasing, including a 10.93% increase in 2018 over 2015 water demand levels. Figure 4 presents the monthly water demand profile based on the available data from 2015 through 2019.

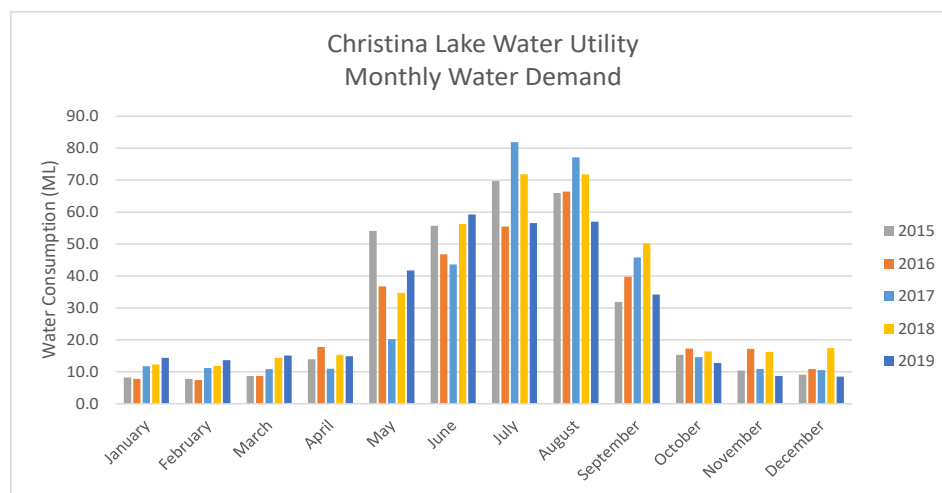


Figure 4 Christina Lake Water Utility Monthly Water Demand

Table 2 shows the demands for the Water Utility since 2013 and provides a comparison of local demand to average per capita demand within the Columbia Basin and British Columbia.

Table 2: 2015-2019 Indicators

Christina Lake Water Utility						
Indicator	2019	2018	2017	2016	2015	Basin Wide 2016
Total Average Daily Demand (Litres/Capita/Day)	645	745	670	637	672	354 (residential) ⁹
Average Outdoor Demand (Litres/Capita/Day)	355	402	403	349	430	Unknown
Average Indoor Demand (Litres/Capita/Day)	291	343	267	287	243	200 (estimate) ¹⁰
% Total Annual Outdoor Demand	55%	54%	60%	55%	64%	Unknown
Total Outdoor Demand (ML)	185	210	210	182	224	Unknown
Total Annual Demand (ML)	337	389	350	332	351	Unknown

4.2 Indoor Residential Demand

The indoor water demand was calculated by taking the average water demand for January, February, March, April, October, November and December for each year and extrapolating this to a per day per capita basis. In 2019, an average of 291 litres were used daily per capita. This represents a 19.75% increase in demand over 2015. 2019's daily indoor demand is still considered 45.5% more than the average demand in the Columbia Basin area. Indoor residential water demand could always be improved upon by upgrading indoor water fixtures with aerators and low flow fixtures.

4.3 Outdoor Residential Demand

The outdoor water demand was calculated by taking the water demand between May and September and subtracting an average indoor monthly demand over that same period. In 2019, water demand during summer months accounted for 74% of the yearly water use and specifically outdoor water demand accounts for 55% of the yearly water demand. The outdoor water demand for 2019 was 17.44% less than in 2015. Anecdotally, the summer months of 2019 were cooler with more precipitation than 2015. Minimal water restrictions were in place over this time so this is assumed to be because of the cooler summer.

4.4 Infrastructure Water Loss

Current annual real losses (CARL) is the measured amount of actual water loss in the distribution system, typically measured at night when consumption is low. This can be done through water use measurements made during overnight hours. This has not been done for Water Utility but is recommended to get a better idea of how much water is being lost due to the infrastructure.

⁹ Columbia Basin Trust Water Smart Summary 2016 – Average of 5 Basin communities with universal metering.

¹⁰ From City of Rossland Water Smart Action Plan 2015-2020. Note: 350+ L/C/D is considered a "high use home"; 200 L/C/D would be the expected demand in a home built to current building code standards.

5.0 Future Demand

The Christina Lake Water System Transition Study provides a detailed examination of future demand that takes into account population growth. These future demand calculations do not take into account the effects of water conservation efforts. The results of that section are summarized for this report. For further details on these calculations, please refer to the transition study.

A 1% population growth was used based on conversations with RDKB staff. This results in a population of 1,745 by the year 2035. Based on historical demand, the future demand without any water conservation efforts in 2035 for this population will be:

Annual Demand: 366 ML

Maximum Daily Demand: 3,460 m³/day (40 L/s)

5.1 Supply Capacity

The water supplied to the Water Utility is pumped by a 75 hp and a 50 hp pump located near the shores of Christina Lake in the Park Pump Station. In order to support redundancy, the water system should be able to operate at its maximum demand with the largest pump out of commission. The smaller, 50 hp pump has a capacity of 32.8 L/s. This is not sufficient for the 40 L/s maximum daily demand expected by 2035 without water conservation efforts.

5.2 Future Infrastructure Needs

The water storage capacity is calculated by the following formula:

Total Storage required = Fire Storage (150 L/s for 2 hours) + Equalization Storage + Emergency Storage

Where equalization storage is equal to 25% of the maximum daily demand value from above and emergency storage is equal to 25% of the combined values of fire storage and equalization storage.

The current storage capacity of the 2 reservoirs systems (Moody Creek and Wolverton) in the Water Utility is 1,257 m³. The 2015 storage required based on the above calculation is 2,238 m³ and the future storage requirement in 2035 is 2,430 m³. The current reservoirs do not have the capacity to meet demand currently and in the future without water conservation efforts.

5.3 Asset Management

Within the next 20 years there are several Water Utility infrastructure components that will need to be replaced or rebuilt to maintain the current levels of service. Based on the preliminary asset management plan, the following infrastructure components need replacement or rebuilding:

- Replace 8.2 km of AC water mains (Approximately 48 years old)
- Replace 590 m of Galvanized Iron Pipe (Approximately 48 years old)

The preliminary asset management plan graph is shown in Figure 5. The grey spikes in the year 2030 show the above needed infrastructure replacement.

By reducing water demand, the spike in 2030 can be lowered or deferred. A reduction in water demand leads to a decrease maintenance cost, operational costs and will extend the life of infrastructure.

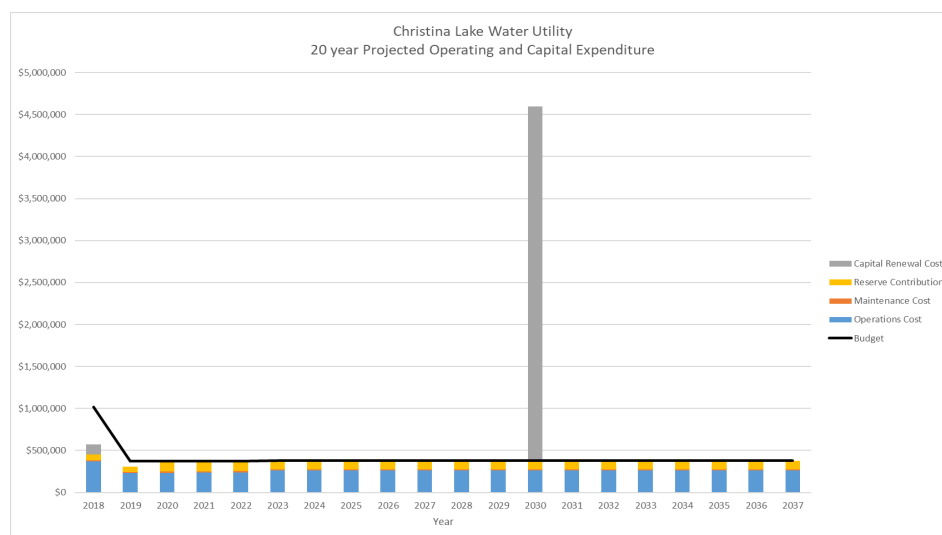


Figure 5 Preliminary Asset Management Plan

6.0 Conservation

As of the time of writing this report, there has been minimal water conservation efforts for the Christina Lake Water Utility. The RDKB has a goal to reduce water demand by 20% by 2024 from average of 2017, 2018, and 2019 water demand levels.

From the water demand profile in section 4, summer water demand and more specifically, outdoor water demand contributes a large amount to the overall water use. Also, it is unknown how much water is being lost to leaks in the water system infrastructure. For this report, indoor and outdoor water demand and system leakage investigation were chosen as the areas to concentrate on for water conservation efforts.

The Government of British Columbia released the "Water Conservation Guide" in 2013. The guide gives a step by step process on how to determine what conservation efforts could be introduced. That process was employed to determine the following conservation efforts:

- Water Conservation Measures
- SWAT Irrigation Controller Rebate Program
- Indoor Water Conservation Kit

- Leak detection

6.1 Water Conservation Measures

This effort would involve developing different levels of acceptable water use tied to the BC Provincial Drought Portal for the 'Lower Columbia' Region. The higher the drought level, the less watering would be allowed. Appendix 'A' outlines a draft of the water conservation measures.

This conservation initiative would also involve funding a 'water smart ambassador' position for 3 years to help educate residents in the water conservation measures as well as promote other methods to reduce water use in the home. This position would also help communicate changes in water conservation levels. The water smart ambassador position would split their time between the RDKB's 3 residential water systems (Rivervale Water and Streetlight Service, Beaver Valley Water System, and Christina Lake Water Utility). Appendix B outlines a draft water smart ambassador program.

By implementing these water conservation measures, it is assumed that a 10% reduction in water demand can be observed. This value is based on the fact that there have been minimal water conservation measures the water service in the past and by reducing the amount of allowed watering times and days, a significant reduction in water demand can be observed.

6.2 SWAT Irrigation Controller Rebate

Programmable irrigation controllers historically suffer from the user 'setting and forgetting' the water days, times and durations. This can lead to an actual increase in water consumption because the user does not manually decrease their watering based on local weather conditions. SWAT irrigation controllers can fill that role if programmed correctly by having the ability to reduce watering times automatically.

"Smart" water application technologies (SWAT) take the human element out of the equation. Smart sensors and controllers monitor weather and other site conditions and adjust the irrigation system to apply just the right amount of water at just the right time. Water-saving nozzles and pressure regulators apply water precisely, just where it's needed. Together, these technologies can successfully reduce outdoor water use by as much as 20 to 40 percent annually, while maintaining a healthy, beautiful landscape.¹¹

Appendix C outlines a draft of how the SWAT irrigation controller rebate program could work. The above mentioned 'water smart ambassador' position could help promote this program to residents.

Typically, users of these irrigation controllers can experience a 20% reduction in outdoor water demand if these controllers are used properly.¹²

¹¹ <https://www.irrigation.org/SWAT/About/Background/SWAT/About/Background.aspx>

¹² From E-mail with Jessica Ahlstrom, Chair of SWAT Promotions Working Group, July 27, 2020

6.3 Indoor Water Conservation Kit

Indoor water conservation kits, including a kitchen faucet aerator, bathroom faucet aerator, and reduced flow showerhead could reduce indoor water demand by 2,900 gallons per household¹³.

6.4 Leak detection

The CBT Water Smart Plan identified water system leaks could be a major contributor to water demand.

The practice of leak detection has evolved significantly over the years and the practices and techniques used will be highly system dependent and need to be based on the knowledge and experience of the local operators in consultation with leak detection specialists.

6.5 Conservation Measure Analysis

The values used to rank the difference conservation measures used a 1 to 5 scale, where 5 has the highest impact or acceptability for that category and 1 has the lowest impact in that category. The weights and scores were based on conversations with RDKB's Manager of Infrastructure and Sustainability.

Weights were used to place importance on certain categories. Water conservation measures that target the highest use of water (i.e. outdoor water use), the amount of water that could potentially be saved and political and societal acceptability were given the highest weights as these were deemed to be the most important factors for ranking the water conservation measures.

Table 3

Local Conservation Measure Criteria with Weighting							
Conservation Measure	Water Savings	Targets High Use	Savings Reliability	Technology Availability	Political/Social Acceptability	Internal Capacity	Total Score
Weight (%)	30	25	5	5	30	5	100
Multiplier (divide by 5)	6	5	1	1	6	1	
Water Conservation Measures	12	25	5	5	30	5	82
SWAT Irrigation Controller Rebate Program	30	25	5	5	30	2	97
Indoor Water Conservation Kit	12	20	5	5	30	3	75
Leak Detection	18	20	4	5	24	3	74

The above table shows the highest score as being implementing water conservation measures for the Water Utility. The next highest score was implementing the SWAT Irrigation Controller Rebate Program, and offering indoor water conservation kits, followed by exploring a leak detection program.

Table 4 shows a cost breakdown and the total volume of water that could be saved if the programs were implemented. This table assumes that the SWAT Irrigation Controller Rebate Program is offered to 50 connections annually (out of 466 service connections total) as described in appendix C.

¹³ <https://www.epa.gov/watersense/watersense-calculator>

It is proposed that the RDKB offers 85 indoor water conservation kits annually to households in the Christina Lake Water Utility.

The baseline water demand is a percentage of the 466 service connections in the water service multiplied by the average water demand from 2019, 2018, and 2017. The amount of water savings is based off assuming water conservation measures alone will offer 10% reduction in water demand and each SWAT Irrigation Controller will reduce outdoor water demand by 20%, and indoor water conservation kits could provide 11 m³ or 2,900 gallons per household.

Table 4

Conservation Measure	Annual Water Demand Savings				
	% Connections Targeted	Baseline Water Demand (m ³)	Amount of Water Savings (m ³)	% Water Demand Reduction	Annual Cost (\$)
Water Conservation Measures	100%	358,349	35,835	10%	\$7,500
SWAT Irrigation Controller Rebate Program	11%	38,450	4,330	11%	\$10,000
Indoor Water Conservation Kit	18%	65,364	900	1%	\$2,210
Leak Detection	100%	Unknown	Unknown	Unknown	Unknown

The above cost and water savings are based on the following:

- The cost of water conservation measure program are based on an estimated budget to operate the 'Water Smart Ambassador' program for a year for this water service.
- The amounts estimated for the SWAT Irrigation Controller Rebate program are based on offering 50 units per year at \$200 per rebate, as outlined in Appendix C.
- 'Indoor Water Conservation Kit' water savings based on 2,900 gallons per household in water demand reduction.

Based on the above analysis, the first step is to develop water conservation measures, implement the SWAT Irrigation Controller Rebate Program, and provide the Indoor Water Conservation Kits.

It is recommended to explore the cost of a leak detection program. While the actual amount of savings and cost are unknown at the time of writing this report, getting a better idea of how much water is being lost due to leaks in the infrastructure would be beneficial to determine where to concentrate for water conservation efforts.

7.0 Implementation

7.1 Water Conservation Measures

RDKB Bylaw 1700, 2018, allows the RDKB to implement water conservation measures. These conservation measures are expected to be put into effect in the summer of 2021 after consultation with the RDKB Electoral Area 'C' Director and Water Utility users. Conservation measures of this nature need to have the support of the RDKB Utilities Committee and approved by the RDKB Board of Directors.

The water conservation measures that primarily target outdoor water use will be tied to the provincial drought level for the 'Lower Columbia Area' according to the BC Drought Information Portal.¹⁴ RDKB staff will research other water utilities water conservation measures to ensure

¹⁴ BC Drought Information Portal <https://governmentofbc.maps.arcgis.com/apps/MapSeries/index.html>

that the conservation measures encompass the values of the Water Utility and the RDKB. Appendix A contains a draft of what the conservation measures could include.

To help implement the water conservation measures, a 'Water Smart Ambassador' position would start in the summer of 2021. This position will be based from the Columbia Basin Trust's (CBT's) 'Water Smart Ambassador' program from CBT's Water Smart Initiative launched in the 2010's. This temporary, May to August position will have similar duties to previous CBT 'Water Smart Ambassador' positions. Primary duties would be:

- Promote overall water conservation
- Promote outdoor water conservation
- Flag lawns found using water outside of existing water conservation table
- Residential landscape and irrigation system assessments
- Landscape and irrigation system audits at parks, schools, government buildings and public spaces
- Commercial Accommodation Audits
- Flag lawns that have been observed as water wasters
- Record Keeping/Reporting
- Promote and help implement the SWAT Irrigation Controller Rebate Program and Indoor Water Conservation Kit

RDKB staff will research other water utilities water conservation measures to ensure that the existing water conservation measures encompass the values of the Christina Lake and the RDKB.

This report recommends to implement the water conservation strategy developed by the CBT Water Smart Plan, including an enforcement strategy to educate homeowners operating outside of the conversation measures.

Appendix A outlines the proposed new water conservation levels. Appendix B contains a draft outline of the water smart ambassador program. The 'Water Smart Ambassador' position would have their time shared among the 3 RDKB residential water systems (Rivervale Water and Streetlight Service, Beaver Valley Water System, and Christina Lake Water Utility).

7.1.1 Communication Plan

Part of the implementation of the water conservation measures is a communications plan. To communicate the conservation measures to users of the water utility, this report proposes the following methods:

- Newsletter or pamphlet development and mail out.
- Social media posts and advertising.
- Two meetings with the public.
- Have signs and sandwich boards posted at locations in the community to advise water users of the current level of water conservation if the drought level is higher than level 1.
- Presence at community events.

7.2 SWAT Irrigation Controller Rebate Program

Appendix C outlines a draft SWAT Irrigation Controller Rebate Program. By providing rebates to users for these types of controllers, an estimated 20% reduction in water demand can be observed at each residence where each controller is installed and set up properly.¹⁵ This rebate program would rely on the 'Water Smart Ambassador' to promote and implement.

7.3 Indoor Water Conservation Kit

The indoor water conservation kits would consist of faucet aerators and a reduced flow showerhead. The kits would contain installation instructions that do not require a plumber to install. By installing these devices, an immediate reduction in water demand can be observed. This program would rely on the 'Water Smart Ambassador' position to advertise and implement.

7.4 Leak Detection

It is unknown how much water is being lost due to leakage of infrastructure. Water leakage is deemed to be one of the single largest contributor to water demand.¹⁶ To get a better understanding of water being lost due to leakage, the following steps are proposed:

- Record night time flows at source and from reservoir several times throughout the year, during times of least water use.
- Install meters at the source, reservoir and potential industrial users.
- Estimate water usage for authorized usage (main flushing and fire usage).
- Review system for unauthorized usage.
- Estimate system leakage.
- Test a sample of the service connections, estimate leakage from residential services.

If leakage is found to be greater than 15% of the total usage from the system, leakage detection and prevention program should be concentrated on for further water conservation.

7.5 Water Demand Review

Upon implementation of the water conservation measures, offering rebates on SWAT irrigation controllers, offering indoor water conservation kits, and possibly exploring how much water is being lost to leaks, the water utility could see a reduction of over 20% in water demand in the households that have implemented the water conservation steps detailed in this report. If these programs were implemented on all households in the water service, a significant reduction in water demand could be observed.

Water demand should be reviewed on an annual basis to determine the effectiveness. In 2024, or after 3 years of water use under water conservation measures, this water conservation plan should be reviewed to determine the effectiveness and see if the goal of 20% reduction in water demand from the average of 2017, 2018, and 2019 levels was achieved.

8.0 References

1 "Christina Lake Water System Transition Study", MMM Group, 2014

¹⁵ From E-mail with Jessica Ahlstrom, Chair of SWAT Promotions Working Group, July 27, 2020

¹⁶ Columbia Basin Trust – Water Smart Summary 2016

- 2 "Water Conservation Guide for British Columbia", 2013
- 3 "Water Conservation Calculator, <http://waterconservationcalculator.ca>
4. "Water Smart Summary 2016" Columbia Basin Trust, December 2016
5. BC Drought Information Portal,
<https://governmentofbc.maps.arcgis.com/apps/MapSeries/index.html>
6. "City of Rossland Water Smart Action Plan 2015-2020", WSP, 2016
7. "City of Trail Water Smart Action Plan 2015-2020", WSP, 2016

9.0 Appendix A – Draft Water Conservation Measures

Activity	Christina Lake Water Utility Conservation Stages			
	Stage 1 Normal	Stage 2 Dry	Stage 3 Very Dry	Stage 4 Extremely Dry
Lawn, trees, shrubs, vegetables, flower gardens watered by sprinkler or irrigation system. Allowed 4:00 am to 9:00 am and 7:00 pm to 10:00 pm	Even Numbered Addresses Tuesday, Thursday, Saturday Odd Numbered Addresses Wednesday, Friday, Sunday No Watering Allowed on Monday	Even Numbered Addresses Tuesday, Saturday Odd Numbered Addresses Wednesday, Sunday No Watering Allowed on Monday, Thursday, Friday	Even Numbered Addresses Saturday Odd Numbered Addresses Sunday No Watering Allowed on Monday to Friday	Prohibited
Micro Irrigation or Drip Irrigation System	Allowed	Allowed	Allowed	4:00 am to 9:00 am and 7:00 pm to 10:00 pm
Watering with handheld container or hose with shut off nozzle	Allowed	Allowed	Between 7 pm and 7 am	Prohibited
Washing Personal Vehicles (does not apply to commercial car wash stations)	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited
Cleaning surfaces, sidewalks, driveways	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited	Prohibited
Filling fountains, hot tubs, and pools	Allowed	Allowed	Prohibited	Prohibited
Watering Sod, new grass, plantings	Allowed with authorization from RDKB Environmental Services	Allowed with authorization from RDKB Environmental Services	Prohibited	Prohibited

**10.0Appendix B - Draft Water Smart Ambassador
Program**

Water Smart Ambassador Program Manual

Draft August 2020

1.0 OVERVIEW

The Water Smart Ambassador Program (Water Smart) presented here is based off the successful Water Smart Program administered by the Columbia Basin Trust (CBT) between 2009 and 2016. The Water Smart Program was a Columbia Basin-wide water conservation initiative that provided support to participating Regional Districts, Municipalities, and First Nations to assess their local water conservation needs, and then to plan for the most locally effective actions to reduce community-wide water consumption.

The goal of Water Smart is to provide capacity and support to the Regional District of Kootenay Boundary's (RDKB's) Water Services (Beaver Valley Water System, Rivervale Water and Streetlight Service, and Christina Lake Water Utility) to achieve community-specific water conservation targets that contribute to an overall 20 per cent reduction from outdoor water demand over the average of 2017, 2018, and 2019 levels.

The CBT program that this is based on included 22 communities signing on to the Water Smart Charter demonstrating their commitment to work with CBT and Basin communities to reduce community water consumption. CBT has worked with 20 communities in the Columbia Basin to complete Water Smart Action Plans. Most of the Water Smart Action plans identified residential, commercial and/or local government irrigation during summer months as one of the highest water uses in the community. While watering restrictions such as odd-even day watering schedules may be effective in lowering daily irrigation peaks, they have proven to be less effective in reducing overall water consumption.

To address high outdoor water use, the RDKB has adapted the CBT Water Smart Ambassador program for implementation by participating local governments in the summer of 2021.

Public education programs that simply provide static information (such as brochures and adverts) are generally not effective means of changing individual behaviours. The Water Smart Ambassadors support individuals to make the link between information and action, providing each participating community with a helpful human resource who can interact with the public.

This document is intended to assist the RDKB to implement the Water Smart Ambassador Program. It includes information on:

- Program Structure
- Duties and responsibilities
- Hiring protocol
- Training, supervision, and reporting
- Communication

2.0 PROGRAM STRUCTURE

Each Water Service will likely take a somewhat different approach to the Water Smart Ambassador program, based on their individual resources and goals. The idea is to share Water Service resources to hire a full-time Water Smart Ambassador that will have presence in the community of each Water Service.

The RDKB responsibilities are as follows:

- Advertising the position, interviewing, and hiring
- Determining pay level, and other Human Resource issues
- Provide Job Description and recommendations on where to place ads (Appendix B)
- Assistance in coordinating "shared" summer students
- Initial and ongoing training
- Providing some communications materials.
- Ongoing support
- Providing necessary resources (work space, computer, telephone, etc)
- Daily supervision and project management

Water Smart Ambassadors who will conduct Landscape and Irrigation System Audits will require specific equipment outlined in Appendix A. This equipment will be provided to Ambassadors by CBT at the Water Smart Ambassador Training in May.

Because each community is slightly different from the next, there is no single structure for the Water Smart Ambassador Program. Instead, there is a "shopping list" of possible objectives with associated duties and responsibilities; the Ambassador will carry out those tasks relevant to the objectives of the individual community.

Various communication materials will be created and may include CMHC's Household Guide to Water Efficiency, Water Smart Ambassador T-Shirts and hats, bike flags, and doorknockers.

The number of tasks, along with the physical size and population of each community, will help determine if the Ambassador position is part-time, full-time, shared with another community, or included in the duties of existing staff.

Rolling out the Program

The individual Water Service's Water Conservation Plan include the recommended Public Education activities for each community. These tasks will determine the specific timeline for the Ambassador Program; however, following is a general timeline:

- April: Advertise Water Smart Ambassador position
- April/Early May: Interviewing and Hiring
- May: Orientation and Training
- May: Advertise Water Smart Ambassador Services to the Public

- June/Ongoing: Utilize doorknockers to generate appointments
- June/Ongoing: Water Audits
- July: Advertise Testimonials
- End of August: Final Report

A “hotline” telephone number should be assigned to the Water Smart Ambassador by each community at the beginning of the program, and this number should be used for all water conservation related inquiries, including:

- Questions about Watering Restrictions
- Reporting of customers who are breaking watering restrictions
- Requests for general water conservation information
- Requests for landscape and irrigation system audits
- Requests for accommodation sector audits

The Water Smart Ambassador ‘hotline’ number should be published in all water conservation related communications, including websites, water bills (if available), newsletters, advertisements, etc.

3.0 WATER SMART AMBASSADOR DUTIES AND RESPONSIBILITIES

The Water Smart Ambassadors will have two tasks:

- 1) Generating and responding to residential inquiries;
- 2) Carrying out pre-determined and ongoing water audits at major facilities.

The residential inquiries will be irregular and sporadic at first, so it is important that the Ambassador has pre-determined and on-going tasks to avoid downtime.

Following is a suite of potential activities that the Ambassador could carry out. The RDKB will provide comprehensive training as well as a detailed Water Smart Ambassador Manual to assist the Ambassador to carry out the tasks listed here.

Residential landscape and irrigation system assessments: This is the cornerstone of the program. An assessment can take anywhere from thirty minutes to several hours, depending on the size of the property and how much the customer wants to learn. The Water Smart Ambassador will be responsible for generating customer appointments through the distribution of doorknockers.

Landscape and irrigation system audits at parks, schools, government buildings and public spaces: An assessment at a large park or a school could take up to a full day, or possibly two days depending on the size. The Ambassador will be responsible for organizing these audits, and providing a report to the staff member responsible for maintenance.

Commercial Accommodations Audits: Indoor/outdoor water audits at hotels/motels. The Ambassador will be responsible for contacting the owner/managers, setting up times, conducting the audits, and providing a report. (It is not recommended that the

Ambassador carry out ICI or agriculture audits because of the specialized knowledge required).

In home water audits/residential water fixture survey: This would be a basic walk-through of a home, noting the existing fixtures and water using processes, and recommending where more efficient fixtures can be used. The water audits may also be helpful for those communities that are undertaking a residential water fixture survey. Also, any communities with low-flow showerheads to give away could utilize the Ambassador to actually install the showerheads.

Water Wasters: It is expected that the Water Smart Ambassador will receive telephone calls about customers who are breaking watering restrictions, or wasting water through some other behaviour. It will be the Ambassadors' responsibility to take action on these calls. We do not recommend the Ambassador to be a bylaw enforcer; they should not be responsible for handing out fines. Instead, the Ambassador will be presented as a helpful resource that is there to provide assistance and recommendations to reduce outdoor water use.

Record keeping/Reporting: The Ambassador will be required to keep records of all customer visits and water audits and compile them into a report at the end of the summer. RDKB will provide the template for all record keeping and reports. The data will be analyzed to determine the effectiveness of the Ambassador program and to improve the program for future years if it has merit.

The intention is for the Water Smart Ambassador to be highly visible in the community. Wherever possible, it would be preferred that the student carry out their duties on a bicycle with a uniform that clearly identifies them as the Water Smart Ambassador.

The students will carry with them copies of the Canada Mortgage and Housing Corporation's Household Guide to Water Efficiency. These will be distributed to customers during a water audit, or during a customer visit in response to a complaint about water waste.

4.0 HIRING AND TRAINING

It is essential that the right person with the right personality be hired or assigned to the job. Despite the technical nature of many of the tasks outlined above, no prior experience in irrigation system maintenance is required.

Who to hire?

If communities have the resources to hire a full or part time Water Smart Ambassador, the best candidates will be those individuals who already have a passion for environmental issues. The specific job tasks such as how to program an irrigation timer, how to calculate distribution uniformity, how to audit water fixtures, etc. can be taught - enthusiasm for the job cannot!

First and foremost, the RDKB will be looking for someone who has excellent interpersonal communication skills. The Water Smart Ambassador will spend the bulk of their days interacting with people. The successful candidate will also have to be highly motivated and organized because a great deal of their work will be done without direct supervision, and it may be necessary to compile a great deal of data in an organized and consistent manner.

In addition to a passion for the environment, high self-motivation, and organizational skills, the ideal candidate would also have:

- Knowledge of local flora as well as an aptitude for gardening;
- Some experience with public education and/or dealing with the public at a one-on-one level; and
- Basic computer skills (word, excel, power point, etc).

A first-year college or university student is often a good choice, A student who can return year after year will retain, and expand upon, their knowledge. Please see Appendix B for a job description template.

Advertising the Position

Each community is responsible for determining in which publications the advertisement will run, and paying for the ad placements.

Training

The RDKB will sponsor a three-day training sessions in the first or second week of May. These training sessions will be accompanied by the detailed Water Smart Ambassador Manual that outlines the entire job from how to make customer appointments, to how to carry out a complex water audit and how to effectively market the program to reach a wide variety of customers.

The Water Smart Ambassador Manual will also include templates for conducting water audits and a comprehensive section on how to complete landscape assessments.

The training sessions will include field work in addition to classroom exercises so the Ambassadors can get some hands on experience before heading back to their community.

5.0 THE FUTURE

It is important to keep in mind that this is a 3 year initiative, and that water conservation will likely be an ongoing area of action for each Water Service. As such, a strategic and phased approach to water conservation education will ensure that each barrier and opportunity is addressed in order of highest priority and most significant potential results.

Information gathered from the Water Smart Ambassador Program and through annual

reporting and monitoring for the action plans will likely help determine more specific programs and activities for following years. While some Water Services will remain primarily focused on outdoor conservation over the full 3 year period, others may transition quickly to addressing indoor water conservation issues as well. Movement along this spectrum should be determined primarily by the results of the program and ongoing water demand data analysis.

6.0 APPENDIX A

EQUIPMENT REQUIRED TO CARRY OUT IRRIGATION SYSTEM AUDITS

Landscape and Irrigation system audits at private residences do not require any special equipment except for a soil probe/sampler (see photo to right).

Irrigation system audits at parks, schools, government buildings, and other large irrigated spaces will require the following equipment.

- 1 (one) stop watch
- 1 (one) 100'/30, tape measure
- 1 (one) Tunnel Soil Probe/Sampler
- 1 (one) 100 ml measuring cup
- 1 (one) garden spade
- 20 (twenty) 3 X 10 flat-bottom, clear plastic catch basins



RDKB will provide the equipment package to Water Smart Ambassadors at the Orientation and Training Session.

Because irrigation audits in public spaces must be carried out during working hours, it will be necessary to run the sprinklers during the day. This could result in some people complaining about water waste. To help alleviate those concerns, RDKB will provide a "sandwich board" style sign to inform residents what is happening.

Transportation

It would be ideal for the Water Smart Ambassador to carry out their duties in their own vehicle with mileage paid by the RDKB. The Water Smart Ambassador could also use a bicycle upon arriving at each Water Service whenever possible. A small bike trailer will be necessary in order for the Ambassador to safely carry doorknockers, the CMHC Guides, and other equipment.

The equipment necessary for audits at parks, schools, government buildings, and other large irrigated spaces is too large and cumbersome to mobilize with a bicycle. A car or truck will be necessary.

7.0 APPENDIX B

WATER AMBASSADOR JOB DESCRIPTION

This is a four-month position starting at the beginning of May, 2021. The Water Smart Ambassador is responsible for providing water conservation education to residents and businesses.

Duties:

- Conduct landscape and irrigation system audits at private residences
- Patrol neighborhoods on bicycle to identify water waste and distribute water conservation information
- Promote water conservation at public events throughout the summer
- Respond to customer requests to information about water conservation
- Provide reports on customer visits and irrigation system audits.

Skills and Experience:

- Excellent interpersonal communication skills
- Basic computer skills (word, excel, power point, etc)
- Self motivated and highly organized
- Some experience with public education and/or working with the public at a one-on-one level
- Knowledge of local flora as well as an aptitude for gardening is an asset
- Some prior experience with automatic irrigation systems is ideal, but is not necessary

Additional Requirements:

- Valid BC Driver's License
- Access to a vehicle
- Use of a well-maintained bicycle and appropriate safety gear

Qualifications:

Must be working towards or have completed post secondary education. The successful candidate must have a passion for the environment and the desire to make a difference. Training will be provided.

**11.0 Appendix C – Draft SWAT Irrigation Controller
Rebate Program**



Irrigation Controller Rebate Program - DRAFT

Overview

Outdoor water use contributes to over half of the overall water used in RDKB owned water utilities such as Rivervale Water Utility, Christina Lake Water Utility, and Beaver Valley Water Service. The RDKB has estimated that in 2019, 54% of water use in the Christina Lake Water Utility, 49% of water use in the Rivervale Water and Streetlight Utility was used outdoors, and 33% of water use in the Beaver Valley Water Service was used outdoors.

It should be noted that the Beaver Valley Water Service has been a part of the CBT Water Smart plan from 2009 to 2014. This included introducing water conservation measures, hiring a water smart ambassador, and developing an implementation plan for universal water metering. These measures have been successful to date, but to further enhance water conservation in Beaver Valley Water Service, offering irrigation controllers would further reduce water demand.

Most outdoor water is used to irrigate lawns and gardens. These irrigation systems can be controlled by an irrigation controller. Most irrigation controllers can be programmed to use water on pre programmed days and times. This helps residents comply with water use regulations developed for each water utility.

Modern irrigation controllers with Smart Water Application Technology (SWAT, <https://www.irrigation.org/SWAT>) are irrigation controllers that can be connected to sensors that are able to sense amount of rainfall or moisture content in soil and adjust the amount of water delivered by the irrigation controller according to these sensors.

SWAT irrigation controllers can drastically reduce the amount of water used. This will save money on operations and maintenance of water utilities and increase the life expectancy of water utility assets.

SWAT irrigation controllers can be purchased for as low as \$300 to \$400 (from a quick Amazon.ca search).

The RDKB can encourage the purchase and installation of SWAT irrigation controllers with weather or soil moisture sensors by partially subsidizing the cost of these controllers through a rebate program. A rebate program would entice water users to choose a SWAT irrigation controller with rain or soil moisture sensors when purchasing a new irrigation controller.

For this program to achieve its goal of drastically reducing outdoor water use, a multi year commitment of rebates on SWAT irrigation controllers is necessary. This program could be offered for 3 so that most residents of RDKB owned water utilities will have access to these funds over the duration that the program is offered.

The rebate program would require a budgeted amount for each water utility owned by the RDKB. This report is proposing that 50 rebates per year be available for residents of Christina Lake Water Utility, 100 rebates per year for residents in the Beaver Valley Water Service, and 25 rebates per year be available to residents of Rivervale Water Utility. If the rebate amount is set to \$200 per rebate, \$10,000 per year will have to be budgeted for Christina Lake Water Utility and Beaver Valley Water Utility, and \$5,000 per year will have to be budgeted for the Rivervale Water Utility for the rebate program.

The rebate program would be in effect for a given year until the budgeted funds for rebates is used up for a given water utility. The program would re-open in January of the following year. If there are funds



Irrigation Controller Rebate Program - DRAFT

budgeted in a water utility that are not used, the funds would carry over to the following year. The program can be reviewed in February of each year to determine if the RDKB wishes to keep the program.

This document outlines how a program might exist at the RDKB, including a proposed per year budget.

Edit – FortisBC has potentially come on board to offer a showerhead and faucet aerators to households that receive this rebate up to the end of 2022 (so the first 2 years of the 3 year commitment for this program). This would further reduce water demand in each water service. The EPA has estimated that this reduces water demand by 2,900 gallons of water per household that have installed these products.

Conditions for Rebate

1. Applicants must be registered owners of commercial or residential properties connected to a Water Utility owned by the RDKB excluding the Columbia Gardens Water Utility.
2. Properties serviced by private wells or other utilities not owned by RDKB (e.g. Sutherland Water District) do not qualify. The program is funded only by those connected to water systems owned by the RDKB excluding Columbia Gardens Water Utility.
3. Must have purchased and installed a SWAT (Smart Water Application Technologies) approved smart irrigation controller (see list on RDKB website).
4. There is a maximum of one rebate per installation address.
5. Indoor water conservation devices must be proven to be installed by provided pictures of the device installed. (to avoid RDKB staff from entering premises).
6. Must have a sales receipt dated January 1, 2021 or later.
7. Must have an inspection receipt. An onsite inspection by the RDKB is required after installation. Applicants will be issued an inspection receipt if the unit has been installed correctly and meets eligibility requirements.
8. Must have had a plumbing permit to install the irrigation system.
9. All receipts need to be submitted with the application form.
10. Rebate cheques will be issued to registered owners of property only.

Procedure

1. Applicant decides to replace irrigation controller
2. Applicant logs on to rdkb website and obtains irrigation controller model list and application form, or applicant goes to retail outlet in the RDKB and is supplied with a list of irrigation controllers that qualify for rebate
3. Applicant installs controller
4. Applicant contacts RDKB's Water Smart Ambassador to set up inspection appointment
5. Water Smart Ambassador sets up appointment in conjunction with Operator
6. Water Smart Ambassador performs inspection and issues inspection receipt
7. Applicant downloads application form and fills out necessary information and attaches receipt for irrigation controller and inspection receipt
8. Applicant submits application in person, via e-mail, or by mail.
9. Application is forwarded to Engineering Safety Coordinator who reviews application



Irrigation Controller Rebate Program - DRAFT

10. Engineering Safety Coordinator records application information in spreadsheet.
11. Engineering Safety Coordinator issues request for cheque to finance department.
12. Applicant receives cheque from RDKB.

Budget

Christina Lake Water Utility per year

# of Connections	# Rebates	% Connections Targeted Annually	\$/Rebate	\$ Total
466	50	11%	\$200	\$10,000

Rivervale Water and Streetlight Utility per year

# of Connections	# Rebates	% Connections Targeted Annually	\$/Rebate	\$ Total
120	25	21%	\$200	\$5,000

Beaver Valley Water Service per year

# of Connections	# Rebates	% Connections Targeted Annually	\$/Rebate	\$ Total
1225	100	8%	\$200	\$20,000

A communication budget is needed to advertise the program to the residents of these water utilities. It is expected to cost about \$500 per year for advertising material to be developed and put out to the public.

Timeline

Spring/April

- Present Program to RDKB Utilities Committee for comment and ideas.
- Finalize program budget, details, and procedure.
- Contact retailers in the RDKB to produce product list and ensure retailers know about the program and can offer support.

Spring/April/May

- Hold training session with RDKB Operators
- Hold information session with RDKB front end staff
- Update website with forms and information about the program

May/June/July/August

- Issue ads on social media, print ads, and a news release about the program.
- Start receiving inquiries from public.



Irrigation Controller Rebate Program - DRAFT

- Start receiving applications.
- Issue inspections.

June/July through end of year

- Receive and review applications.
- Perform inspections.
- Issue rebate cheques to approved applications.

Following February

- Review program performance and determine whether to continue for next year.

Staff Requirements

Water Smart Ambassador:

- Promote SWAT Irrigation Controller Rebate Program in the community
- Set up inspection appointments
- Perform inspections
- Fill out inspection forms and submit to Engineering Safety Coordinator

Engineering Safety Coordinator:

- Create irrigation controller model list
- Create application form
- Set up advertising of rebate program through social media, website, print ads, coordinate with Communications Coordinator for news release
- Review application forms
- Respond to information inquiries
- Provide rebate details to front end staff, finance staff, operators, retailers

RDKB Operators:

- Advertise program to residents through conversations

RDKB Front End Staff:

- Take in applications
 - Ensure application is fully filled out
 - Forward application to Engineering and Safety coordinator
- Answer phone questions or direct questions to Engineering and Safety Coordinator

Technical Requirements

- Create e-mail 'irrigationrebate@rdkb.com'
- Create Irrigation controller rebate list
- Create application form
- Update website with program details



Irrigation Controller Rebate Program - DRAFT

Training Sessions Required

- Inquire with Retailers and irrigation installers regarding how they could support the program.
- Develop Product list with help from Retailers.
- Hold training session with Operators for inspection procedure and program details
- Hold training session with front end staff, finance staff regarding program details and procedures
- Hold training session with Retailers regarding finalized program details and procedures



Regional District of
Kootenay Boundary

CHRISTINA LAKE WATER UTILITY WATER RESTRICTIONS

ACTIVITY	STAGE 1 Normal	STAGE 2 Dry	STAGE 3 Very Dry	STAGE 4 Extremely Dry
Lawn, trees, shrubs, vegetables, flower gardens watered by sprinkler or irrigation system Allowed 4:00 am to 9:00 am and 7:00 pm to 10:00 pm	Even Numbered Addresses Tuesday, Thursday, Saturday Odd Numbered Addresses Wednesday, Friday, Sunday No Watering Allowed on Mondays	Even Numbered Addresses Tuesday, Saturday Odd Numbered Addresses Wednesday, Sunday No Watering Allowed on Monday, Thursday, Friday	Even Numbered Addresses Saturday Odd Numbered Addresses Sunday No Watering Allowed Monday to Friday	Prohibited
Micro Irrigation or Drip Irrigation System	Allowed	Allowed	Allowed	Allowed 4:00 am to 9:00 am and 7:00 pm to 10:00 pm
Watering with handheld container or hose with shut off nozzle	Allowed	Allowed	Between 7:00 pm and 7:00 am	Prohibited
Washing personal vehicles (does not apply to commercial car wash stations)	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited
Cleaning surfaces, sidewalks, driveways	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited	Prohibited
Filling fountains, hot tubs, and pools	Allowed	Allowed	Prohibited	Prohibited
Watering sod, new grass, plantings	Allowed with authorization from RDKB Environmental Services	Allowed with authorization from RDKB Environmental Services	Prohibited	Prohibited

Questions? Please contact RDKB at 250.368.9148 or 1.800.355.7352

rdkb.com

**STAFF REPORT**

Date: 14 Oct 2020 **File**

To: **Chair Cacchioni and Utilities Committee**

From: Gabe Wiebe, Engineering and Safety Coordinator

Re: Beaver Valley Water System Water Conservation Plan

Issue Introduction

A Staff Report from Gabe Wiebe, Engineering and Safety Coordinator, regarding the Water Conservation Plan for the Beaver Valley Water Service.

History/Background Factors

The Beaver Valley Water Service (BVWS) has previously completed the Water Smart Plan funded and supported by the Columbia Basin Trust (CBT) starting in 2011. These initiatives proved to be successful in reducing overall water demand in the BVWS.

The initiatives included:

- Objective 1: Explore and evaluate introduction of a user-pay system for the water utility including a universal metering program.
 - A universal water meter implementation plan was developed.
 - Objective 1 is no longer seen as a priority as the 2016 BVWS Long Term Water Strategy Plan did not identify a universal water metering program as a priority.
- Objective 2: Implement proven strategies to reduce residential water demand.
 - A watering regulation program was developed and promoted through the community with 5 levels of restrictions based on the BC Drought Portal local drought levels.

- Involvement in the CBT Water Smart Ambassador program (2011, 2012 and 2013).
- Objective 3: Implement a leakage detection program to identify unaccounted for losses and leakage.
 - A water leak detection plan was developed.
 - The 2016 BVWS Long Term Water Strategy Report identified the priority and timeline for water main replacement.
 - Water meters were installed at selected sites including public parks, institutional properties (Beaver Valley Arena, Elementary School), a car wash, an assisted living home, and a couple of willing residents to further understand water demand in the BVWS.
- Objective 4: Improve stream flow monitoring of Kelly Creek to better understand water yields and to provide the motivation for long term conservation.
 - A hydrological assessment of the watershed was completed.
 - A water source protection plan was developed.
 - Potential climate change impacts on precipitation patterns have been analyzed for Electoral Area 'A'.
 - Further evaluation for the need for additional water supply sources was completed.
 - Open dialogue with both the RDCK and logging companies operating in the Kelly Creek Watershed were continued.

The 2019 BVWS Annual report identified outdoor water demand and specifically irrigation systems watering outside of allowed times according to current watering regulations as requiring further water conservation initiatives to reduce demand in that sector.

This proposed BVWS Water Conservation Plan attempts to address the issues brought up in the 2019 BVWS Annual Report as well as other opportunities to reduce water demand. Highlights in this water conservation plan include:

Highlights in this water conservation plan include:

- Updating watering regulations to be in line with other proposed RDKB Water Service Regulations,
 - The proposed watering regulations works on a weekly basis. In 'normal' conditions, odd numbered addresses allowed to water on Tuesday, Thursday, Saturday, and even numbered addresses are allowed to water on Wednesday, Friday, Sunday, and no one allowed to water on Monday.

- Highlighting a need to fund the 'Water Conservation Ambassador' program to promote water conservation in the Beaver Valley Water Service and other RDKB water utilities,
 - Promoting water conservation in the community.
 - Promoting the new watering regulations.
 - Promoting the SWAT Irrigation Controller Rebate Program and indoor water conservation kits.
- SWAT Irrigation Controller Rebate Program for residents of Beaver Valley Water Service,
 - Promoting new technologies for irrigation controllers that reduce watering times if precipitation is measured in the area. These irrigation controllers are also easier to program to help residents comply with watering regulations.
 - Provide a number of rebates for these types of irrigation controllers annually to residents of Beaver Valley Water Service.
- Indoor Water Conservation Kit
 - Provide a number of indoor water conservation kits, including a kitchen faucet aerator, bathroom faucet aerator and reduced flow showerhead to residents of Beaver Valley Water Service. These indoor water conservation kits could reduce indoor water demand by 2,900 gallons or 11m³ annually per household according to the Environmental Protection Agency (EPA).

The initiatives proposed in the BVWS Water Conservation plan are designed to reduce water demand in the BVWS by 20% in 3 years.

Implications

That RDKB Staff will pursue funding to support the initiatives in the BVWS Water Conservation Plan.

Advancement of Strategic Planning Goals

Completion of works related to the Beaver Valley Water Service Water Conservation Plan is consistent with the RDKB Board's overall goals related to Exceptional Cost Effective and Efficient Services and Environmental Stewardship / Climate Preparedness.

Background Information Provided

1. Draft Beaver Valley Water Service Water Conservation Plan
2. Existing Beaver Valley Water Service Watering Regulation Table
3. Proposed Beaver Valley Water Service Watering Regulation Table

4. 2019 BVWS Annual Report

Alternatives

1. That the Regional District of Kootenay Boundary Board of Directors approve the Beaver Valley Water Service (500) Water Conservation Plan as presented to the Board on October 14, 2020. **FURTHER** that staff be directed to implement the Plan.
2. Not Receive the Staff Report.

Recommendation(s)

That the Regional District of Kootenay Boundary Board of Directors approve the Beaver Valley Water Service (500) Water Conservation Plan as presented to the Board on October 14, 2020. **FURTHER** that staff be directed to implement the Plan.



Regional District of Kootenay Boundary

BEAVER VALLEY WATER SERVICE WATER CONSERVATION PLAN 2021 - 2024

October 2020

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1.0 Executive Summary

The goal of water conservation is to reduce overall demand on the water supply. The benefits of reducing water demand for a water utility include:

- reduced maintenance, treatment, and operation costs,
- longer life to infrastructure,
- better adaptation to water source changes due to climate change.

The Beaver Valley Water System (BVWS) has previously developed and implemented a water conservation plan through the Columbia Basin Trust (CBT) Water Smart Charter with a goal to reduce consumption by 20% over 2009 water demand by 2015. By 2019, water demand was reduced by 18.2% over 2009 levels. This was achieved through restricting domestic irrigation activities and public awareness of water activities that contribute to water waste. The Water Smart plan also explored the feasibility of universal metering for the water service but determined other water conservation measures would be more efficient.

This water conservation plan is a renewed goal to achieve a 20% reduction in water demand over the average of 2019, 2018, and 2017 levels by 2024.

The BVWS is owned by the Regional District of Kootenay Boundary (RDKB) and operated by the Village of Fruitvale on a cost recovery basis. Administration and governance is the responsibility of the Regional District Board and staff; operational service is the responsibility of the Village of Fruitvale staff.

The water users are approximately 2850 residents utilizing 1225 connections. The area is predominantly a bedroom community with the main employers being Teck Resources Trail Operations (located in the City of Trail) and Atco Wood Products Ltd. located immediately north east of Fruitvale within Electoral Area A. Other main employers include the health and educational sectors and to a lesser extent, retail.

This report examines summer and winter demand and attempts to determine how much water is being used for indoor and outdoor purposes. This is done by comparing the amount of water demand during winter months, where it is assumed most water is being used for indoor purposes, and summer months where there is the most outdoor water demand.

The following review of the water demand data and the resulting recommendations are based on the best available data and assumptions.

This examination of water demand for Beaver Valley Water System (BVWS) does not take into account water leakage in the system infrastructure. All water systems experience some leakage through their infrastructure. The CBT recommends that examining and reducing system leakage could significantly reduce the water demand for the system.¹

Table 1 summarizes the water demand for the BVWS over the years 2015 to 2019 compared to the 2016 Columbia Basin Trust Water Smart Summary Report.

¹ Columbia Basin Trust Water Smart Summary 2016 Lesson #2 suggests leakage as one of the largest community water demand.

Table 1 Water Demand Break Down

Beaver Valley Water System						
Indicator	2019	2018	2017	2016	2015	Basin Wide 2016
Total Average Daily Demand (Litres/Capita/Day)	529	554	582	572	600	354 (residential) ²
Average Outdoor Demand (Litres/Capita/Day)	178	210	215	180	181	Unknown
Average Indoor Demand (Litres/Capita/Day)	351	344	367	399	420	200 (estimate) ³
% Total Annual Outdoor Demand	34%	38%	37%	30%	30%	Unknown
Total Outdoor Demand (ML)	185	218	224	181	188	Unknown
Total Annual Demand (ML)	550	576	605	595	607	Unknown

Outdoor water demand, indoor water demand and system leakage investigation were chosen as the areas to concentrate on for water conservation efforts. Four water conservation efforts were explored to reduce overall water demand:

- **Water Smart Ambassador**
 - Promote new water conservation regulations (proposed in Appendix A) that align with other RDKB Water Services.
 - These new water conservation regulations provide a more consistent and fair allocation of water days to residents.
 - Fund a 'water smart ambassador' position for 3 years to help educate residents to the new proposed water conservation measures and other methods and programs to reduce water consumption in the community.
 - Depending on the amount of visibility in the community, this conservation measure can provide a varying amount of reduction to water demand. For this report, it is estimated that this will reduce water demand by 10%.
- **Rebates on SWAT Irrigation Controllers**
 - A 3 year commitment to provide rebates on SWAT irrigation controllers. These controllers adjust the irrigation system's watering time according to current weather conditions and provide less watering when there is precipitation. An issue with existing irrigation controllers is that users do not manually adjust the watering time when there is precipitation. These irrigation controllers have shown to reduce outdoor water demand by as much as 20%⁴.
 - By offering a rebate on these controllers, the RDKB would promote residents to use this type of irrigation controller. See Appendix C for a draft rebate program plan.
- **Indoor Water Conservation Kit**

² Columbia Basin Trust Water Smart Summary 2016 – Average of 5 Basin communities with universal metering.

³ From City of Rossland Water Smart Action Plan 2015-2020. Note: 350+ L/C/D is considered a "high use home"; 200 L/C/D would be the expected demand in a home built to current building code standards.

⁴ From E-mail with Jessica Ahlstrom, Chair of SWAT Promotions Working Group, July 27, 2020

- By providing an indoor water conservation kit that includes faucet aerators and reduced flow showerheads, the Environmental Protection Agency (EPA) estimates that 2,900 gallons, or 11 m³ per household could be achieved.⁵
- The indoor water savings packages include a kitchen faucet aerator, bathroom faucet aerator, and a high performance showerhead.
- **Leak Detection**
 - The BVWS has supported leak detection efforts up to this point. This plan suggests to continue the leak detection program.

By implementing new water conservation regulations and promoting water conservation with a water smart ambassador position, encouraging residents to install SWAT Irrigation Controllers, faucet aerators and a new showerhead, and determining how much water is lost due to leakage, and potentially fixing these leaks, over the next 3 years, the goal of reducing water demand by 20% is achievable. The implementation of water conservation is subject to available funding.

⁵ <https://www.epa.gov/watersense/watersense-calculator>

2.0 Introduction

The Beaver Valley Water System (BVWS) is owned by the Regional District of Kootenay Boundary (RDKB) and operated and maintained by the Village of Fruitvale (Village). For this report, the term Fruitvale represents the community of water users who receive water service from the BVWS.

This Water Conservation Plan (Plan) is a way for RDKB Utilities Committee to rationally develop and implement a water conservation strategy that will reduce water demand in the BVWS by 20% from an average of 2017, 2018, and 2019 levels by the year 2024.

2.1 Community Vision

In June 2010, Fruitvale developed a community vision for water conservation, which states:

“Ensuring a future of clean water through conservation and water system improvements.”

This vision was created following a thorough discussion around the ‘anti-vision’, which lead to local goals that would prevent the following water issues:

- Inadequate water (supply or quality)
- Broke (financial hardship caused by system costs)
- Broken infrastructure
- Wasted water (non productive use)

2.2 Purpose

This report is a first step to implementing a water conservation plan for the BVWS to align with the 2010 goal and to avoid the ‘anti-vision’.

The RDKB wants to ensure that these issues are addressed and that there is safe and clean drinking water for all users for many years to come. This Water Conservation Plan supports the following directive:

Beaver Valley Water Service is committed to water sustainability and to finding solutions to meet our water quantity and quality demands at a reasonable price, while protecting the integrity of our local ecosystem and the health of our residents for generations to come.

2.3 Process

BVWS’s Water Conservation Plan has been developed through reviewing surrounding communities’ Water Conservation plans, reviewing the Columbia Basin Trust (CBT) Water Smart Plan, produced by CBT in 2015, along with examining historical water demand data.

All recommendations in this report will require the support of RDKB Utilities Committee and the RDKB Board of Directors before implementation by RDKB Staff. Some recommendations from this report could require the help of outside funding and consultants to implement.

The RDKB does not know how many people populate the service area. For the analysis of water demand for this report, the RDKB has assumed that the population stays the same year round with 2.3 residents per connection (From BVWS 2019 Annual Report, 2850 people for 1225

connections). There are approximately 70 industrial, commercial, and institutional (ICI) connections that receive water from the BVWS. These connections are minimal compared to the amount of actual residential connections. This report also assumes that all connections are residential.

2.4 Geographic Boundaries

The service area for the BVWS encompasses all users within the Village of Fruitvale's boundaries as well as some residents in the RDKB's Electoral Area 'A'. The current water system supplies domestic water to both residents and businesses located within Village boundaries and outside the Village boundaries. Figure 1 shows the service area.

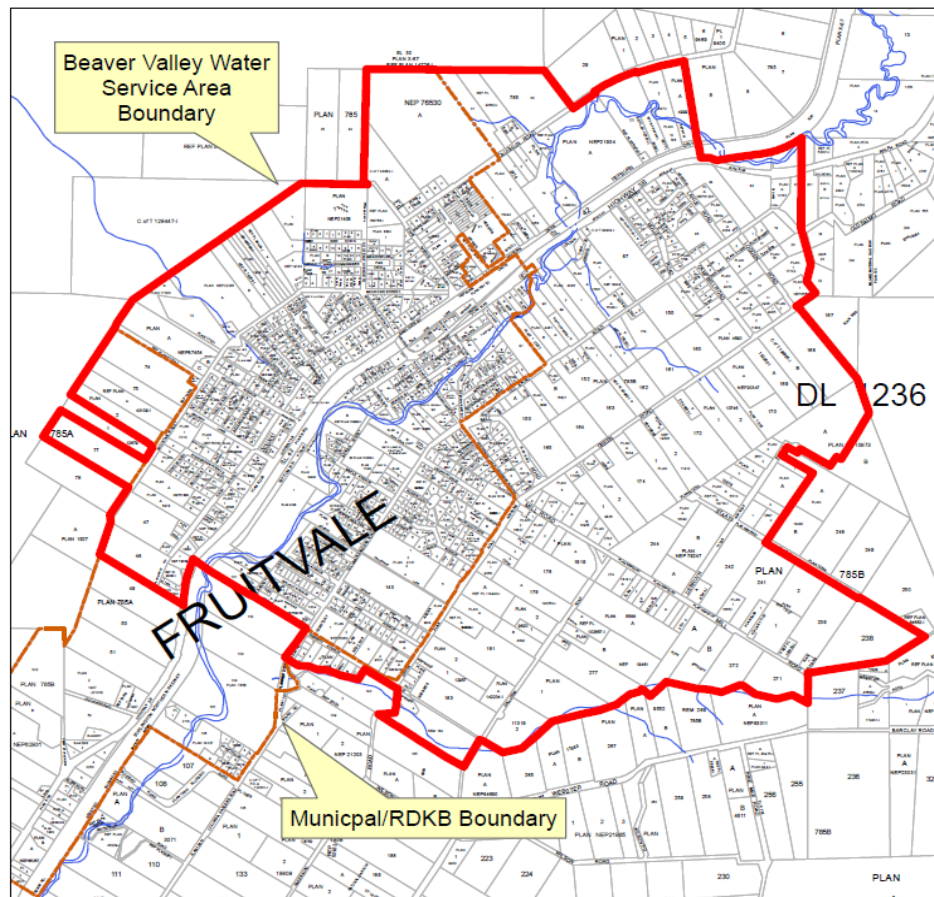


Figure 1 Service Area

2.5 Future Scenarios and Community Water Goals

The goal of the BVWS is to provide sustainable, clean and safe drinking water to everyone within the service area. This can be done through examination of historical water demand to determine how water is being used and develop recommendations to target high water demand activities. A goal of reducing water demand by 20% from 2019 water use by 2023 has been set by the RDKB Utilities Committee. Future water conservation reports could be developed to further the BVWS's water conservation goals after 3 years.

2.6 Plan Buy In

The RDKB Electoral Area 'A' OCP, Bylaw 1410, 2010 and the Village of Fruitvale Official Community Plan (OCP) Bylaw 835, 2011 were both developed after extensive consultation with the OCP Steering Committee and community input. These OCP's provides goals and objectives to guide their local government's decisions on planning and land use within the Village of Fruitvale and RDKB Electoral Area 'A'.

Section 6 of RDKB's Bylaw 1410 describes the objectives and policies for Water Services and Community Watersheds in Electoral Area 'A'. The objective of the Electoral Area 'A' OCP is to promote the provision of adequate community water services within, but not beyond the Community Water Service Areas for the Beaver Falls Waterworks District and the Beaver Valley Water System (BVWS).

Specific objectives related to BVWS water conservation include:

- 6.6.1 Ensure a future of clean water by working with the local water districts to promote conservation and water system improvements.
- 6.6.2 Establish 5, 10 and 25 year goals that will address volume reduction in water consumption, and ability to service an increase in population.
- 6.6.3 Continue water source protection and identification of long term water source.
- 6.6.4 Continue to support the Regional District's studies of the Kelly Creek Watershed and associated ground water system in keeping with the Regional District's Water Smart Action Plan.
- 6.6.5 Consider supporting the implementation of water metering to help achieve water conservation targets.

Specific policies related to BVWS water conservation include:

Policy 15.4 - Support public outreach initiatives regarding water conservation measures.

The Village of Fruitvale's OCP, bylaw 835, 2011, echoes these objectives and policies. This conservation plan will use these goals and objectives to guide the recommendations of this report.

3.0 Beaver Valley Water Service System Profile

The following overview is provided by the BVWS 2019 Annual Report.

3.1 Community Profile

Figure 2 shows an overview of the Kelly Creek Watershed. The BVWS serves a population of approximately 2850 residents utilizing 1225 connections⁶. The area is predominantly a bedroom community with the main employers being Teck Resources Trail Operations (located in the City of Trail) and Atco Wood Products Ltd. located immediately north east of Fruitvale within Electoral Area A. The RDKB owns the water system and the Village of Fruitvale manages and operates the water system. The BVWS is bound by RDKB bylaw 1591, 2016, which establishes the user rates and regulation.

The BVWS also provides water for fire protection to the Kootenay Boundary Regional Fire Rescue (KBRFR) Company 6 for the area within the BVWS service area.

The total amount of water consumed in 2019 was measured to be 550,112 m³. The average daily water demand is then estimated to be 529 Litres/Capita/Day (L/C/D). The Columbia Basin Wide residential average for 2016 was measured to be 354 L/C/D. BVWS water usage appears to be higher than the average for the Columbia Basin. Water conservation measures are needed to ensure sustainable clean and safe drinking water.

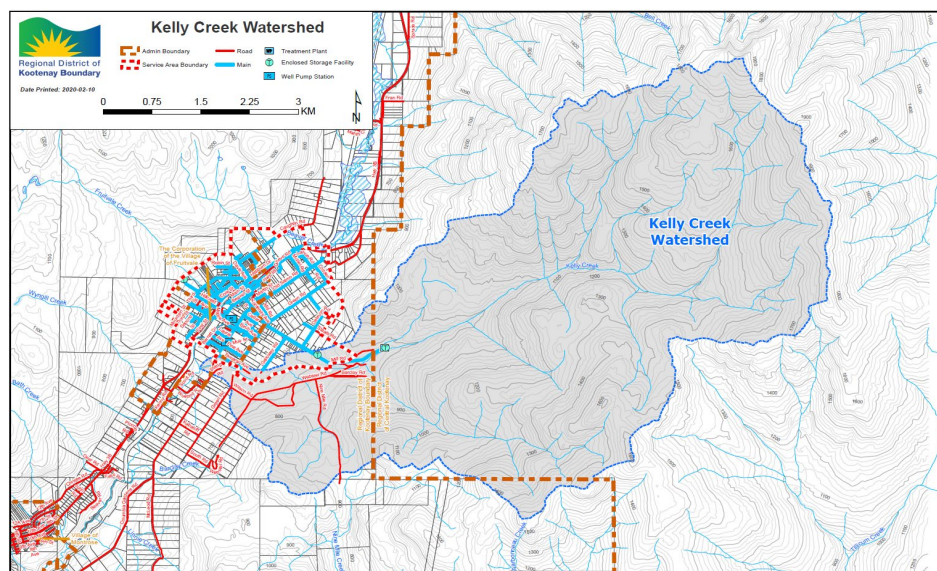


Figure 2 Kelly Creek Watershed

3.2 BVWS Infrastructure Overview

The Beaver Valley Water Service (BVWS) system is currently classified as a Level 2 water distribution and Level 3 water treatment system. The domestic water supply is primarily from

⁶ According to BVWS 2019 Annual Report

Kelly Creek, augmented by two back-up wells (Maple Ave #1 and Columbia Gardens Road # 2) as required. The Kelly Creek watershed is the most reliable and economical water supply for the BVWS. Water drawn from Kelly Creek is settled out in a 750,000-litre reservoir, then pumped through the Level 3 Kelly Creek Water Treatment Plant where treatment by coagulation, filtration, ultra-violet and backup chlorination is provided. The two wells are used for emergency backup situations, but also when turbidity levels lead to less-than optimal water quality during spring freshet. However, the wells are also utilized extensively during summer months to supply segments of the system when Kelly Creek's flow is low.

The distribution system is segmented so that specific neighborhoods may be switched to the well supply as demand on the Kelly Creek source increases beyond optimal. Both wells are fully chlorinated.

3.2.1 Source

As stated above, the BVWS area currently has surface water from Kelly Creek located south east of Fruitvale and ground water from two production wells located at Maple Avenue (well #1) and Columbia Gardens Road (well #2) in Fruitvale. Both wells are screened within the deep unconfined alluvial aquifer, which is comprised of sand and gravel. In 2013/4 chlorination systems were installed in both wells and were commissioned for operation in spring of 2014. A full system test was conducted in February 2015 to ensure the well chlorination system was working appropriately prior to potential use period. The wells are tested regularly while in use and prior to any switch over.

- Well #1 was constructed in 1986 and provided for an estimated safe yield of 350 USgpm.
- Well #2 was constructed in 1986 and provides for an estimated safe yield of 350 USgpm.

In 2009 both wells were purged and the pumps replaced by Precision Service & Pumps Inc. The two wells can now be pumped simultaneously (at 824 US gpm, 3120 l/min) without interfering with each other.

3.2.2 Storage

The BVWS has four reservoirs that store water pumped from the water sources. Reservoir #1 (Mill Road) was constructed in 1979 and reconstructed in 2014 with a new building and above ground raised piping to improve access and safety. The reservoir is an elevated concrete-finished tank consisting of one cell and has a storage capacity of 454,600 liters. It is also used as balancing tank to reduce pressure to the downtown core. Reservoir #2 (Fruitvale Tank) was constructed in 1959. It is an elevated steel-finished tank consisting of one cell and has a storage capacity of 1,091,040 liters. Reservoir #3 (Clearwell) was constructed in 2002 (at the same time as the Kelly Creek Water Treatment Plant) and is a concrete-finished tank with storage capacity of 611,000 liters. The external Kelly Creek Reservoir for untreated water has a capacity of 2,727,600 liters.

3.2.3 Distribution System

The distribution system is segregated into 2 different pressure zones. The high pressure zone, which encompasses the northeast portion of the BVWS, is comprised of Debruyne Road and part of upper Green Road. The rest of the BVWS area is supplied through the Mill Road balancing tank which lowers the pressure by 60 psi, and is the lower pressure zone which encompasses

the rest of the BVWS area. The two wells are used when the supply for Kelly Creek is inadequate or if the Kelly Creek Treatment Plant is taken off-line for any reason.

In total, the BVWS has approximately twenty-six (26) kilometers of water main within the Village and Electoral Area 'A' boundaries, comprised of ductile iron, PVC, and a small amount of steel piping. The system is approximately 60% ductile iron, 35% polyvinyl chloride (PVC) and 5% steel. Sizes range from 100 mm to 300 mm in diameter. As well, the BVWS has numerous standpipes and ninety-eight (98) fire hydrants for fire protection.

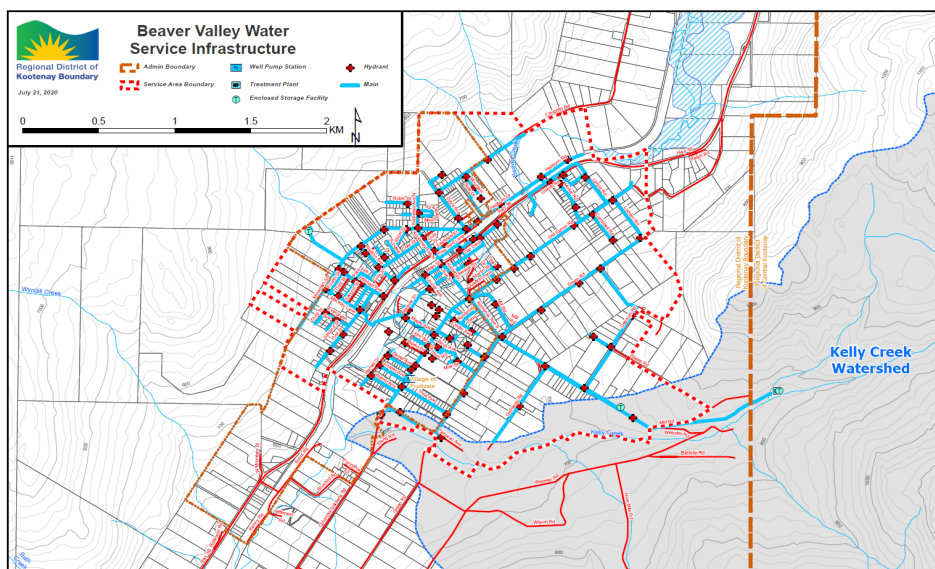


Figure 3 Map of Water Utility Infrastructure

3.3 Water Conservation Initiatives

The BVWS implemented a water conservation strategy in 2011 as part of the Columbia Basin Trust Water Smart Initiative. The plan is related mainly to promoting water conservation through reducing domestic irrigation activities and public awareness of water activities that contribute to water waste. The CBT Water Smart Initiative has been successful in reducing BVWS gross consumption in 2019 by 18.2% from 2009⁷.

A public information and education newsletter is sent out to all BVWS users annually to keep them apprised of changes, improvements and water conservation strategies. Bylaw enforcement strategies focusing on compliance rather than penalties are also used. A "Water Flag" program to educate homeowners that were operating outside of irrigation limits was used

⁷ BVWS 2019 Annual Report

and continued non-compliance resulted in Bylaw Enforcement Officer visits. Night-time automatic irrigation systems continue to be the most non-compliant.

In 2016, the BVWS increased the water conservation regulations in response to BC Drought Response Plan and informational notices from the Province. These higher regulations included higher and earlier irrigation limits. These increased regulations showed significant reductions in drier summer months with low precipitation levels.

3.3.1 Water Meters

The BVWS has installed 14 water meters around the community to understand how different users are using water throughout the year. The meters were installed in 2016 at the locations below:

- Beaver Valley Arena
 - More water demand in winter months
- Cemetery
 - All water demand in summer months
- Eastview Park
 - All water demand in summer months
- Legion Park
 - All water demand in summer months
- Main Park
 - All water demand in summer months
- Main St Park
 - All water demand in summer months
- Mazzocchi Park
 - All water demand in summer months
- Elementary School Irrigation
 - All water demand in summer months
- Car Wash
 - Most water demand in winter months
- Community Hall
 - Water demand spread out throughout the year
- Grieve Residence (Residential)
 - Typical resident, more water demand in summer months
- Mason Residence (Residential)
 - Typical resident, more water demand in summer months
- Mountain Side (Assisted Living) (2 meters, irrigation and residential)
 - Residential without irrigation - even water demand throughout the year
 - Irrigation, all water demand in summer months

This plan concentrates on residential water use. The water use from these meters was used to compare with water demand assumptions in the industrial, commercial, institutional (ICI) sector and residential sector.

3.3.2 Existing Water Conservation Regulations

BVWS, in response to BC Drought Response Plan and informational notices from the Province, initiated higher and earlier irrigation limits in 2016. As a result of the increased regulations, water consumption patterns show significant reductions in drier summer months with low precipitation levels.

The following water conservation regulations were implemented in 2016 with the help of a 'water smart ambassador' who was present in the community promoting the water conservation regulations. The water conservation regulations are as follows:

- Level 1 (Normal Operation):
 - Odd, Even, only between 7-10am and 7-10pm;
 - underground sprinkler systems between 1am-6am for 20 minute intervals per zone.
- Level 2:
 - Odd, Even only between 8-9am and 8-9pm
 - underground sprinkler systems between 2am-4am for 20 minute intervals per zone.
- Level 3:
 - Odd numbered homes Mondays and Thursdays; even numbered houses Tuesdays and Fridays; only between 8-9am and 8-9pm;
 - underground sprinkler systems between 2am-4am for 20 minute intervals per zone;
 - schools, municipalities and regional districts will cease all sprinkling;
 - car washing only with spring loaded shut off device;
 - no hosing off sidewalks and driveways.
- Level 4:
 - Odd numbered homes Mondays only; even numbered houses Tuesdays only; only between 8-9am and 8-9pm;
 - underground sprinkler systems between 2am-4am for 20 minute intervals per zone;
 - schools, municipalities and regional districts will cease all sprinkling;
 - car washing at carwash only;
 - no hosing off sidewalks and driveways.
- Level 5:
 - Absolutely no watering allowed.

These conservation measures have proven to be somewhat effective. According to the 2019 BVWS annual report, irrigation systems that water outside of times listed in the above water conservation regulations continues to be an issue.

Another issue with these water conservation regulations is that odd number house addresses are able to use water on more days than even number house addresses on account of there being some months with 31 days. The water conservation regulations promoted in this report attempts to remove that issue by going on a weekly basis for water regulations and Mondays being a 'no watering' day for irrigation systems.

3.4 BVWS Demand Profile

The following water demand profile has been developed based on the best available data provided by the Operators of the BVWS. Where assumptions have been made, they are based on industry standards and professional expertise and judgment of the RDKB Manager of Infrastructure and Sustainability.

The 2015 to 2019 gross and metered water demand data are considered to be reliable and accurate. For the analysis of indoor and outdoor water demand in this report, it is assumed that the population stays the same year round. The results from this analysis for indoor and outdoor water demand are approximate but provide a baseline on where to focus water conservation efforts.

In conjunction with the review and input of RDKB staff, the data contained in Section 4 are considered sufficiently reliable to serve as a basis for developing the recommended actions found in sections 6 and 7. The RDKB may need to adjust the recommendations from this plan as more data becomes available.

3.5 Gross Water Demand

The total volume of water supplied by the Water Utility in 2019 was 550 ML. This represents a 12.6% decrease in annual water demand in 2015, with minimal change in service connections. From the 2019 BVWS annual report, water demand in 2019 decreased by 18.2% from 2009 levels, the previous water conservation baseline figure to compare water demand against.

Figure 4 presents the monthly water demand profile based on the available data from 2015 through 2019.

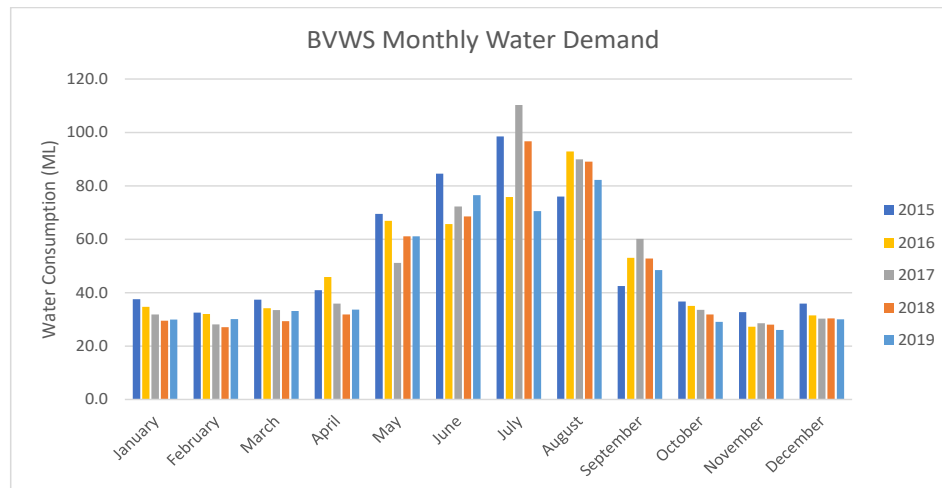


Figure 4 Monthly Water Demand

Table 2 shows the demands for the Water Utility since 2015 and provides a comparison of local demand to average per capita demand within the Columbia Basin and British Columbia.

Table 2: 2015-2019 Indicators

Beaver Valley Water System						
Indicator	2019	2018	2017	2016	2015	Basin Wide 2016
Total Average Daily Demand (Litres/Capita/Day)	529	554	582	572	600	354 (residential) ⁸
Average Outdoor Demand ² (Litres/Capita/Day)	178	210	215	180	181	Unknown
Average Indoor Demand ² (Litres/Capita/Day)	351	344	367	399	420	200 (estimate) ⁹
% Total Annual Outdoor Demand	34%	38%	37%	30%	30%	Unknown
Total Outdoor Demand (ML)	185	218	224	181	188	Unknown
Total Annual Demand (ML)	550	576	605	595	607	Unknown

Rainfall patterns in the drier months from May through September appear to have a significant influence on water consumption volumes. While soil moisture content should be the basis for watering, longstanding irrigation practices remain a strong influence.

As mentioned previously, demand is assumed to be in direct relation to resident irrigation activities in response to summer precipitation and temperatures. Drought conditions continue to be a significant climate change concern throughout BC, even on the normally moister coast.

In June 2019, Level 3 restrictions for watering/irrigation were applied due to drier weather patterns. Although the reservoir capacity remained at levels acceptable for normal irrigation activities and consumption usage, there is always a concern regarding a potential risk when dealing with the amount of fire flow water available to the Regional Fire Department.

While the RDKB Utilities Committee reviews irrigation limits, the BVWS staff recommended watering restrictions based on annual circumstance in the 2019 summer season as a conservation strategy.

3.6 Indoor Residential Demand

The indoor water demand was calculated by taking the average water demand for January, February, March, April, October, November and December for each year and extrapolating this to a per day per capita basis. In 2019, an average of 351 litres were used daily per capita. Indoor residential water demand could always be improved upon by upgrading indoor water fixtures with aerators and low flow fixtures.

3.7 Outdoor Residential Demand

The outdoor water demand was calculated by taking the water demand between May and September and subtracting an average indoor monthly demand over that same period. In 2019, water demand during summer months account for 61% of the yearly water use and specifically outdoor water demand accounts for an estimated 34% of the yearly water demand. Given the

⁸ Columbia Basin Trust Water Smart Summary 2016 – Average of 5 Basin communities with universal metering.

⁹ From City of Rossland Water Smart Action Plan 2015-2020. Note: 350+ L/C/D is considered a "high use home"; 200 L/C/D would be the expected demand in a home built to current building code standards.

drastic reduction in indoor demand and relatively no reduction in demand in outdoor demand, reducing outdoor water demand is considered a priority for this water conservation plan.

3.8 Infrastructure Water Loss

Current annual real losses (CARL) is the measured amount of actual water loss in the distribution system, typically measured at night when consumption is low. This can be done through water use measurements made during overnight hours. This has not been done for Water Utility but is recommended to get a better idea of how much water is being lost due to the infrastructure.

3.9 Water Meter Data

Monthly water demand was supplied by the water operator for each meter. An analysis of water demand from the meters installed at residents show that the analysis and assumptions in section 4.2 and 4.3 are accurate. On average from the water meter data, indoor residential demand accounts for about 70% of water use and outdoor water demand accounts for about 31% of water use in the 2 residential and assisted living home. This is very similar to the whole system water demand analysis.

For the ICI sector, water use increases drastically in the summer. This is because most of the water meters are installed on park irrigation systems. The meter installed at the Beaver Valley Arena shows an increase in water demand in the winter months as this is when the facility is mostly being used. ICI outdoor water demand accounts for 78.7% of ICI water use according to the water meter readings in the ICI sector.

These figures further the idea that outdoor water conservation and irrigation systems should be focused on to reduce water demand.

4.0 Future Demand

The BVWS Long Term Strategy report in 2016 provides a detailed examination of future demand that takes into account population growth. These future demand calculations do not take into account the effects of water conservation efforts. The results of that section are summarized for this report. For further details on these calculations, please refer to the transition study.

A 0.3% population growth was used based on the BVWS Long Term Strategy Report. This results in a population of 3108 by the year 2041. Based on historical demand, the future demand without any water conservation efforts in 2041 for this population will be:

Annual Per Capita Demand: 584 L/C/D

Mean Daily Demand: 1,814 m³/day (21 L/s)

4.1 Supply Capacity

The water storage capacity is calculated by the following formula:

Total Storage required = Fire Storage (60 L/s for 2 hours) + Equalization Storage + Emergency Storage

Where equalization storage is equal to 25% of the maximum daily demand value from above and emergency storage is equal to 25% of the combined values of fire storage and equalization storage.

The current storage capacity of the 3 reservoir systems in the Water Utility is 2,156.64 m³. The 2015 storage required based on the above calculation is 2,238 m³ and the future storage requirement in 2035 is 2,430 m³. The current reservoirs do not have the capacity to meet demand currently and in the future without water conservation efforts.

4.2 Future Infrastructure Needs

In 2015, the BVWS developed a long term capital strategy plan. It outlines several short, medium and long term infrastructure needs for the water system. The plan assumes that water conservation measures will be maintained, if not, improved upon over the years.

The plan highlights the following needs.

- Reduce water pressures in the Village Centre by re-partitioning the system into three permanent pressure zones
- Work to resolve low pressure issues in various locations
- Continue to implement water conservation measures
- Replace infrastructure prior to catastrophic failure
- Implement low cost improvements to reduce risk
- Protect the two main water sources
- Be proactive in adapting to climate change
- Maintain water quality by protecting the watershed and the groundwater sources
- Implement and / or update policies and bylaws as required
- Ensure that user fees and parcel taxes are suitably valued to ensure a financially stable water utility.

The estimated total cost of the recommended upgrades is \$9,191,830 in 2016 dollars and has been phased based on the prioritization criteria described above. The financial plan provides options for cost recovery through revised rate structures, a parcel tax and Development Cost Charges (DCCs).

4.3 Asset Management

The BVWS's long term capital plan highlighted the following needs for asset renewal. These include replacing some water mains, installing PRV's and connecting mains to create separate pressure zones, amount various other projects and priorities associated with those projects. By reducing water demand through water conservation, some of these assets can have a longer life and some of these projects can be deferred until adequate funding sources is found.

5.0 Conservation

The RDKB has a goal to reduce water demand by 20% over 3 years from an average of 2017, 2018, and 2019 outdoor water demand levels. This plan is intended to outline how further water conservation measures could be introduced.

From the water demand profile in section 4, summer water demand and more specifically, outdoor water demand contributes a large amount to the overall water use. Also, it is unknown how much water is being lost to leaks in the water system infrastructure. For this report, indoor and outdoor water demand and system leakage investigation were chosen as the areas to concentrate on for water conservation efforts.

5.1 Existing Water Conservation

The BVWS implemented a water conservation strategy in 2011 as part of the Columbia Basin Trust Water Smart Initiative. The plan is related mainly to promoting water conservation through restricting domestic irrigation activities and public awareness of water activities that contribute to water waste. The CBT Water Smart Initiative has been successful in reducing BVWS gross water demand in 2019 by 18.2% from 2009.

A public information and education newsletter is sent out to all BVWS users annually to keep them apprised of changes, improvements and water conservation strategies. Bylaw enforcement strategies focusing on compliance rather than penalties are also used. A "Water Flag" program to educate homeowners that were operating outside of irrigation limits was used and continued non-compliance resulted in Bylaw Enforcement Officer visits. Night-time automatic irrigation systems continue to be the most non-compliant. BVWS, in response to BC Drought Response Plan and informational notices from the Province, initiated higher and earlier irrigation limits in 2016. As a result of the increased regulations, water consumption patterns show significant reductions in drier summer months with low precipitation levels.

5.2 Conservation Measure Overview

The Government of British Columbia released the "Water Conservation Guide" in 2013. The guide gives a step by step process on how to determine what conservation efforts could be introduced. That process was employed to determine the following conservation efforts:

- Water Smart Ambassador
- SWAT Irrigation Controller Rebate
- Indoor Water Conservation Kit
- Leak detection

5.2.1 Water Smart Ambassador

The existing water conservation measures introduced in 2016 have been very effective at reducing water use based on the drought conditions. This includes reduced irrigation times allowed if the 'Lower Columbia Area' in the BC Drought Information Portal¹⁰ drought level increases.

This conservation initiative would be to fund a 'water smart ambassador' position for 3 years to help further educate residents in the existing water conservation measures and other methods to reduce water consumption in the community. This position would also help communicate changes in water conservation levels. See Appendix B for a draft Water Smart Ambassador Program details.

¹⁰ BC Drought Information Portal <https://governmentofbc.maps.arcgis.com/apps/MapSeries/index.html>

This plan also suggests updating the water conservation regulations to that of other water systems within the RDKB, See Appendix A. These regulation levels would, again, be tied to the BC Drought Levels, but would allow for watering on an alternating day basis, rather than a monthly basis as it is currently implemented.

It has been estimated that these measures could reduce water demand by as much as 10% over the baseline outdoor water demand levels.

5.2.2 SWAT Irrigation Controller Rebate

In the 2019 BVWS Annual Report, nighttime water irrigation outside of what is allowed from the water conservation measures continues to happen. Providing rebates on SWAT Irrigation Controllers could help promote residents to switch irrigation controllers to ones that are easier to change when the water system goes to higher water conservation levels, but also reduces the watering times if precipitation is measured in the area.

Programmable irrigation controllers historically suffer from the user 'setting and forgetting' the water days, times and durations. This can lead to an actual increase in water consumption because the user does not manually decrease their watering based on local weather conditions. SWAT irrigation controllers can fill that role if programmed correctly by having the ability to reduce watering times automatically.

"Smart" water application technologies (SWAT) takes the human element out of the equation. Smart sensors and controllers monitor weather and other site conditions and adjust the irrigation system to apply just the right amount of water at just the right time. Water-saving nozzles and pressure regulators apply water precisely, just where it's needed. Together, these technologies can successfully reduce water use by as much as 20% to 40% annually, while maintaining a healthy, beautiful landscape.¹¹

SWAT Irrigation Controllers are programmable by the user to water on set days and durations, but are also able to decrease their water times based on local weather conditions, either through rainfall sensor, soil moistness sensor, or online weather data.

Appendix C outlines a draft of how the SWAT irrigation controller rebate program could work. This conservation initiative along with the 'water smart ambassador' position are linked in that the water smart ambassador would promote the SWAT irrigation controller rebate program to residents.

Typically, users of these irrigation controllers can experience a 20% reduction in outdoor water use if these controllers are used properly.¹²

5.2.3 Indoor Water Conservation Kit

Indoor water conservation kits, including a kitchen faucet aerator, bathroom faucet aerator, and reduced flow showerhead could reduce indoor water demand by 2,900 gallons per household¹³.

¹¹ <https://www.irrigation.org/SWAT/About/Background/SWAT/About/Background.aspx>

¹² From E-mail with Jessica Ahlstrom, Chair of SWAT Promotions Working Group, July 27, 2020

¹³ <https://www.epa.gov/watersense/watersense-calculator>

5.2.4 Leak detection

The CBT Water Smart Plan identified water system leaks could be a major contributor to water demand.

The Village completed a large pipe replacement strategy that lead to water use reductions of 20 per cent over the last 7 years. However, current leakage rates are estimated at 13 percent of overall water demands and more can be done to reduce the volume of water losses. Future phases of the leakage program should include planning to effectively detect problem areas. This information should be prioritized to develop a cost-effective leak reduction strategy.

The practice of leak detection has evolved significantly over the years and the practices and techniques used will be highly system dependent and need to be based on the knowledge and experience of the local operators in consultation with leak detection specialists.

Unaccounted for water rates are often relatively high for utilities that do not have meters. A key objective for BVWS is to ensure the utility is financially sustainable: reducing the amount of non-revenue water is important in this regard.

5.3 Conservation Measure Analysis

The values used to rank the difference conservation measures used a 1 to 5 scale, where 5 has the highest impact or acceptability for that category and 1 has the lowest impact in that category. The weights and scores were based on conversations with RDKB's Manager of Infrastructure and Sustainability.

Weights were used to place importance on certain categories. Water savings and Political and Societal acceptability were given the highest weights as these were deemed to be the most important factors for ranking the water conservation measures.

Table 3

Local Conservation Measure Criteria with Weighting							
Conservation Measure	Water Savings	Targets High Use	Savings Reliability	Technology Availability	Political/Social Acceptability	Internal Capacity	Total Score
Weight (%)	30	25	5	5	30	5	100
Multiplier (divide by 5)	6	5	1	1	6	1	
Water Conservation Measures	12	25	5	5	30	5	82
SWAT Irrigation Controller Rebate Program	30	25	5	5	30	2	97
Indoor Water Conservation Kit	12	20	5	5	30	3	75
Leak Detection	18	20	4	5	24	3	74

The above table shows the highest score as being implementing water conservation measures for the Water Utility. The next highest score was implementing the SWAT Irrigation Controller Rebate Program, and offering indoor water conservation kits, followed by exploring a leak detection program.

Table 4 shows a cost breakdown and the total volume of water that could be saved if the programs were implemented. This table assumes that the SWAT Irrigation Controller Rebate

Program is offered to 50 connections annually (out of 1225 service connections total) as described in appendix C.

It is proposed that the RDKB offers 170 indoor water conservation kits annually to households in the BVWS.

The baseline water demand is a percentage of the 466 service connections in the water service multiplied by the average water demand from 2019, 2018, and 2017. The amount of water savings is based off assuming water conservation measures alone will offer 10% reduction in water demand and each SWAT Irrigation Controller will reduce outdoor water demand by 20%, and indoor water conservation kits could provide 11 m³ or 2,900 gallons per household.

Table 4

Annual Water Demand Savings					
Conservation Measure	% Connections Targeted	Baseline Water Demand (m ³)	Amount of Water Savings (m ³)	% Water Demand Reduction	Annual Cost (\$)
Water Conservation Measures	100%	577,149	57,715	10%	\$10,000
SWAT Irrigation Controller Rebate Program	8%	47,114	3,413	7%	\$20,000
Indoor Water Conservation Kit	14%	80,094	1,900	2%	\$4,420
Leak Detection	100%	Unknown	Unknown	Unknown	Unknown

The above cost and water savings are estimated based on the following:

- 'Water Smart Ambassador' approximately \$30,000 per year to cover 3 RDKB water services. Water Savings based on 10% reduction in outdoor water demand.
- 'SWAT Irrigation Controller Rebate Program' water savings based on 20% reduction in outdoor water demand.
- 'Indoor Water Conservation Kit' water savings based on 2,900 gallons per household in water demand reduction.

Based on the above analysis, the first step is to develop water conservation measures, implement the SWAT Irrigation Controller Rebate Program, and provide the Indoor Water Conservation Kits.

It is recommended to explore the cost of a leak detection program. While the actual amount of savings and cost are unknown at the time of writing this report, getting a better idea of how much water is being lost due to leaks in the infrastructure would be beneficial to determine where to concentrate for water conservation efforts.

6.0 Implementation

6.1 Water Smart Ambassador

RDKB Bylaw 1591, 2016, allows the RDKB to implement water conservation measures. The water smart ambassador would start in the summer of 2021. This temporary, summertime position will have similar duties to previous CBT 'water smart ambassador' positions. Primary duties would be:

- Promote overall water conservation
- Promote outdoor water conservation

- Flag lawns found using water outside of existing water conservation table
- Residential landscape and irrigation system assessments
- Landscape and irrigation system audits at parks, schools, government buildings and public spaces
- Commercial Accommodation Audits
- Flag lawns that have been observed as water wasters
- Record Keeping/Reporting
- Promote and help implement the SWAT Irrigation Controller Rebate Program and Indoor Water Conservation Kit

RDKB staff will research other water utilities water conservation measures to ensure that the existing water conservation measures encompass the values of the BVWS and the RDKB.

This report recommends to continue the ongoing conservation strategy developed by the CBT Water Smart Plan, including an enforcement strategy to educate homeowners operating outside of the conversation measures.

Appendix A outlines the proposed new water conservation levels. Appendix B contains a draft outline of the water smart ambassador program. This program would be split among between the 3 RDKB residential water systems (Rivervale Water and Streetlight Service, Beaver Valley Water System, and Christina Lake Water Utility).

6.1.1 Communication Plan

Part of the implementation of the water conservation measures is a communications plan. To communicate the conservation measures to users of the water utility, this report proposes the following methods:

- Newsletter or pamphlet development and mail out.
- Social media posts and advertising.
- Two meetings with the public.
- Have signs and sandwich boards posted at locations in the community to advise water users of the current level of water conservation if the drought level is higher than level 1.

6.2 SWAT Irrigation Controller Rebate Program

Appendix C outlines a draft SWAT Irrigation Controller Rebate Program. By providing rebates to users for these types of controllers, an estimated 20% reduction in outdoor water demand can be observed for each controller¹⁴. This rebate program would rely on the 'Water Smart Ambassador' to promote and implement in the community.

6.3 Indoor Water Conservation Kit

Indoor water conservation kits, including a kitchen faucet aerator, bathroom faucet aerator, and reduced flow showerhead could reduce indoor water demand by 2,900 gallons per household¹⁵.

¹⁴ From E-mail with Jessica Ahlstrom, Chair of SWAT Promotions Working Group, July 27, 2020

¹⁵ <https://www.epa.gov/watersense/watersense-calculator>

6.4 Leak Detection

It is unknown how much water is being lost due to leakage of infrastructure. Water leakage is deemed to be one of the single largest contributor to water demand.¹⁶ To get a better understanding of water being lost due to leakage, the following steps are proposed:

- Record night time flows at source and from reservoir several times through out the year, during times of least water use.
- Install meters at the source, reservoir and potential industrial users.
- Estimate water usage for authorized usage (main flushing and fire usage).
- Review system for unauthorized usage.
- Estimate system leakage.
- Test a sample of the service connections, estimate leakage from residential services.

If leakage is found to be greater than 15% of the total usage from the system, leakage detection and prevention program should be concentrated on for further water conservation.

The RDKB could use a consultant to help implement this program. This program could be implemented if it is required after implementing water conservation measures and determining the amount of water being lost due to leakage in the system. This program can be re-reviewed after 3 years of water use after water conservation measures have been implemented.

6.5 Water Demand Review

Upon implementation of the water conservation measures, offering rebates on SWAT irrigation controllers, offering indoor water conservation kits, and possibly exploring how much water is being lost to leaks, the water utility could see a reduction of around 20% in water demand in the households that have implemented the water conservation steps detailed in this report. If these programs were implemented on all households in the water service, a significant reduction in water demand could be observed.

Water demand should be reviewed on an annual basis to determine the effectiveness. In 2024, or after 3 years of water use under water conservation measures, this water conservation plan should be reviewed to determine the effectiveness and see if the goal of 20% reduction in water demand from the average of 2017, 2018, and 2019 levels was achieved.

7.0 References

- 1 "Beaver Valley Water System Annual Report", Village of Fruitvale, 2019
- 2 "Beaver Valley Water Service Long Term Water Strategy Update", WSP, 2016
3. "Village of Fruitvale Water Smart Action Plan", CBT, Village of Fruitvale, 2011
- 4 "Water Conservation Guide for British Columbia", 2013
- 5 "Water Conservation Calculator, <http://waterconservationcalculator.ca>
- 6 "Water Smart Summary 2016" Columbia Basin Trust, December 2016
- 7 BC Drought Information Portal, <https://governmentofbc.maps.arcgis.com/apps/MapSeries/index.html>
- 8 "City of Rossland Water Smart Action Plan 2015-2020", WSP, 2016
- 9 "City of Trail Water Smart Action Plan 2015-2020", WSP, 2016

¹⁶ Columbia Basin Trust – Water Smart Summary 2016

8.0 Appendix A – Draft Water Conservation Measures

Activity	Beaver Valley Water Service Conservation Stages			
	Stage 1 Normal	Stage 2 Dry	Stage 3 Very Dry	Stage 4 Extremely Dry
Lawn, trees, shrubs, vegetables, flower gardens watered by sprinkler or irrigation system. Allowed 4:00 am to 9:00 am and 7:00 pm to 10:00 pm	Even Numbered Addresses Tuesday, Thursday, Saturday Odd Numbered Addresses Wednesday, Friday, Sunday No Watering Allowed on Monday	Even Numbered Addresses Tuesday, Saturday Odd Numbered Addresses Wednesday, Sunday No Watering Allowed on Monday, Thursday, Friday	Even Numbered Addresses Saturday Odd Numbered Addresses Sunday No Watering Allowed on Monday to Friday	Prohibited
Micro Irrigation or Drip Irrigation System	Allowed	Allowed	Allowed	4:00 am to 9:00 am and 7:00 pm to 10:00 pm
Watering with handheld container or hose with shut off nozzle	Allowed	Allowed	Between 7 pm and 7 am	Prohibited
Washing Personal Vehicles (does not apply to commercial car wash stations)	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited
Cleaning surfaces, sidewalks, driveways	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited	Prohibited
Filling fountains, hot tubs, and pools	Allowed	Allowed	Prohibited	Prohibited
Watering Sod, new grass, plantings	Allowed with authorization from RDKB Environmental Services	Allowed with authorization from RDKB Environmental Services	Prohibited	Prohibited

9.0 Appendix B – Draft Water Smart Ambassador Program

Water Smart Ambassador Program Manual

Draft August 2020

1.0 OVERVIEW

The Water Smart Ambassador Program (Water Smart) presented here is based off the successful Water Smart Program administered by the Columbia Basin Trust (CBT) between 2009 and 2016. The Water Smart Program was a Columbia Basin-wide water conservation initiative that provided support to participating Regional Districts, Municipalities, and First Nations to assess their local water conservation needs, and then to plan for the most locally effective actions to reduce community-wide water consumption.

The goal of Water Smart is to provide capacity and support to the Regional District of Kootenay Boundary's (RDKB's) Water Services (Beaver Valley Water System, Rivervale Water and Streetlight Service, and Christina Lake Water Utility) to achieve community-specific water conservation targets that contribute to an overall 20 per cent reduction from outdoor water demand over the average of 2017, 2018, and 2019 levels.

The CBT program that this is based on included 22 communities signing on to the Water Smart Charter demonstrating their commitment to work with CBT and Basin communities to reduce community water consumption. CBT has worked with 20 communities in the Columbia Basin to complete Water Smart Action Plans. Most of the Water Smart Action plans identified residential, commercial and/or local government irrigation during summer months as one of the highest water uses in the community. While watering restrictions such as odd-even day watering schedules may be effective in lowering daily irrigation peaks, they have proven to be less effective in reducing overall water consumption.

To address high outdoor water use, the RDKB has adapted the CBT Water Smart Ambassador program for implementation by participating local governments in the summer of 2021.

Public education programs that simply provide static information (such as brochures and adverts) are generally not effective means of changing individual behaviours. The Water Smart Ambassadors support individuals to make the link between information and action, providing each participating community with a helpful human resource who can interact with the public.

This document is intended to assist the RDKB to implement the Water Smart Ambassador Program. It includes information on:

- Program Structure
- Duties and responsibilities
- Hiring protocol
- Training, supervision, and reporting
- Communication

2.0 PROGRAM STRUCTURE

Each Water Service will likely take a somewhat different approach to the Water Smart Ambassador program, based on their individual resources and goals. The idea is to share Water Service resources to hire a full-time Water Smart Ambassador that will have presence in the community of each Water Service.

The RDKB responsibilities are as follows:

- Advertising the position, interviewing, and hiring
- Determining pay level, and other Human Resource issues
- Provide Job Description and recommendations on where to place ads (Appendix B)
- Assistance in coordinating "shared" summer students
- Initial and ongoing training
- Providing some communications materials.
- Ongoing support
- Providing necessary resources (work space, computer, telephone, etc)
- Daily supervision and project management

Water Smart Ambassadors who will conduct Landscape and Irrigation System Audits will require specific equipment outlined in Appendix A. This equipment will be provided to Ambassadors by CBT at the Water Smart Ambassador Training in May.

Because each community is slightly different from the next, there is no single structure for the Water Smart Ambassador Program. Instead, there is a "shopping list" of possible objectives with associated duties and responsibilities; the Ambassador will carry out those tasks relevant to the objectives of the individual community.

Various communication materials will be created and may include CMHC's Household Guide to Water Efficiency, Water Smart Ambassador T-Shirts and hats, bike flags, and doorknockers.

The number of tasks, along with the physical size and population of each community, will help determine if the Ambassador position is part-time, full-time, shared with another community, or included in the duties of existing staff.

Rolling out the Program

The individual Water Service's Water Conservation Plan include the recommended Public Education activities for each community. These tasks will determine the specific timeline for the Ambassador Program; however, following is a general timeline:

- April: Advertise Water Smart Ambassador position
- April/Early May: Interviewing and Hiring
- May: Orientation and Training
- May: Advertise Water Smart Ambassador Services to the Public

- June/Ongoing: Utilize doorknockers to generate appointments
- June/Ongoing: Water Audits
- July: Advertise Testimonials
- End of August: Final Report

A “hotline” telephone number should be assigned to the Water Smart Ambassador by each community at the beginning of the program, and this number should be used for all water conservation related inquiries, including:

- Questions about Watering Restrictions
- Reporting of customers who are breaking watering restrictions
- Requests for general water conservation information
- Requests for landscape and irrigation system audits
- Requests for accommodation sector audits

The Water Smart Ambassador ‘hotline’ number should be published in all water conservation related communications, including websites, water bills (if available), newsletters, advertisements, etc.

3.0 WATER SMART AMBASSADOR DUTIES AND RESPONSIBILITIES

The Water Smart Ambassadors will have two tasks:

- 1) Generating and responding to residential inquiries;
- 2) Carrying out pre-determined and ongoing water audits at major facilities.

The residential inquiries will be irregular and sporadic at first, so it is important that the Ambassador has pre-determined and on-going tasks to avoid downtime.

Following is a suite of potential activities that the Ambassador could carry out. The RDKB will provide comprehensive training as well as a detailed Water Smart Ambassador Manual to assist the Ambassador to carry out the tasks listed here.

Residential landscape and irrigation system assessments: This is the cornerstone of the program. An assessment can take anywhere from thirty minutes to several hours, depending on the size of the property and how much the customer wants to learn. The Water Smart Ambassador will be responsible for generating customer appointments through the distribution of doorknockers.

Landscape and irrigation system audits at parks, schools, government buildings and public spaces: An assessment at a large park or a school could take up to a full day, or possibly two days depending on the size. The Ambassador will be responsible for organizing these audits, and providing a report to the staff member responsible for maintenance.

Commercial Accommodations Audits: Indoor/outdoor water audits at hotels/motels. The Ambassador will be responsible for contacting the owner/managers, setting up times, conducting the audits, and providing a report. (It is not recommended that the

Ambassador carry out ICI or agriculture audits because of the specialized knowledge required).

In home water audits/residential water fixture survey: This would be a basic walk-through of a home, noting the existing fixtures and water using processes, and recommending where more efficient fixtures can be used. The water audits may also be helpful for those communities that are undertaking a residential water fixture survey. Also, any communities with low-flow showerheads to give away could utilize the Ambassador to actually install the showerheads.

Water Wasters: It is expected that the Water Smart Ambassador will receive telephone calls about customers who are breaking watering restrictions, or wasting water through some other behaviour. It will be the Ambassadors' responsibility to take action on these calls. We do not recommend the Ambassador to be a bylaw enforcer; they should not be responsible for handing out fines. Instead, the Ambassador will be presented as a helpful resource that is there to provide assistance and recommendations to reduce outdoor water use.

Record keeping/Reporting: The Ambassador will be required to keep records of all customer visits and water audits and compile them into a report at the end of the summer. RDKB will provide the template for all record keeping and reports. The data will be analyzed to determine the effectiveness of the Ambassador program and to improve the program for future years if it has merit.

The intention is for the Water Smart Ambassador to be highly visible in the community. Wherever possible, it would be preferred that the student carry out their duties on a bicycle with a uniform that clearly identifies them as the Water Smart Ambassador.

The students will carry with them copies of the Canada Mortgage and Housing Corporation's Household Guide to Water Efficiency. These will be distributed to customers during a water audit, or during a customer visit in response to a complaint about water waste.

4.0 HIRING AND TRAINING

It is essential that the right person with the right personality be hired or assigned to the job. Despite the technical nature of many of the tasks outlined above, no prior experience in irrigation system maintenance is required.

Who to hire?

If communities have the resources to hire a full or part time Water Smart Ambassador, the best candidates will be those individuals who already have a passion for environmental issues. The specific job tasks such as how to program an irrigation timer, how to calculate distribution uniformity, how to audit water fixtures, etc. can be taught - enthusiasm for the job cannot!

First and foremost, the RDKB will be looking for someone who has excellent interpersonal communication skills. The Water Smart Ambassador will spend the bulk of their days interacting with people. The successful candidate will also have to be highly motivated and organized because a great deal of their work will be done without direct supervision, and it may be necessary to compile a great deal of data in an organized and consistent manner.

In addition to a passion for the environment, high self-motivation, and organizational skills, the ideal candidate would also have:

- Knowledge of local flora as well as an aptitude for gardening;
- Some experience with public education and/or dealing with the public at a one-on-one level; and
- Basic computer skills (word, excel, power point, etc).

A first-year college or university student is often a good choice, A student who can return year after year will retain, and expand upon, their knowledge. Please see Appendix B for a job description template.

Advertising the Position

Each community is responsible for determining in which publications the advertisement will run, and paying for the ad placements.

Training

The RDKB will sponsor a three-day training sessions in the first or second week of May. These training sessions will be accompanied by the detailed Water Smart Ambassador Manual that outlines the entire job from how to make customer appointments, to how to carry out a complex water audit and how to effectively market the program to reach a wide variety of customers.

The Water Smart Ambassador Manual will also include templates for conducting water audits and a comprehensive section on how to complete landscape assessments.

The training sessions will include field work in addition to classroom exercises so the Ambassadors can get some hands on experience before heading back to their community.

5.0 THE FUTURE

It is important to keep in mind that this is a 3 year initiative, and that water conservation will likely be an ongoing area of action for each Water Service. As such, a strategic and phased approach to water conservation education will ensure that each barrier and opportunity is addressed in order of highest priority and most significant potential results.

Information gathered from the Water Smart Ambassador Program and through annual

reporting and monitoring for the action plans will likely help determine more specific programs and activities for following years. While some Water Services will remain primarily focused on outdoor conservation over the full 3 year period, others may transition quickly to addressing indoor water conservation issues as well. Movement along this spectrum should be determined primarily by the results of the program and ongoing water demand data analysis.

6.0 APPENDIX A

EQUIPMENT REQUIRED TO CARRY OUT IRRIGATION SYSTEM AUDITS

Landscape and Irrigation system audits at private residences do not require any special equipment except for a soil probe/sampler (see photo to right).

Irrigation system audits at parks, schools, government buildings, and other large irrigated spaces will require the following equipment.

- 1 (one) stop watch
- 1 (one) 100'/30, tape measure
- 1 (one) Tunnel Soil Probe/Sampler
- 1 (one) 100 ml measuring cup
- 1 (one) garden spade
- 20 (twenty) 3 X 10 flat-bottom, clear plastic catch basins



RDKB will provide the equipment package to Water Smart Ambassadors at the Orientation and Training Session.

Because irrigation audits in public spaces must be carried out during working hours, it will be necessary to run the sprinklers during the day. This could result in some people complaining about water waste. To help alleviate those concerns, RDKB will provide a "sandwich board" style sign to inform residents what is happening.

Transportation

It would be ideal for the Water Smart Ambassador to carry out their duties in their own vehicle with mileage paid by the RDKB. The Water Smart Ambassador could also use a bicycle upon arriving at each Water Service whenever possible. A small bike trailer will be necessary in order for the Ambassador to safely carry doorknockers, the CMHC Guides, and other equipment.

The equipment necessary for audits at parks, schools, government buildings, and other large irrigated spaces is too large and cumbersome to mobilize with a bicycle. A car or truck will be necessary.

7.0 APPENDIX B**WATER AMBASSADOR JOB DESCRIPTION**

This is a four-month position starting at the beginning of May, 2021. The Water Smart Ambassador is responsible for providing water conservation education to residents and businesses.

Duties:

- Conduct landscape and irrigation system audits at private residences
- Patrol neighborhoods on bicycle to identify water waste and distribute water conservation information
- Promote water conservation at public events throughout the summer
- Respond to customer requests to information about water conservation
- Provide reports on customer visits and irrigation system audits.

Skills and Experience:

- Excellent interpersonal communication skills
- Basic computer skills (word, excel, power point, etc)
- Self motivated and highly organized
- Some experience with public education and/or working with the public at a one-on-one level
- Knowledge of local flora as well as an aptitude for gardening is an asset
- Some prior experience with automatic irrigation systems is ideal, but is not necessary

Additional Requirements:

- Valid BC Driver's License
- Access to a vehicle
- Use of a well-maintained bicycle and appropriate safety gear

Qualifications:

Must be working towards or have completed post secondary education. The successful candidate must have a passion for the environment and the desire to make a difference. Training will be provided.

**10.0Appendix C – Draft SWAT Irrigation Controller
Rebate Program**



Irrigation Controller Rebate Program - DRAFT

Overview

Outdoor water use contributes to over half of the overall water used in RDKB owned water utilities such as Rivervale Water Utility, Christina Lake Water Utility, and Beaver Valley Water Service. The RDKB has estimated that in 2019, 54% of water use in the Christina Lake Water Utility, 49% of water use in the Rivervale Water and Streetlight Utility was used outdoors, and 33% of water use in the Beaver Valley Water Service was used outdoors.

It should be noted that the Beaver Valley Water Service has been a part of the CBT Water Smart plan from 2009 to 2014. This included introducing water conservation measures, hiring a water smart ambassador, and developing an implementation plan for universal water metering. These measures have been successful to date, but to further enhance water conservation in Beaver Valley Water Service, offering irrigation controllers would further reduce water demand.

Most outdoor water is used to irrigate lawns and gardens. These irrigation systems can be controlled by an irrigation controller. Most irrigation controllers can be programmed to use water on pre programmed days and times. This helps residents comply with water use regulations developed for each water utility.

Modern irrigation controllers with Smart Water Application Technology (SWAT, <https://www.irrigation.org/SWAT>) are irrigation controllers that can be connected to sensors that are able to sense amount of rainfall or moisture content in soil and adjust the amount of water delivered by the irrigation controller according to these sensors.

SWAT irrigation controllers can drastically reduce the amount of water used. This will save money on operations and maintenance of water utilities and increase the life expectancy of water utility assets.

SWAT irrigation controllers can be purchased for as low as \$300 to \$400 (from a quick Amazon.ca search).

The RDKB can encourage the purchase and installation of SWAT irrigation controllers with weather or soil moisture sensors by partially subsidizing the cost of these controllers through a rebate program. A rebate program would entice water users to choose a SWAT irrigation controller with rain or soil moisture sensors when purchasing a new irrigation controller.

For this program to achieve its goal of drastically reducing outdoor water use, a multi year commitment of rebates on SWAT irrigation controllers is necessary. This program could be offered for 3 so that most residents of RDKB owned water utilities will have access to these funds over the duration that the program is offered.

The rebate program would require a budgeted amount for each water utility owned by the RDKB. This report is proposing that 50 rebates per year be available for residents of Christina Lake Water Utility, 100 rebates per year for residents in the Beaver Valley Water Service, and 25 rebates per year be available to residents of Rivervale Water Utility. If the rebate amount is set to \$200 per rebate, \$10,000 per year will have to be budgeted for Christina Lake Water Utility and Beaver Valley Water Utility, and \$5,000 per year will have to be budgeted for the Rivervale Water Utility for the rebate program.

The rebate program would be in effect for a given year until the budgeted funds for rebates is used up for a given water utility. The program would re-open in January of the following year. If there are funds



Irrigation Controller Rebate Program - DRAFT

budgeted in a water utility that are not used, the funds would carry over to the following year. The program can be reviewed in February of each year to determine if the RDKB wishes to keep the program.

This document outlines how a program might exist at the RDKB, including a proposed per year budget.

Edit – FortisBC has potentially come on board to offer a showerhead and faucet aerators to households that receive this rebate up to the end of 2022 (so the first 2 years of the 3 year commitment for this program). This would further reduce water demand in each water service. The EPA has estimated that this reduces water demand by 2,900 gallons of water per household that have installed these products.

Conditions for Rebate

1. Applicants must be registered owners of commercial or residential properties connected to a Water Utility owned by the RDKB excluding the Columbia Gardens Water Utility.
2. Properties serviced by private wells or other utilities not owned by RDKB (e.g. Sutherland Water District) do not qualify. The program is funded only by those connected to water systems owned by the RDKB excluding Columbia Gardens Water Utility.
3. Must have purchased and installed a SWAT (Smart Water Application Technologies) approved smart irrigation controller (see list on RDKB website).
4. There is a maximum of one rebate per installation address.
5. Indoor water conservation devices must be proven to be installed by provided pictures of the device installed. (to avoid RDKB staff from entering premises).
6. Must have a sales receipt dated January 1, 2021 or later.
7. Must have an inspection receipt. An onsite inspection by the RDKB is required after installation. Applicants will be issued an inspection receipt if the unit has been installed correctly and meets eligibility requirements.
8. Must have had a plumbing permit to install the irrigation system.
9. All receipts need to be submitted with the application form.
10. Rebate cheques will be issued to registered owners of property only.

Procedure

1. Applicant decides to replace irrigation controller
2. Applicant logs on to rdkb website and obtains irrigation controller model list and application form, or applicant goes to retail outlet in the RDKB and is supplied with a list of irrigation controllers that qualify for rebate
3. Applicant installs controller
4. Applicant contacts RDKB's Water Smart Ambassador to set up inspection appointment
5. Water Smart Ambassador sets up appointment in conjunction with Operator
6. Water Smart Ambassador performs inspection and issues inspection receipt
7. Applicant downloads application form and fills out necessary information and attaches receipt for irrigation controller and inspection receipt
8. Applicant submits application in person, via e-mail, or by mail.
9. Application is forwarded to Engineering Safety Coordinator who reviews application



Irrigation Controller Rebate Program - DRAFT

10. Engineering Safety Coordinator records application information in spreadsheet.
11. Engineering Safety Coordinator issues request for cheque to finance department.
12. Applicant receives cheque from RDKB.

Budget

Christina Lake Water Utility per year

# of Connections	# Rebates	% Connections Targeted Annually	\$/Rebate	\$ Total
466	50	11%	\$200	\$10,000

Rivervale Water and Streetlight Utility per year

# of Connections	# Rebates	% Connections Targeted Annually	\$/Rebate	\$ Total
120	25	21%	\$200	\$5,000

Beaver Valley Water Service per year

# of Connections	# Rebates	% Connections Targeted Annually	\$/Rebate	\$ Total
1225	100	8%	\$200	\$20,000

A communication budget is needed to advertise the program to the residents of these water utilities. It is expected to cost about \$500 per year for advertising material to be developed and put out to the public.

Timeline

Spring/April

- Present Program to RDKB Utilities Committee for comment and ideas.
- Finalize program budget, details, and procedure.
- Contact retailers in the RDKB to produce product list and ensure retailers know about the program and can offer support.

Spring/April/May

- Hold training session with RDKB Operators
- Hold information session with RDKB front end staff
- Update website with forms and information about the program

May/June/July/August

- Issue ads on social media, print ads, and a news release about the program.
- Start receiving inquiries from public.



Irrigation Controller Rebate Program - DRAFT

- Start receiving applications.
- Issue inspections.

June/July through end of year

- Receive and review applications.
- Perform inspections.
- Issue rebate cheques to approved applications.

Following February

- Review program performance and determine whether to continue for next year.

Staff Requirements

Water Smart Ambassador:

- Promote SWAT Irrigation Controller Rebate Program in the community
- Set up inspection appointments
- Perform inspections
- Fill out inspection forms and submit to Engineering Safety Coordinator

Engineering Safety Coordinator:

- Create irrigation controller model list
- Create application form
- Set up advertising of rebate program through social media, website, print ads, coordinate with Communications Coordinator for news release
- Review application forms
- Respond to information inquiries
- Provide rebate details to front end staff, finance staff, operators, retailers

RDKB Operators:

- Advertise program to residents through conversations

RDKB Front End Staff:

- Take in applications
 - Ensure application is fully filled out
 - Forward application to Engineering and Safety coordinator
- Answer phone questions or direct questions to Engineering and Safety Coordinator

Technical Requirements

- Create e-mail 'irrigationrebate@rdkb.com'
- Create Irrigation controller rebate list
- Create application form
- Update website with program details



Irrigation Controller Rebate Program - DRAFT

Training Sessions Required

- Inquire with Retailers and irrigation installers regarding how they could support the program.
- Develop Product list with help from Retailers.
- Hold training session with Operators for inspection procedure and program details
- Hold training session with front end staff, finance staff regarding program details and procedures
- Hold training session with Retailers regarding finalized program details and procedures

+ -
Map Site Map Road Conditions Contact

BEAVER VALLEY WATER SERVICE

The Beaver Valley Water Service is owned by the Regional District of Kootenay Boundary and operated and maintained by the Village of Fruitvale.

The RDKB Utility Committee representatives from the BV Water Service are Director Patricia Cecchini to represent the Village of Fruitvale (Chair of the Utilities Committee) and RDKB Director Ali Grieve represent Electoral Area A.

To contact the Utilities Committee, please call the Regional District of Kootenay Boundary Office, 250-368-9148.
For operational issues, please contact the Waterworks Foreman at 250-231-4722 or the Village of Fruitvale Office at 250-367-7551.

COMMITTEE AGENDAS AND MINUTES - please see RDKB website

The BV Water Service is a participant in Columbia Basin Trust's Water Smart Program. For more information about this program and to see the results of the BV Water Service conservation efforts over the past several years, please [click here](http://www.cbt.org/watersmart/cm-fruitvale.asp) (<http://www.cbt.org/watersmart/cm-fruitvale.asp>).

WATER CONSERVATION REGULATIONS

LEVEL 1

- ODD NUMBERED HOUSES WATER ON ODD NUMBERED DAYS
- EVEN NUMBERED HOUSES WATER ON EVEN NUMBERED DAYS
- ONLY ONE SPRINKLER PER HOUSEHOLD
- SPRINKLE BETWEEN 7:00 am - 10:00 am & 7:00 pm - 10:00 pm
- UNDERGROUND SPRINKLER SYSTEMS TO WATER BETWEEN 1:00 am & 6:00 am for 20 minute intervals per zone
- ENSURE THAT THE WATER STAYS ON THE LAWNS AND NOT RUNNING ONTO THE ROADS OR SIDEWALKS AND PLEASE REFRAIN FROM SPRINKLING WHEN IT IS RAINING.

LEVEL 2

- ODD NUMBERED HOUSES WATER ON ODD NUMBERED DAYS
- EVEN NUMBERED HOUSES WATER ON EVEN NUMBERED DAYS
- ONE SPRINKLER PER HOUSEHOLD
- THERE IS TO BE ABSOLUTELY NO SPRINKLING EXCEPT DURING THE HOURS OF 8:00 am - 9:00 am & 8:00 pm - 9:00 pm
- UNDERGROUND SPRINKLERS ARE TO BE SET TO WATER BETWEEN 2:00 am - 4:00 am for 20 minute intervals per zone
- KEEP YOUR SPRINKLER ON THE LAWN AND GARDEN, ABSOLUTELY NO HOSING OFF THE ROADS AND SIDEWALKS AND PLEASE REFRAIN FROM WATERING WHEN IT IS RAINING.

LEVEL 3

- SPRINKLING ALLOWED FOR HOMES WITH ODD NUMBERED CIVIC ADDRESSES ONLY ON MONDAYS AND THURSDAYS
- SPRINKLING ALLOWED FOR HOMES WITH EVEN NUMBERED CIVIC ADDRESSES ONLY ON TUESDAYS AND FRIDAYS
- SPRINKLING TIMES ARE RESTRICTED TO THE FOLLOWING HOURS:

- FROM: 8:00 am TO 9:00 am
- FROM: 8:00 pm TO 9:00 pm
- FROM: 2:00 am TO 4:00 am - for automatic sprinklers for 20 minute intervals per zone
- SCHOOLS, MUNICIPALITIES AND REGIONAL DISTRICTS WILL CEASE ALL SPRINKLING
- HOSING OF SIDEWALKS AND DRIVEWAYS NOT ALLOWED.
- Washing of cars is permitted provided a spring-loaded shutoff device is attached to the hose and it is done during watering times.

LEVEL 4

- SPRINKLING ALLOWED FOR HOMES WITH ODD NUMBERED CIVIC ADDRESSES: ONLY ON MONDAYS
- SPRINKLING ALLOWED FOR HOMES WITH EVEN NUMBERED CIVIC ADDRESSES: ONLY ON TUESDAYS
- SPRINKLING TIMES ARE RESTRICTED TO THE FOLLOWING HOURS:
 - FROM: 8:00 am TO 9:00 am
 - FROM: 8:00 pm TO 9:00 pm
 - FROM: 2:00 am TO 4:00 am - for automatic sprinklers for 20 minute intervals per zone
- SCHOOLS, MUNICIPALITIES AND REGIONAL DISTRICTS WILL CEASE ALL SPRINKLING
- HOSING OF SIDEWALKS AND DRIVEWAYS IS NOT ALLOWED.
- WASHING OF CARS IS PERMITTED AT THE CAR WASH ONLY.

LEVEL 5**ABSOLUTELY NO WATERING****BEAVER VALLEY WATER SUPPLY**

Tank Capacities

The Beaver Valley Water Service area receives direct water supply from Kelly Creek, and when required there are two back up wells.

Water is treated with a series of sand filtration and an ultra violet system with minimal chlorine added to the water.

The western section of Fruitvale is serviced by the Beaver Falls Waterworks District.

Total Water Capacity:

Kelly Creek Reservoir -2,727,600 litres

Fruitvale Tank - 1,091,040

Mill Road Reservoir - 454,600 litres

Water Treatment Plant 611,000 litres

Total 4,884,240 litres of water storage

KELLY CREEK WATERSHED HYDROLOGY REPORT

The BV Water Committee is pleased to provide the public with the recently completed [Kelly Creek Watershed Hydrology Report](#)

([/sites/fruitvale.civicwebcms.com/files/media/KellyCreekWatershedHydrologicAssessment.PDF](http://sites/fruitvale.civicwebcms.com/files/media/KellyCreekWatershedHydrologicAssessment.PDF)). Please [click here](#)

(<http://rdkb.com/HotTopics/KellyCreekWatershedAssessment.aspx>) for the link to the RDKB website posting.



Regional District of
Kootenay Boundary

BEAVER VALLEY WATER SERVICE WATER RESTRICTIONS

ACTIVITY	STAGE 1 Normal	STAGE 2 Dry	STAGE 3 Very Dry	STAGE 4 Extremely Dry
Lawn, trees, shrubs, vegetables, flower gardens watered by sprinkler or irrigation system Allowed 4:00 am to 9:00 am and 7:00 pm to 10:00 pm	Even Numbered Addresses Tuesday, Thursday, Saturday Odd Numbered Addresses Wednesday, Friday, Sunday No Watering Allowed on Mondays	Even Numbered Addresses Tuesday, Saturday Odd Numbered Addresses Wednesday, Sunday No Watering Allowed on Monday, Thursday, Friday	Even Numbered Addresses Saturday Odd Numbered Addresses Sunday No Watering Allowed Monday to Friday	Prohibited
Micro Irrigation or Drip Irrigation System	Allowed	Allowed	Allowed	Allowed 4:00 am to 9:00 am and 7:00 pm to 10:00 pm
Watering with handheld container or hose with shut off nozzle	Allowed	Allowed	Between 7:00 pm and 7:00 am	Prohibited
Washing personal vehicles (does not apply to commercial car wash stations)	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited
Cleaning surfaces, sidewalks, driveways	Allowed with shutoff nozzle	Allowed with shutoff nozzle	Prohibited	Prohibited
Filling fountains, hot tubs, and pools	Allowed	Allowed	Prohibited	Prohibited
Watering sod, new grass, plantings	Allowed with authorization from RDKB Environmental Services	Allowed with authorization from RDKB Environmental Services	Prohibited	Prohibited

Questions? Please contact RDKB at 250.368.9148 or 1.800.355.7352

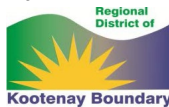
rdkb.com

BEAVER VALLEY WATER SERVICE

2019 Annual Report

April 2020

System Owner:



Regional District of Kootenay Boundary
202 – 843 Rossland Avenue, Trail, BC V1R 4S8
Telephone: (250) 368-9148
www.rdkb.com

System Operator:



Village of Fruitvale
PO Box 370, 1947 Beaver Avenue,
Fruitvale, BC V0G 1L0
Telephone: (250) 367-7551
www.village.fruitvale.bc.ca

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1.0 Introduction

This report has been produced to meet the requirement for water suppliers to produce an annual report on water quality as per Section 15 of the *Drinking Water Protection Act* and Section 11(b) of the Drinking Water Protection Regulation.

The annual report covers the period from January 1, 2019 to December 31, 2019 and uses data that is regularly obtained by the Village of Fruitvale to highlight water quality issues and to discuss the monitoring results of the Beaver Valley Water Service system.

The system is owned by the Regional District of Kootenay Boundary (RDKB) and operated by the Village of Fruitvale on a cost recovery basis. Administration and governance is the purview of the Regional District Board and staff, and operational service is under the direction of Village of Fruitvale staff.

This report aims to convey information to residents regarding the overall operation of the regional water system and describe the approach to the operation and maintenance of the water system.

For more detailed information on drinking water health effects, please visit the following web sites:

Interior Health Authority

<http://www.interiorhealth.ca/Health+and+Safety/Drinking+Water>

Health Canada:

http://www.hc-sc.gc.ca/ehp/ehd/bch/water_quality.htm

US Environmental Protection Agency:

<http://www.epa.gov/safewater/mcl.html>

World Health Organization:

http://www.who.int/water_sanitation_health/GDWQ/Summary_tables/Sumtab.htm

2.0 Water System Overview

The Beaver Valley Water Service is provided by the Regional District of Kootenay Boundary and consists of most of the properties within the Village of Fruitvale and a portion of Electoral Area A of the Regional District. The water users are approximately 2850 residents utilizing 1225 connections. The area is predominantly a bedroom community with the main employers being Teck Resources Trail Operations (located in the City of Trail) and Atco Wood Products Ltd. located immediately north east of Fruitvale within Electoral Area A. Other main employers include the health and educational sectors and to a lesser extent, retail. The water system area is located within the Beaver Valley (see Appendix A Map).

The Beaver Valley Water Service (BVWS) system is currently classified as a Level 2 water distribution and Level 3 water treatment system. The domestic water supply is primarily from Kelly Creek, augmented by two back-up wells (Maple Ave #1 and Columbia Gardens Road #2) as required. The Kelly Creek watershed is the most reliable and economical water supply for the BVWS. Water drawn from Kelly Creek is settled out in a 750,000-litre reservoir, then pumped through the Level 3 Kelly Creek Water Treatment Plant where treatment by coagulation, filtration, ultra-violet and backup chlorination is provided. The two wells are used for emergency backup situations, but also when turbidity levels lead to less-than optimal water quality during spring freshet. However, the wells are also utilized extensively during summer months to supply segments of the system when Kelly Creek's flow is low.

The distribution system is segmented so that specific neighborhoods may be switched to the well supply as demand on the Kelly Creek source increases beyond optimal. Both wells are fully chlorinated. Sites of wells and reservoirs are indicated on the Appendix A map.

2.1 Service Area

The current water system supplies domestic water to both residents and businesses located within Village boundaries and outside Village boundaries (Appendix A). In addition, it acts as the only source of piped water supply for fire protection to the RDKB Regional Fire Service Company 6 located in the Village of Fruitvale downtown center.

2.2 Source

As stated above, the BVWS area currently has surface water from Kelly Creek located south east of Fruitvale and ground water from two production wells located at Maple Avenue (well #1) and Columbia Gardens Road (well #2) in Fruitvale. Both wells are screened within the deep unconfined alluvial aquifer, which is comprised of sand and gravel. In 2013/4 chlorination systems were installed in both wells and were commissioned for operation in spring of 2014. A full system test was conducted in February 2015 to ensure the well chlorination system was working appropriately prior to potential use period. The wells are tested regularly while in use and prior to any switch over.

- Well #1 was constructed in 1986 and provided for an estimated safe yield of 350 USgpm.
- Well #2 was constructed in 1986 and provides for an estimated safe yield of 350 USgpm.

In 2009 both wells were purged and the pumps replaced by Precision Service & Pumps Inc. The two wells can now be pumped simultaneously (at 824 US gpm 3120 l/min) without interfering with each other. The well specifics are included in the following table:

Specifics	Well #1		Well #2	
	<i>Original</i>	<i>Current</i>	<i>Original</i>	<i>Current</i>
1. Year Drilled	1986	2013	1986	2013
2. Total Depth (ft)	88	88	123	123
3. Diameter (inches)	4	4	4	4
4. Length of Screen (ft)	13	13	13	13
5. Depth to top of Screen (ft)	60	60	108	108
6. Safe Yield (US gpm)	350	412	350	412

2.3 Storage

The BV Water Service has four reservoirs that store water pumped from the water sources.

Reservoir #1 (Mill Road) was constructed in 1979 and reconstructed in 2014 with a new building and above ground raised piping to improve access and safety. The reservoir is an elevated concrete-finished tank consisting of one cell and has a storage capacity of 454,600 liters. It is also used as balancing tank to reduce pressure to the downtown core.

Reservoir #2 (Fruitvale Tank) was constructed in 1959. It is an elevated steel-finished tank consisting of one cell and has a storage capacity of 1,091,040 liters.

Reservoir #3 (Clearwell) was constructed in 2002 (at the same time as the Kelly Creek Water Treatment Plant) and is a concrete-finished tank with storage capacity of 611,000 liters.

The external Kelly Creek Reservoir for untreated water has a capacity of 2,727,600 liters.

2.4 Distribution System

The distribution system is segregated into 2 different pressure zones. The high pressure zone, which encompasses the northeast portion of the BVWS, is comprised of Debruyn Road and part of upper Green Road. The rest of the BVWS area is supplied through the Mill Road balancing tank which lowers the pressure by 60 psi, and is the lower pressure zone which encompasses the rest of the BVWS area. The two wells are used when the supply for Kelly Creek is inadequate or if the Kelly Creek Treatment Plant is taken off-line for any reason.

In total, the BVWS has approximately twenty-six (26) kilometers of water main within the Village and Electoral Area A boundaries, comprised of ductile iron, PVC, and a small amount of steel piping. The system is approximately 60% ductile iron; 35% polyvinyl chloride (PVC) and 5% steel. Sizes range from 100 mm to 300 mm in diameter. As well, the BVWS has numerous standpipes and ninety-eight (98) fire hydrants for fire protection.

2.5 Supervisory Control and Data Acquisition Software (SCADA)

An upgrade to the SCADA system took place in 2013 and additional work in 2014 at the Mill Road Reservoir and 2015 at the Water Treatment Plant. Connected via radio signal, the SCADA software is able to monitor operations at sources, Water Treatment Plant, balancing tank, wells, pumping and storage points within the distribution system. Interpreting the data received, the software is able to automatically turn on and off pumps and keep the system running smoothly.

During 2016, automatic alarm dialers were installed at all source and pumping sites. When any sign of trouble is detected, the software issues alarms through an automatic dialing system which in turn notifies staff by cell phone text and call.

The 2016 improvements included two new poly and chlorine pumps and a new chlorine analyzer connected at the Water Treatment Plant as well as a chlorine analyzer and turbidity monitor at the Village Office test point.

The 2018 improvements include SCADA components such as the human-machine interface. Part of this improvement included remote access to monitor and operate the system.

The 2019 improvements include a chlorine analyzer at the Fruitvale tank connected to SCADA.

3.0 Water System Maintenance

Currently, the Village of Fruitvale has five experienced utility maintenance workers that oversee the operation and maintenance of the Beaver Valley Water Service's water system. There are numerous maintenance policies and procedural checklists in place relating to the day-to-day operation and maintenance of the domestic water system. These include items such as daily routine inspections of all water distribution system components and general maintenance procedures related to specific problems identified during those inspections. In addition, the Village also performs procedures to ensure the integrity of the domestic water supply system. The following provides a general overview of those programs.

3.1 Wells Maintenance

Except for major items related to wells maintenance (e.g. new screen or casing installations), the Village conducts well maintenance activities in-house. Village staff performs routine preventative maintenance service programs related to wells maintenance, including pump maintenance, chlorination controls, general pump house inspections and record keeping. Communication systems and alarm systems are maintained by external qualified servicers.

3.2 Reservoir Maintenance

All reservoirs are subject to inspection and cleaning on a rotating five-year schedule. The Kelly Creek reservoir (clear well), Mill Road reservoir and the Fruitvale tank reservoir were inspected in 2019 utilizing submersible cameras and the results were generally good. Recommendations regarding sediment removal, seal improvements and maintenance were noted.

3.3 Distribution System Maintenance

The distribution system consists of water mains, valves, service connections and fire hydrants. Proper maintenance of the distribution system allows staff to monitor both the quality and quantity of water as well as to take a proactive approach to mitigate potential causes for concern.

3.3.1 Valve Inspection

As time permits and on a problem notification basis, staff inspects valves located within the distribution system to expose any buried valves, make repairs, and to exercise valves to determine proper functioning (opening and closing) in order to ensure that specific water mains can be isolated for repair, or system switchover to wells, and that no flow restrictions are present.

3.3.2 Water Main Flushing and Hydrant Maintenance

As the Village flushes all 97 hydrants to maintain them, the annual flushing of water mains occurs informally. Staff's continuous inspection and maintenance of hydrants within the system exposes the main to annual flushing. If hydrant or mains work will impact water quality, individual notification is provided to all users that will potentially be affected.

Hydrants are inspected annually in compliance with the RDKB Fire Service requirements to determine their ability to function properly and provide adequate fire protection. Waterworks staff performs inspections such as checking hydrant pressure, exposing any worn parts, and updating service records for the Regional District of Kootenay Boundary Fire Service and replacement of parts or full hydrant as required. All hydrants were inspected and repaired as required by November.

3.3.3 Water Main Disinfection

Currently, there are no water main disinfection practices in place except when dealing with contaminants if they enter the distribution system.

3.3.4 Water Main Breaks

Local governments must deal with both unexpected water main breaks and the disruption those breaks cause to the domestic water supply system. However, most problems associated with breaks are remedied in a short amount of time and thus regular service is quickly restored. If repair work will impact water quality, individual notification is provided to all users that will potentially be affected and scheduled for the minimum disruption possible.

3.4 Dam Inspection and Maintenance

The Kelly Dam is inspected visually by internal staff monthly. Annual inspection by Austin Engineering was carried out in October 2018 and some slippage was noted on the left slope which has been addressed in 2019. Access to the left slope area was completed in 2017 in order to allow the machinery into the slope area.

4.0 Monitoring and Testing Program

The Drinking Water Protection Regulation sets minimum guidelines that water purveyors must meet in respect to water monitoring analysis. Therefore, the Beaver Valley Water Service is required to maintain the following components within its testing program:

1. Monitor the drinking water source, the water in its system and the water it provides through:
 - 1.1 Bacteriological testing not less than 2 times per month;
 - 1.2 Test for both Total Coliform bacteria and E. Coli;
 - 1.3 Have the analyses carried out by accredited laboratories that meet the requirements of the Drinking Water Protection Act and Public Health Officer;
 - 1.4 In house testing for chlorine residual levels daily and provide to Interior Health Authority (IHA) monthly
 - 1.5 In house testing for turbidity levels daily and provide to IHA monthly
2. Provide on-line monitoring of the water disinfection process (SCADA) and provide summary data to IHA monthly.

On approval from the Large Water Team Leader at Interior Health Authority, a program of a minimum of four samples per month from designated locations during the winter months and four samples per week during warmer months is tested. Additional samples from the two wells are included when in use. Testing sites are noted on the attached map of the BV Water System in Appendix A. Staff also completes a Comprehensive Drinking Water Analysis twice annually. These are scheduled in February and September and provide information relating to inorganic parameters and total recoverable metals.

All regular water analysis tests on domestic water in the BVWS area is performed by CARO Analytical Services, located in Kelowna, BC. CARO Analytical Services employs methods which are based on the foundations in *“Standard Methods for the Examination of Water and Wastewater”, 22nd Edition, 2013, published by the American Public Health Association; US EPA protocols found in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846”, 3rd Edition; and protocols published by the British Columbia Ministry of Environment.*

4.1 Parameters

A Maximum Allowable Concentration (MAC) standard has been established by Health Canada for microbiological criteria. Each MAC has been designed to safeguard human health and is based on projecting lifelong consumption of drinking water that contains the substances at the maximum concentration level.

These MACs are identified in Schedule A of the Drinking Water Protection Regulation as outlined in the following table:

Water Quality Standards for Potable Water

Parameter:	Standard:
Fecal coliform bacteria	No detectable fecal coliform bacteria per 100 ml
Escherichia coli (April 1, 2006)	No detectable Escherichia coli per 100 ml
Total coliform bacteria	
(a) 1 sample in a 30 day period	No detectable total coliform bacteria per 100 ml
(b) more than 1 sample in a 30 day period	At least 90% of samples have no detectable total coliform bacteria per 100 ml and no sample has more than 10 total coliform bacteria per 100 ml

4.2 Results

The monthly water sampling results are summarized in Appendix B. Overall results indicate that the system falls well within the required Maximum Allowable Concentrations allowed by Health Canada and the Drinking Water Protection Regulations with respect to both total coliform and Escherichia coli concentrations. A total of 189 samples were tested during the year with no positive results.

Ten sampling sites are identified, 8 that may be utilized all year and the 2 well sample sites which are utilized when the wells are in use to augment the water supply (usually summer season when Kelly Creek flows are low). In addition, the raw water in, and the treated water out, at the Kelly Creek Water Treatment Plant are tested. During the warmer months, more test sites are utilized; additional testing is done if concerns are noted.

4.2.1 Kelly Creek (Webster Road – 2 sites)

The raw water at the Kelly Creek Plant Intake is tested each time as the originating sample point. In addition, the after-treatment water at the clear well is tested at the same time as the raw water, each time.

4.2.2 Village of Fruitvale Office (1947 Beaver Street)

The Village Office is a central system location for water sampling. In 2019, results from the Village Office indicated no abnormal counts in respect to total coliform or E. coli.

4.2.3 First Street

The First Street sample site is a west line end and in 2019, no abnormal counts in respect to total coliform or E. coli resulted.

4.2.4 Caughlin Road

The Caughlin Road sample site is a north line end and in 2019 no abnormal counts were experienced.

4.2.5 Pine Avenue

The Pine Street sample site is a south line end and in 2019 no abnormal counts were experienced.

4.2.6 Old Salmo Road

The Old Salmo Road sample site is a site close to an east line end and in 2019 no abnormal counts were experienced.

4.2.7 Fruitvale Reservoir (Mountain Street)

The Fruitvale Reservoir (tank) experienced no abnormal coliform counts during 2019.

4.2.8 Mazzochi Park

The Mazzochi Park sample site is a south-west line end and in 2019 no abnormal counts were experienced.

4.2.9 Well Pump Houses (Maple Avenue and Columbia Gardens Road)

The well pump houses are sampled when the wells are added to the system to augment supply. This is done prior to the wells coming online and regularly during the summer well usage season. No abnormal counts were indicated in respect to total coliform or E. coli in 2019 and the chlorination systems experienced no issues.

4.3 Customer Service

In 2019, there were no complaints recorded regarding water quality from BV Water System users; all other concerns were with regard to water leaks/breaks (all leaks were on private property).

Complaints regarding water quality or operational issues are logged with an Action Request and provided to the Waterworks Foreman (or designate) for investigation.

5.0 Annual Consumption Records

In 2019 total water consumption decreased a minor amount, 4.40%, over 2018. Consumption was 9.02% less than the previous year 2017. Water consumption is highly affected by precipitation and seasonal conditions. Appendix C provides a comparison of monthly water consumption statistics for the past 7 years.

5.1 Water Conservation Initiatives

The BVWS implemented a water conservation strategy in 2011 as part of the Columbia Basin Trust Water Smart Initiative (Appendix D). The plan is related mainly to promoting water conservation through restricting domestic irrigation activities and public awareness of water activities that contribute to water waste. The CBT Water Smart Initiative has been successful in reducing BVWS gross consumption by 18.2% from 2009.

A public information and education newsletter is sent out to all BVWS users annually to keep them apprised of changes, improvements and water conservation strategies. Bylaw enforcement strategies focusing on compliance rather than penalties are also used. A "Water Flag" program to educate homeowners that were operating outside of irrigation limits was used and continued non-compliance

resulted in Bylaw Enforcement Officer visits. Night-time automatic irrigation systems continue to be the most non-compliant.

BVWS, in response to BC Drought Response Plan and informational notices from the Province, initiated higher and earlier irrigation limits in 2016. As a result of the increased regulations, water consumption patterns show significant reductions in drier summer months with low precipitation levels.

6.0 Water Issues in 2019

The following is a summary of the water issues for the Beaver Valley Water Service in 2019.

6.1 Development of a Source Water Protection Plan

The first barrier in place to protect the quality of the drinking water supply is the protection of the watershed and or water source to ensure the best quality source water. Source water monitoring provides ongoing confirmation that the barrier is effective, identifies seasonal changes and provides the monitoring information necessary to determine the level of water treatment required. The operating permit for the BVWS includes preparation of source water protection plans for each water source utilized by the service and to date this has been carried out by the RDKB staff through contracted consultants.

6.2 Continuous Quality Improvement of Source/Distribution System

Reports indicate that bacteriological water quality was good within the transmission main and in the distribution system. The system experienced no positive report of coliform or E.coli in the BVWS system during the entire year. As reported in Section 4, the Village has a strict sampling program in place to ensure that the distribution system provides clean, potable water to the BVWS users.

6.3 Water Consumption

The 2019 BVWS annual consumption pattern reflects a continuing downward trend as compared to the previous 12 years, with a lowest recorded consumption volume of 550,664 cubic meters in 2019. The 2019 summer months' consumption, specifically for June, July and August, also shows a general decrease.

Rainfall patterns in the drier months from May - September appear to have a significant influence on water consumption volumes. While soil moisture content should be the basis for watering, long-standing irrigation practices remain a strong influence.

As mentioned previously, usage is assumed to be in direct relation to resident irrigation activities in response to summer precipitation and temperatures. Drought conditions continue to be a significant climate change concern throughout BC, even on the normally moister coast.

In June 2019, Level 3 restrictions for watering/irrigation were applied due to drier weather patterns. Although the reservoir capacity remained at levels acceptable for normal irrigation activities and consumption usage, there is always a concern regarding a potential risk when dealing with the amount of fire flow water available to the Regional Fire Department.

While the RDKB Utilities Committee reviews irrigation limits, the BVWS staff recommended watering restrictions based on annual circumstance in the 2019 summer season as a conservation strategy.

Through a combination of efforts, gross consumption totals over the last 12 years, from 2006 to 2019, show an overall annual decrease of 23.1%.

6.4 Cross Connection Control Program

The BVWS initiated a cross connection control program in 2012. In 2013 additional staff was trained in cross connection control testing and inspection and are recertified as required by EOCP. Since 2012, most of the downtown businesses, and in particular, any with a potential for backflow issues, have prevention devices installed. Ongoing inspections are a regular part of the work program. The relevant Regional District of Kootenay Boundary Cross Connection Control Bylaw 1494, 2012 is included as Appendix E. No issues were reported in 2019.

6.5 Dam Inspection

The Province of BC devolved the responsibility for dam inspections to each authority with control over a dam. In 2013 a formal dam inspection of the Kelly Creek Dam was carried out by EBA Engineering Consultants Ltd. EBA also completed a Kelly Creek Dam Emergency Preparedness Plan.

The Village contracted Austin Engineering in April 2018 to carry out a dam inspection that revealed some minor sloughing of the bank adjacent to the reservoir; repairs were completed in 2019. Village of Fruitvale staff perform monthly inspections.

7.0 2019 Capital Works Program

The BVWS has maintained a philosophy of approaching infrastructure related problems in a proactive manner. This is evident by the numerous studies undertaken in regard to the water distribution, piping network and an assortment of issues related to water consumption (1997, 2001, 2003, 2009). In 2015 the Utilities Committee recommended completion of a Long-Term Water Strategy in order to update and provide new ideas. This work was carried out by a consulting firm directed by RDKB staff.

For 2019, the Capital Works program consisted of:

- Cole Street water line replacement
- Replacement of the chlorine analyzer at the Fruitvale Tank

8.0 Emergency Response and Contingency Plan

The Beaver Valley Water Service currently has a full Emergency Response Plan (ERP) in place that the Village is responsible for implementing. The ERP includes advisories for water quality, water conservation and boil water notification, as well as emergency call outs.

The Plan is updated whenever changes are received from stakeholders, other agencies or recommendations. The Emergency Response Plan was updated in June of 2019 is included as Appendix F.

9.0 Environmental Operators Certification Program (EOCP)

The Beaver Valley Water Service Kelly Creek Water Treatment Plan was reclassified from a Class 2 to Class 3 plant as of 2006. The Beaver Valley Water Service is classified as a Class II system for water distribution.

There are currently four certified water treatment operators on staff at the Village of Fruitvale at various levels. The chief operator is certified at Water Treatment Level 3 and two operators are certified at Water Treatment Level 2. There are three Water Distribution Level 2 operators.

Certificates for the Water Treatment Plant, the Water Distribution System and all operators are included in Appendix G.

10. Conclusion

Since the implementation of the *Drinking Water Protection Act* and *Drinking Water Protection Regulations*, standards in respect to operator training, water sampling, system monitoring, emergency response plans, source protection, long-range planning and public reporting have increased dramatically.

The BVWS reports regularly (monthly) to the Interior Health Authority and has a good relationship with IHA staff and appreciates the advice and support offered.

The Beaver Valley Water Service looks forward to continued implementation of this legislation to ensure water quality and safety and welcomes the opportunity to inform residents of the BVWS's practices relating to the supply and distribution of domestic potable water.

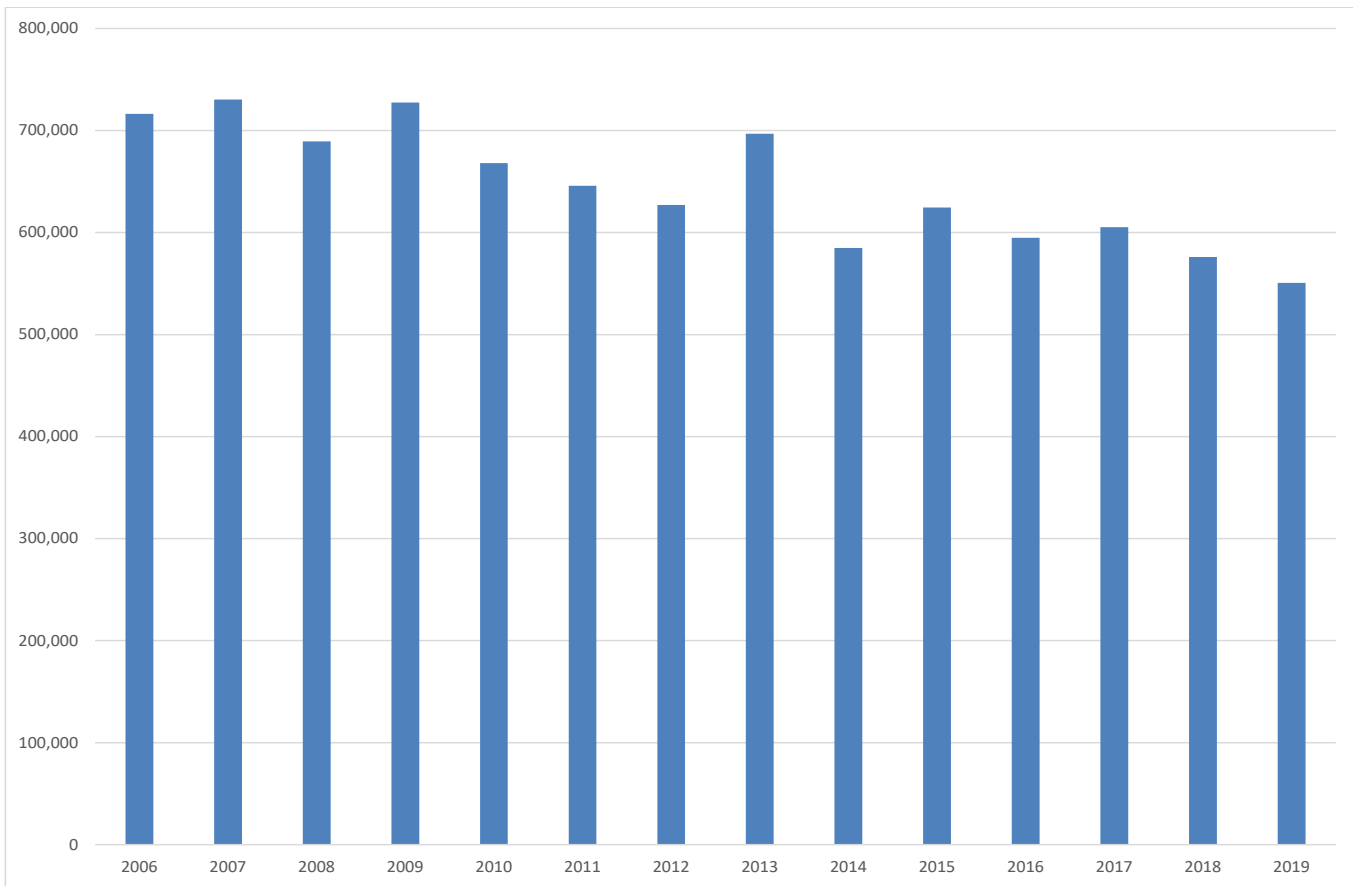
Further, as a result of presenting this Annual 2019 Water Report, the Village of Fruitvale, as manager of the BVWS (on behalf of the RDKB) highlights the systemic complexities and regulatory requirements that ensure an adequate and safe water source for current and future Fruitvale and Area A residents.

**Appendix B: 2019 Drinking Water Bacteriology Summary
(Monthly Water Sampling)**

		location	coliform total	background	E coli
January	15	Kelly creek raw water	5	>200	<1
	29	Kelly creek raw water	2	>200	2
February	12	Kelly creek raw water	6	>200	<1
	29	Kelly creek raw water	6	>200	<1
March	12	Kelly creek raw water	2	>200	<1
	19	Kelly creek raw water	>1	>200	<1
April	2	Kelly creek raw water	13	>200	1
	15	Kelly creek raw water	15	>200	<1
May	7	Kelly creek raw water	>42	>200	<1
	28	Kelly creek raw water	>34	>200	1
June	10	Kelly creek raw water	>200	>200	1
	25	Kelly creek raw water	>700	>200	3
July	9	Kelly creek raw water	460	>200	1
	23	Kelly creek raw water	110	>200	2
August	6	Kelly creek raw water	>280	>200	5
	20	Kelly creek raw water	140	>200	1
September	9	Kelly creek raw water	350	>200	12
	24	Kelly creek raw water	160	>200	3
October	8	Kelly creek raw water	>1	>200	1
	22	Kelly creek raw water	8	>200	<1
November	5	Kelly creek raw water	30.8	>200	<1
	19	Kelly creek raw water	69.7	>200	<1
December	4	Kelly creek raw water	1	>200	<1
	17	Kelly creek raw water	38.9	>200	1

No positive results in distribution system for the year 2019

Appendix C: Water Consumption Records 2006 – 2019
Volumes in Cubic Meters

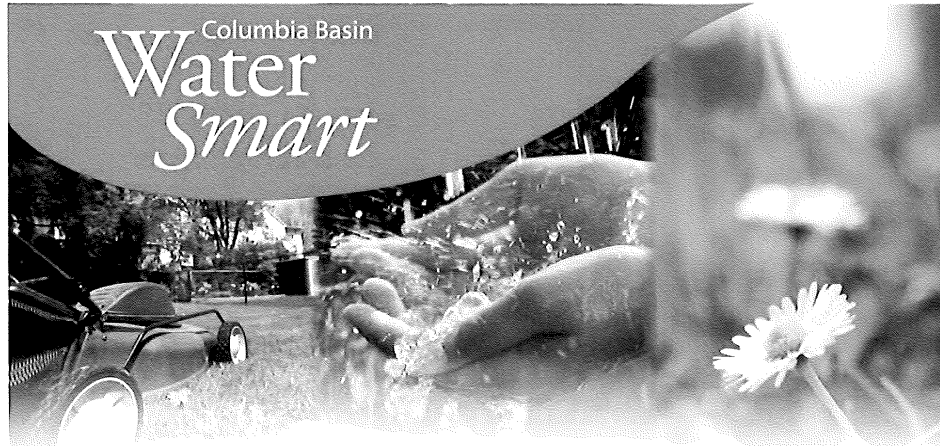


Appendix D: Consumption Table by Treatment Source 2017 – 2019

Months 2017 – 2019	2017 WTP	2017 Pump #1	2017 Pump #2	2017 Month Total	2018 WTP	2018 Pump #1	2018 Pump #2	2018 Month Total	2019 WTP	2019 Pump #1	2019 Pump #2	2019 Month Total
January	31,794	0	0	31,794	29,521	0	0	29,521	29,889	0	0	29,889
February	28,096	0	0	28,096	27,097	0	0	27,097	30,059	0	0	30,059
March	33,471	0	0	33,471	29,284	0	0	29,284	33,095	0	0	33,095
April	35,889	0	0	35,889	31,833	0	0	31,833	33,677	0	0	33,677
May	51,109	0	0	51,109	49,337	6,391	5,361	61,089	53,169	4,129	3,839	61,137
June	60,951	6,200	5,086	72,237	52,656	8,162	7,758	68,576	55,613	12,292	8,623	76,528
July	77,482	21,292	11,454	110,228	71,337	13,912	11,428	96,677	50,997	11,022	8,550	70,569
August	59,388	18,231	12,280	89,899	65,456	12,167	11,442	89,065	59,173	14,183	8,874	82,230
September	36,058	13,707	10,406	60,171	38,442	7,857	6,469	52,768	34,981	6,809	6,640	48,430
October	27,880	3,029	2,636	33,545	27,611	2,246	1,958	31,815	22,648	3,365	3,040	29,053
November	28,567	0	0	28,567	28,017	0	0	28,017	26,009	0	0	26,009
December	30,269	0	0	30,269	24,713	5605	0	30,318	29,988	0	0	29,988
YEAR TOTALS				605,275				576,060				550,664

APPENDIX E

Beaver Valley Water Service Water Smart Plan



**Fruitvale & District Water Commission
(Beaver Valley Water Service)**

Water Smart Action Plan

February 2011



www.cbt.org/watersmart

Beaver Valley Water Service - Water Smart Action Plan

Acknowledgements

Columbia Basin Trust (CBT) wishes to acknowledge the following authors to the original complete version of this Water Smart Action Plan, dated November 9, 2010.

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It is noted that this Water Smart Action Plan is intended to be a living document, continually revised and updated by the local government as their unique local context, data sets, targets, and implementation strategies are refined during the course of this five year initiative. Such changes are made by the local government and are not necessarily endorsed by the authors of the original document nor by CBT.

CBT would also like to acknowledge the local government Staff and Elected Officials who participated in the development of this Action Plan. Your participation in and commitment to the Water Smart Initiative has been integral not only to development of your community's Action Plan, but also to the Initiative as a whole.

Beaver Valley Water Service - Water Smart Action Plan

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Beaver Valley Water Service - Water Smart Action Plan

Executive Summary

As a signatory to the Columbia Basin Water Smart Charter, the Village of Fruitvale has set a target to reduce gross community water consumption by 20 per cent by 2015. This target will contribute to Columbia Basin Trust's cumulative reduction target for all participating Water Smart communities of 20 per cent by 2015.

Fruitvale's 2009 baseline gross consumption was 727 ML. Therefore, a 20 per cent reduction from this baseline will be equal to a savings of 145.4 ML, or 145,400,000 litres per year.

In order to achieve this reduction target, the Village of Fruitvale will focus their water conservation efforts on the objectives outlined below. It is important to note that these objectives have been developed based on the best available data provided by the community. As the data changes or is refined through enhanced monitoring and analysis or the implementation of improved data gathering technologies, the Action Plan objectives may also need to be changed or refined accordingly.

Objective 1: *Explore and evaluate introduction of a user-pay system for the water utility including a universal metering program.*

Specific recommendations begin with investigation and evaluation of the benefits and costs of a universal metering program and, if justified, development of an implementation plan. Subsequently, recommendations may be made for implementation of a metering program that will support the achievement of the Fruitvale and District Vision for Water Conservation and the Village's Water Smart conservation targets.

Objective 2: *Implement proven strategies to reduce residential water demand.*

Specific actions include face to face strategies to support residents to reduce peak outdoor water consumption. Additional recommendations focus on reduction of municipal outdoor water consumption

Objective 3: *Implement a leakage detection program to identify unaccounted for losses and leakage.*

Specific recommendations include best-practice strategies for the continuation and extension of ongoing efforts by the Village to reduce leakage and unaccounted for water losses.

Objective 4: *Improve stream flow monitoring of Kelly Creek to better understand water yields and to provide the motivation for long term conservation.*

Specific recommendations are made for the development of a Watershed Management Plan for Kelly Creek, including an assessment of long term demands; climate change impacts; and hydrometric data.

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PROLOGUE A: A Primer on Public Education for Water Conservation

Many communities in the Columbia Basin have implemented water conservation public education programs with varying degrees of success. While public education will raise awareness about the need for water conservation, increased awareness does not necessarily lead to action. This section outlines some basic public education/social marketing concepts fundamental to the development of a more results-oriented communications program.

Motivating Water Conservation

There are two kinds of water use: necessary and discretionary. Showers, cooking, cleaning, laundry and toilet flushing are examples of necessary water use. Car washing and lawn watering are examples of discretionary water use. Necessary water use tends to occur indoors, while discretionary water use tends to occur outdoors.

It is important to make this distinction when planning a public education program as the motivations and related messaging necessary to reduce indoor water use are different than the motivations and related messaging necessary to reduce outdoor water use.

Reducing necessary water use is best accomplished through plumbing retrofits: installing low flow showerheads, low flow toilets, or water efficiency washing machines. No behaviour change is required; people continue to use water as they always did. It is the new plumbing fixture that reduces the water use.

Traditional media (advertisements, newsletters, brochures) can be effective in reducing necessary water use provided there is a strong "call to action," such as a coupon or an offer to install a low flow showerhead at no charge.

Reducing discretionary water use requires behaviour change, which is more difficult to accomplish. Behaviours are often tied to belief systems that can be deeply ingrained. Excessive discretionary water use may also be tied to lack of knowledge. For example, many people do not know how to correctly set automatic irrigation system timers.

Traditional media is not as effective in reducing discretionary water use. Brochures containing detailed, technical information are helpful, but one-on-one consultation and expert instruction is the most effective means to help people reduce outdoor water use.

Understanding Target Groups

Although "everybody" uses water, the messaging required to reduce water use can vary from person to person. Generally, women tend to respond better to environmentally themed or community based messages such as "water conservation is the right thing to do," while men tend to respond better to technical advice from trusted experts or peers.

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If the goal is to reduce peak demand due to residential lawn watering (a discretionary water use) it is important to know who is in control of the landscaping and the sprinkler system. Research in Kelowna indicates that, generally, women chose the type of plants for the landscaping while men operate and maintain the sprinkler system.

While each has some influence over the other, this demonstrates that public education designed to encourage Xeriscape gardening will require different messaging and a different target audience than education designed to increase sprinkler system efficiency.

This can create a challenge when developing public education materials, because there is a tendency to produce one brochure, or one series of advertisements to appeal to both target groups. Public education materials that attempt to do too much often end up accomplishing very little because of their lack of appeal to the various target groups.

Advertising vs. Social Marketing

Public education programs that rely solely on traditional advertising such as newspapers, brochures and newsletters are often ineffective. These kinds of programs require little expertise and are the easiest to develop and implement. But when they do not work as well as expected there is the risk that some might draw the conclusion that public education does not work at all.

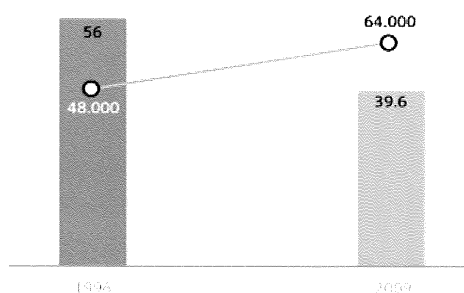
Social marketing is a time-proven method of changing behaviour that goes beyond traditional advertising. It utilizes three different "motivators" to change an old, undesirable behaviour to a new, desired behaviour:

Financial Motivation: Make the old behaviour more expensive or the new behaviour less expensive. With water conservation, the obvious way to do this is through metering. Excessive water users pay more, while those who conserve are rewarded with lower costs. Another example is providing low flow showerheads at no cost to the homeowner.

Convenience Motivation: Make the old behaviour less convenient to engage in or the new behaviour easier to engage in. Studies from California show that when low flow showerheads are simply given away, almost 95 per cent of them are never installed; however when students are hired to go door-to-door and install them for the

Average Monthly Residential Water Use (per SFD) City of Kelowna

Consumption (m³) ○ Population



The effect water metering has had on average monthly residential water use in Kelowna, BC.

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homeowner, almost 100 per cent of them are installed.

Social Motivation: Make the old behaviour socially unacceptable or make the new behaviour more socially acceptable. Getting a fine for not complying with watering restrictions is more of an embarrassment than it is a financial hardship. On the positive side, giving rewards and recognition to people who maintain Xeriscape gardens increases their social status, albeit in a small way.

The upsurge in environmental awareness and the “go green” movement over the last decade has made it less socially acceptable to be a water waster. Even though some people may not believe in climate change and may privately scoff at environmentalists, they may still start to engage in environmentally sustainable behaviours because they don't want to be perceived as uncaring.

Successful social marketing programs use a combination of all three motivators, but a well-planned program using just two or even only one of the motivators can also be effective. The key is to select the right message and the right motivators for your community and remain consistent.

Water Metering and Public Education

As more communities in the Columbia Basin consider water metering (which is the number one way to reduce water use), more opportunities for public education arise. While water metering is almost universal in the United States and parts of Canada, British Columbia lags behind. It should come as no surprise that the cities in BC with the most successful water conservation programs are also metered.

There is an often unfounded perception that water meters are politically unpopular and that homeowners reject the idea of meters en masse. However, every year dozens of communities across Canada install water meters and switch to volume based pricing with little or no push-back from residents.

When contracting a company to supply and install meters, it is beneficial to choose one with experience in public education. A series of open houses prior to the installations allows homeowners to express their concerns and ask questions. The ideal time to provide information on water conservation is once the installations are underway and the installer is in the home. After the installations are finished a period of mock billing will give homeowners a chance to see how much water they use while continuing to pay the flat rate.

Mock billing can be the most effective way to reduce water consumption in a single sweep because it embraces all three social marketing motivators:

Financial: it allows homeowners to see how much water they actually use, and what it might cost;

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Convenience: it gives homeowners time to adjust their water use prior to volume based pricing; and

Social: if the mock bill shows the homeowner's water consumption compared to the average of the community they may be pleased to see that they use less water than the average, or shocked to see that they use more.

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PROLOGUE B: Watering Restrictions

Watering restrictions, usually in the form of an odd/even sprinkling bylaw, are the most common method to control water use in the absence of water meters and a volume-based water rate. Even metered communities commonly implement some form of watering restrictions during summer months. It is, however, a misconception that odd/even sprinkling regulations are designed to reduce water use, or that they are an integral part of a water conservation program. Anecdotal evidence suggests that in some communities odd/even restrictions reduce water use while in others it actually increases water use. There is little independent, quantitative evidence about the subject.

Odd/Even, and other similar types of watering restrictions are usually implemented in communities where limited storage capacity is stressed by peak day demands. With odd/even, the daily peaks are lowered by spreading out water use more evenly throughout the week. Customers may water for longer periods on “their” day than they would otherwise (resulting in higher total water use) but the overall impact is lower daily demands on the system.

A drought management plan takes watering restrictions to the next level through a series of stages. Odd/Even might be considered “normal” or “Stage 1” where the main goal is to reduce peak day consumption. When drought is anticipated further stages are designed to reduce total water consumption.

There are four challenges associated with having watering restrictions as the primary tool for a water conservation program: peak hour; enforcement; public perception; and soil moisture retention.

Peak Hour:

Watering bylaws usually restrict water use to non-daylight hours. People without automatic irrigation systems tend to water in the evening around dusk. People with automatic irrigation systems tend to set them to run in early morning hours, just as the sun is coming up, at the same time when many people are waking up and getting ready for the day. This combination of increased indoor and outdoor water use time creates peak hour challenges.

Enforcement:

Enforcing a bylaw requires staff time and resources. Reporting bylaw infractions can pit neighbour against neighbour. Giving warnings or fines can create hostile feelings. Residents may also try to get around the bylaw by watering less visible areas on the “wrong” day. While most customers will voluntarily comply with watering restrictions, the small percentage of people who won’t can create public relations problems.

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Public Perception:

Odd/even restrictions reinforce behaviour that may not be water efficient. Residents feel forced or entitled to water every other day whether or not their landscape requires it. Also, when residents comply with watering restrictions they may believe they are doing their part to conserve water when in fact they aren't conserving water at all.

Soil moisture retention:

Soil moisture retention may be the most difficult challenge to overcome. Odd/even restrictions give no consideration to how much water a landscape actually needs, or how much water the soil can hold at any given time. In large pockets of the BC Interior the soil tends to be sand or glacial till. In other areas, heavy clay is present.

Conventional wisdom suggests that the best way to water is long and deep, allowing the soil to dry out between watering. This is only the case when the soil is of good quality with lots of organic material present. In areas where the soil is heavy with sand, gravel, or clay, it is more efficient to water for short periods on a daily basis, which is in direct conflict with odd/even restrictions.

Any decision on watering restrictions, widening or closing watering windows, and decreasing or increasing allowable watering times should take the four factors outlined above into consideration. Odd/even restrictions may work in theory, but on the ground, where the water consumption actually takes place, other alternatives may work better.

In conjunction with a comprehensive public communications plan for water conservation, watering restrictions may be considered as one part of an effective and comprehensive tool kit. If watering restrictions are used as a standalone tool, they may be ineffective at best, or lead to increased overall water consumption at worst.

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1.0 Columbia Basin Water Smart Background and Basin Wide Objectives

Despite the apparent wealth of fresh water in the Columbia Basin, increasing human activities, population growth and climate change are placing pressure on this precious resource. CBT supports a wide variety of education and awareness initiatives to help Basin residents understand the interconnectedness of the supply, uses and demands of this invaluable natural resource.

Domestic water consumption is increasingly being identified as a critical issue for Basin communities and in order to deal with this issue, water conservation measures are needed. In response to this need, **Columbia Basin Water Smart** is a regional water conservation initiative that provides support to participating Regional Districts and Municipalities to assess their local water conservation needs, and then to plan for the most locally effective actions to reduce community wide water consumption.

The goal of Water Smart is to provide capacity and support to communities in the Canadian Columbia Basin to achieve community-specific water conservation targets that contribute to an overall 20 per cent reduction from total gross 2009 community water consumption in participating Columbia Basin Water Smart Communities by 2015.

As of October 2010, participating communities include:

Castlegar	Golden	Radium Hot Springs
Cranbrook	Kaslo	Roseland
Creston	Kimberley	Salmo
Elkford	Montrose	Slocan
Fernie	Nakusp	Sparwood
Fruitvale	Nelson	Trail
		Valemount
Regional District of East Kootenay – Edgewater		
Regional District of Central Kootenay - Erickson		

Each of these communities will determine their own local water conservation target that will contribute to the overall Basin-wide target.

Included in the definition of community water consumption for the purposes of this initiative is residential, municipal, institutional and commercial water consumption. Wherever possible, industrial and agricultural water consumption is excluded from the target. In some instances, however, it is not feasible to separate consumption by user group and local strategies for addressing these data gathering issues are being developed on a community specific basis.

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Demonstrating commitment to the Water Smart initiative at the political level, Mayors and Board Chairs from all participating communities have signed on to the Water Smart Charter (See Appendix "A"), and will work collaboratively with CBT and Basin communities to address water consumption at the local level.

In order to facilitate the achievement of both community specific and basin-wide targets, CBT will provide participating communities with the following resources:

Water Smart Match Funding up to \$10,000 in a one-third – two-third matching grant for implementation of actions identified in each community's Water Smart Action Plan;

Water Smart Planning Team to help communities assess their water conservation priorities and develop effective Water Smart Action Plans to achieve their stated water conservation targets;

Water Smart Toolkit, development of a web-based water conservation tool kit for local governments, which will include basin-specific resources and tool for water conservation; and

Water Smart Network, which will support communities to effectively collaborate with and learn from each other and from leading water conservation experts.

For more detailed information on Columbia Basin Water Smart, please go to www.cbt.org/watersmart.

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2.0 Community Vision and Water Conservation Objectives

The Fruitvale and District Water System (FDWS) is owned by the Regional District of Kootenay Boundary and operated and maintained by the Village of Fruitvale. For this report, the term Fruitvale represents the community of water users who receive water service from the FDWS.

2.1 Community Vision

In June 2010, Fruitvale developed a community vision for water conservation, which states:

“Ensuring a future of clean water through conservation and water system improvements”

This vision was created following a thorough discussion around the anti-vision, which lead to local goals that would prevent the following water issues:

- Inadequate water (supply or quality)
- Broke (financial hardship caused by system costs)
- Broken infrastructure
- Wasted water (non productive use)

2.2 Water Conservation Objectives

Fruitvale recently created the following water conservation objectives:

- To develop a water leak detection plan.
- To research and evaluate the implementation of a planned incremental rate structure including, as appropriate, meter fees, parcel taxes and development charges.
- To have 100 per cent water users metered if metering is deemed to be the best option.
- To achieve 20 per cent volume reduction in water consumption.
- To continue water source protection activities and expand the water source protection plan.
- To promote a well engaged, educated and accepting community.

In addition to Fruitvale’s goals, the following objectives were also identified as part of the Water Smart working session in early 2010:

Reduce water consumption to save on the cost of new infrastructure.
Create water use targets that meet or exceed provincial objectives.

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Both sets of objectives were used to create the Action Plan for Fruitvale and a Water Smart Initiative target of a 20 per cent reduction in gross water consumption by 2015 has been established.

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3.0 Community Profile

3.1 Service Population and Demographics

There are approximately 2,850 residents and approximately 70 industrial, commercial and institutional (ICI) connections that receive water service from the FDWS.

According to system connection and population records, there are approximately 2.4 people per connection.

3.2 Seasonal Population Variability

Tourism and seasonal population variability do not noticeably impact water consumption levels or the community population.

3.3 Community Growth Estimates

Based historical census data population growth is estimated at 0.5 per cent based on an annual average of 5 development permits per year. It is possible that development processes may result in additional growth not reflected in this growth estimate.

3.4 Water Use Summary by Sector

There are 1166 single family connections, approximately 70 ICI connections and 15 municipal connections (including parks, landscaping service connections on public property, and municipal facilities). The following pie chart (Figure 1) summarizes water connections by sector.

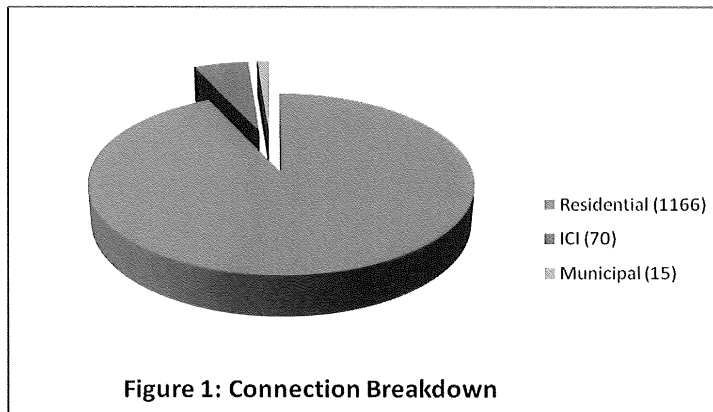


Figure 1: Connection Breakdown

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3.5 Infrastructure Summary

Fruitvale's water source is the Kelly Creek watershed. The major system components are:

- Kelly Creek Watershed
- Kelly Creek Intake Infrastructure
- Water Treatment Facility (including filtration, ultraviolet systems, and chlorination)
- Storage Reservoirs (4,900,000 litres)
- Two Ground Water Wells
- Distribution System (18,000 meters)

Over the last 5 years, approximately 33 per cent of water lines were replaced in part, to reduce leakage.

3.6 Source Resiliency

Stream flows in Kelly Creek were monitored by the Water Survey of Canada at the station "Kelly Creek at 850m Contour, Station ID 08NE113. Data is available from April 1971 through December 1982 (for details refer to website <http://www.wsc.ec.gc.ca/applications/H2O/index-eng.cfm>). The following table (Table 1) summarizes the lowest recorded low flow conditions for each month.

Table 1: Kelly Creek Minimum Monthly Flows

Month	Minimum Daily ML/d
January	2.6
February	3.5
March	5.4
April	29.1
May	78.3
June	29.2
July	9.4
August	5.1
September	4.2
October	4.8
November	4.2
December	5.4
Extreme low	2.1

The current practice is to supplement the Kelly Creek supply with water from the two ground water wells. Fruitvale would like to investigate the risks, limitations and management options for the watershed to better plan for long-term water supply. Also, one

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of the groundwater wells is over 30 years of age and may require replacement over the next 5 to 10 years

3.7 Major Water Users

The majority of water use in Fruitvale relates to residential connections followed by ICI. The water conservation tactics arising from the Water Smart initiative should focus initially on reducing residential demands.

The Atco Wood Products lumber mill has a water service connection although water use records are not available. The mill supplements municipal water supply by utilizing a license in the nearby creek.

3.8 Unique Community Attributes

The Regional District of Kootenay Boundary owns the water infrastructure and the Village operates and maintains it. There is a water management board made up of representatives from the Village, the RDKB and Electoral Area A that manages the system. Water conservation planning is primarily driven by this management board.

Also, the outlying areas surrounding Fruitvale (Beaver Valley) are comprised of rural properties, many of which have private wells. Village staff notes that these properties may demonstrate high outdoor water use patterns as well. Although these properties do not receive water service from the FDWS they will be exposed to proven reduction strategies for water conservation. Therefore, the target audience for Fruitvale is approximately 2,850 people; the overall affected population including residents in outlying areas could be much larger.

3.9 Existing Conservation Approach

The Fruitvale and District Water Commission Board of Management (FDWB) revised water conservation bylaw in January 2009. The level 1 regulation limits outdoor watering to even days for even numbered houses and odd days for odd numbered houses. Residents are permitted to use sprinklers between 0700 and 1000 and 1900 and 2200. For underground systems watering is permitted between 0100 and 0600 at 20 minutes per zone. Fines are not applicable, and an educational approach is the standard practice as opposed to enforcement.

The Village routinely posts water conservation flyers on its web site, in newsletters, in utility bills and other methods on a regular basis.

The Village has also secured services to undertake a municipal acoustic leak detection program in fall 2010.

Finally, the FDWC has engaged, and will continue to engage, school groups with water conservation education.

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4.0 Water Use Profile

Fruitvale has water meters at the Kelly Creek treatment plant and at the two groundwater wells. The data from these meters was combined with estimated water use averages from other communities in the Basin to create the following water demand profile.

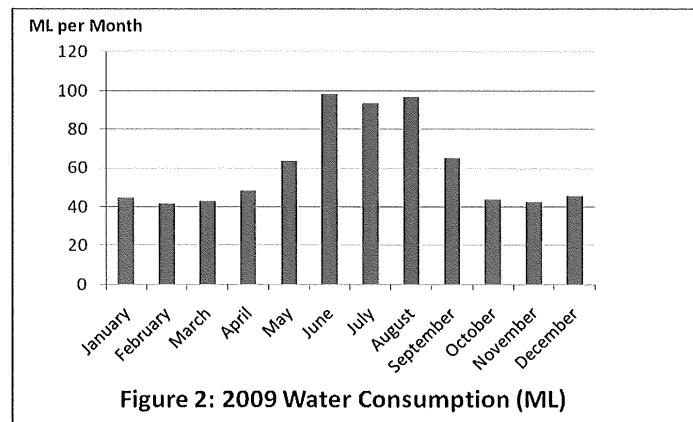
4.1 Metered Data Summary

In addition to the treatment plant and the ground water well meters, there is one water meter at the congregate care facility.

Meters were installed at all schools and at parks prior to the start of summer 2010.

4.2 2009 Water Use Profile

The total annual water use for 2009 is 727 ML. Figure 1 illustrates monthly water use trends.



Water usage between the summer and winter months differs by a factor of 2.2, which is relatively small when compared to other communities in the Basin where peaking ratios average between 3 and 4 and higher. This would suggest that outdoor water use is not as significant in Fruitvale. It should also be noted that the water use trends in 2009 are noticeably different than in 2008 and 2007. In general, the ratio between summer and winter water demands in Fruitvale is similar to most communities when measured over the last 3 years. Therefore, outdoor water use reductions will be a key driver for Fruitvale's water conservation plan.

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It is also worth noting that there are noticeable water use peaks in December and January. This is believed to be caused by residents with shallow services who practice 'line bleeding' to prevent water service freeze-up. In some situations, line bleeding can be a cost-effective technique, however, in almost all situations customer education can reduce the amount used and prevent unnecessary water waste.

4.3 Major User Information and Estimated Leakage

4.3.1 Indoor Residential

There are no water use records for single family connections in Fruitvale. Therefore, the water use records from a small sample of metered homes in Castlegar were used to develop the water use breakdown. The estimated *indoor* water use rate in the Village is 269 lpd.

The 2009 winter average monthly demand is at 511 lpd. This figure includes indoor water use, unaccounted for water, leakage and ICI consumption.

4.3.2 Industrial, Commercial and Institutional (ICI)

There are approximately 85 ICI and municipal connections in the system, of which, 44 are listed as commercial. For this report, it was estimated that 15 of the 85 connections reflect unaccounted for water (municipal parks and facilities) and the remaining connections (70) reflect all industrial, commercial and institutional connections. This estimated ratio of ICI, UFW and residential connections is comparable to the connection ratio in Castlegar. Also, to account for the lack of ICI water demand data in Fruitvale, the average water use for metered ICI connections in Castlegar was used. Based on 1.5 ML/year for each ICI connection, the total water consumption in Fruitvale 2009 is 105 ML (14 per cent).

4.3.3 Unaccounted for Water

There are no unaccounted for water (UFW) records for Fruitvale. Unaccounted for water (UFW) demands represent water that is not typically billed or monitored within the utility. UFW examples include: water use at municipal facilities, infrastructure maintenance (e.g. water main flushing), parks irrigation, leaks on public and private property, and construction uses, among many others. UFW rates usually vary throughout the year due to the variability of water uses. Typically UFW rates in communities without meters are initially quite high and range between 10 per cent to 20 per cent of overall water use (European Environment Agency).

The UFW connections that relate to water use at civic facilities are assumed to not have significant outdoor watering needs. For these connections, demands were estimated at 10 per cent of the winter average daily demand. The per capita estimate for this component of UFW is 51 lpd, or 53 ML for the year.

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The UFW connections that relate to parks and other outdoor water use requirements were estimated at 10 per cent of the summer average daily demand, or 121 lpd (over a 120 day irrigation period). The 2009 estimated UFW volume for parks (and other municipal outdoor water use) is 41 ML. This is a preliminary estimate that was developed to create a weighted average for overall UFW that is consistent with industry trends. The weighted average for UFW is 91 lpd, or 94 ML (13 per cent of total annual volume).

4.3.4 Estimated Leakage

Leakage rates in Fruitvale should be relatively low as a result of the pipe replacement strategy which reduced overall water demands by approximately 20 per cent in the last 7 years. This suggests that current leakage rates may be in the order of 10 per cent to 15 per cent of the total annual consumption volume based on average leakage volumes elsewhere in the region.

To estimate leakage, the estimated totals for ICI, indoor residential and unaccounted for water (excluding parks) were subtracted from winter average daily demand. The resulting figure was 90 lpd or 93 ML per year (13 per cent of the total annual volume).

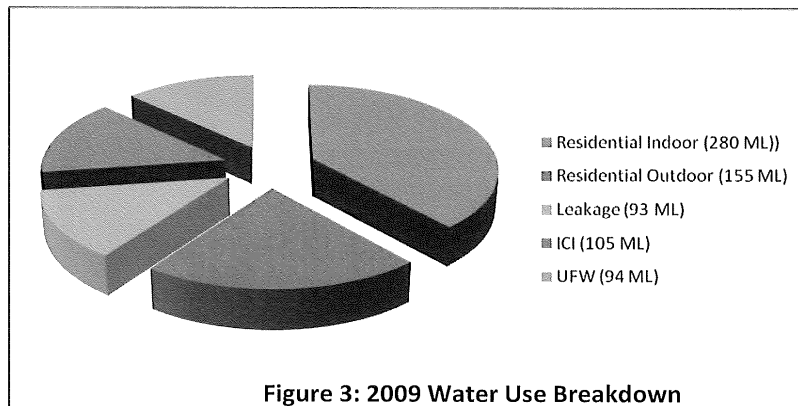
4.3.5 Outdoor Water Use

All other sector estimates were subtracted from the total annual consumption to estimate outdoor water use. The resulting volume was 155 ML per year, or 21 per cent of the annual total. Based on a 120 day irrigation season, the average residential outdoor water use is estimated at 511 lpd. This relatively low figure (compared to other communities in the Basin) correlates to the small winter-to-summer peaking factor (2.2).

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4.3.6 Use Summary by Sector

Figure 3 illustrates the major water users in Fruitvale.



4.4 Demand Forecast (Business as Usual)

Population growth is forecast at 0.5 per cent and is not projected to significantly impact future water consumption in the near term. Climate change projections for the Basin suggest that the length of summer and mean temperatures may increase. This will likely increase outdoor water use. Also, the amount of leakage should increase as infrastructure ages and connectivity conditions worsen.

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4.5 Water Profile Summary Table

The following table summarizes the water use profile for Fruitvale.

Table 2: Community Water Use Summary (ML)

BC Population Stats.	Service Population Estimate	2,850
	Relevant Shadow Population	N/A
	Projected Growth	0.5 per cent
	Other factors	NA
Water Use Summary (2009 Data)	Gross Annual Water	727 ML
	Winter Monthly Average	44 ML
	Summer Monthly Peak	98 ML
	System Peaking Factor	2.2
	System Losses	93 ML
	Agricultural Use	NA
	Residential Indoor	280 ML
	Residential Outdoor	155 ML
	Other Unaccounted for Water	94 ML
LPD Calculation ^[1] (estimate only)	Industrial, Commercial, and Institutional	105 ML
	Fruitvale total average daily flow L/p/d (Total water use/service population)	699
	BC total average daily flow L/p/d	649
	Canada total average daily flow L/p/d	609
	Fruitvale average daily residential flow L/p/d (Residential indoor & outdoor water use/service population) (residential indoor and outdoor only)	418
	BC average daily residential flow L/p/d	426
	Canada average daily residential flow L/p/d	329

[1] BC L/p/d and Canada L/p/d are quoted from Ministry of Environment numbers for 2004 and can be found at: http://www.env.gov.bc.ca/soe/eto7/o3_fresh_water/water_use.html/. A detailed report summarizing the data can be found at <http://www.ec.gc.ca/Publications/default.asp?lang=En&xml=8D951F7A-3866-47AA-98D6-1C49AB04E1BA>. BC and Canadian L/p/d numbers presented by Environment Canada are being refined on an ongoing basis as new and improved water use data is available. While the community total average daily flow numbers can be compared directly to the BC and Canadian averages, care should be exercised when trying to make a direct comparison to BC and Canadian average daily residential flows given that it is unclear how those numbers were calculated or what data was available to support those calculations.

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5.0 Energy Use Profile

The majority of water supplied to the Village comes from Kelly Creek which is a gravity source. Therefore, any water use reductions that occur will reduce energy use at the water treatment plant, the upper pressure zone booster station, and the ground water wells.

In 2009, the Village spent over \$26,000 for electricity to power its water facilities. Approximately 20 per cent of these costs can be attributed to facility heating leaving approximately \$20,800 to water use. With a plan to reduce water use by 20, Fruitvale could achieve energy cost savings in the amount of \$4,000 annually.

The Village has a sewage treatment facility therefore any significant reductions to indoor usage will reduce facility energy use (and other incidental plant costs). It should be noted that an accurate flow meter at the plant is a useful tool to validate indoor water use patterns, and to create cost per volume estimates for the sewage treatment facility. The financial benefits of a water conservation program could be quantified with this information.

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6.0 Summary of Primary Community Drivers

Fruitvale's primary drivers to conserve water are:

- To develop a water leak detection plan.
- To establish and begin implementation of a planned incremental rate structure including fees, parcel taxes and development charges.
- To have 100 per cent water users metered if metering is deemed to be the best option.
- To achieve 20 per cent volume reduction in water consumption.
- To continue water source protection activities and expand the water source protection plan.
- To promote a well engaged, educated and accepting community.
- Reduce water consumption to save on the cost of new infrastructure.
- Create water use targets that meet or exceed provincial objectives.

These drivers are reflective of the FDWS *Water System Vision and Plan* (See Appendix B).

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7.0 Recommended Water Smart Objectives

7.1 Objective 1

Introduce a user-pay system for the water utility including evaluation of a universal metering program.

7.2 Objective 2

Implement proven strategies to reduce residential water demand.

7.3 Objective 3

Implement a leakage detection program to identify unaccounted for losses and leakage.

7.4 Objective 4

Improve stream flow monitoring of Kelly Creek to better understand water yields and to provide the motivation for long term conservation.

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8.0 Recommended Community Specific Actions and Implementation Strategy

To effectively implement the top five community objectives in a manner that achieves the community specific water conservation target of 20 per cent by 2015 a set of actions is outlined in Section 8.1-8.4 including implementation strategies, available resources, and approximate water reduction projections. Timelines have been suggested to identify a path that will support the necessary water reductions to meet the stated community target of 20 per cent by 2015.

8.1 Objective 1 Background and Recommended Actions

Explore and evaluate introduction of a user-pay system for the water utility including a universal metering program.

Background

Charging for water on a volumetric basis per connection may be the single most important initiative that Fruitvale undertakes for water conservation. Water meters and a utility rate based on water use (instead of a flat annual fee) may be critical to this objective. Prior to committing to a metering program, the Village should assess the cost and potential for savings by introducing meters, reducing demands, and deferring capital upgrades. This study will be essential to developing opportunities for funding and developing an overall universal metering program.

Recommended Actions

While developing the Fruitvale Action Plan, it became clear that water meters may be instrumental in achieving the local target of 20 per cent. This section outlines a suggested timeline for the installation of water meters and how that relates to Fruitvale's Action Plan. However, it is possible that the results of Step 1 (below) will indicate that implementing metering (universal or otherwise) is unfeasible in this timeline which will require revisions to the plan and the reduction target by 2015.

1. Investigate and evaluate a universal metering program. April 2011. If deemed feasible and advantageous, complete implementation plan by February 2012.
Also, making the connection between water use reduction and infrastructure deferral, or cost savings, would be helpful in creating the "business case" for installing water meters.
2. Monitor and report out water use trends from the meters installed in 2010 at local parks. Format the water use information for communication with residents. Sharing this information and outlining how the utility plans to reduce irrigation demands will be an effective precursor to the metering strategy. Spring 2012.
3. Collaborate with finance managers at Fruitvale and RDKB to create a budgeting process that allows for meter installation in 2012 and 2013.

Beaver Valley Water Service - Water Smart Action Plan

4. Distribute a request for proposals (RFP) to meter suppliers/contractors for procurement and installation of water meters under a universal metering program. The specific terms of reference for the RFP will stem from the development of a metering strategy. RFP is to be issued by September 2012 with contractor selection completed by January 2013.
5. Work with the successful contractor to develop a meter installation plan which should include a targeted public education and outreach program. Targeted completion for the meters installation is the end of 2013.
 Note: There is often a short lag (a year or two) between meter installations and water use reductions. Therefore, in order to realize the water conservation results targeted in this action plan (20 per cent by 2015), it may be necessary to alter the timelines outlined for this objective.
6. As soon as universal meter installation is complete, begin issuance of mock bills that include comparative volumetric data as well as future rate. The mock billing process is helpful to transition the utility toward creating a sustainable water revenue strategy (fees, pricing, etc.) - 2013/2014.
7. Implement a strategic water utility rate that considers the annual changes to precipitation, building sufficient reserves for dynamic water use patterns, water use at municipal facilities (including parks), and promoting wise water use, among other factors. The new rate will also need to include a flat rate for those connections that refuse meter installation. The flat rate should encourage meter installation. This action item will begin in December 2014 with an ongoing re-evaluation process to ensure revenue sufficiency.

Expected Water Use Reductions

A strategic water rate is essential in maintaining the water use reductions generated by a universal water metering program. Together, water meters and the new rate should result in annual water use reductions per connection of 15 per cent.

Supporting Tools and Resources

- Collaborate with neighbouring municipalities on their successes and challenges of water metering programs.
- Environment Canada's 2008 Municipal Water Pricing Report, available online on the Environment Canada website.
- POLIS- Worth Every Penny: A Primer on Conservation-Oriented Water Pricing.
- Canadian Water and Wastewater Association's (CWWA) Primer on Setting Water and Wastewater Rates, available through the CWWA office (phone 613.241.5692).

8.2 Objective 2 Background and Recommended Actions

Implement proven strategies to reduce residential water demand.

Background

Beaver Valley Water Service - Water Smart Action Plan

In communities with limited staff and financial resources it is easier to set one clear water conservation priority and focus all efforts on that goal, rather than attempting to create a wide-ranging plan that spreads resources too thin.

It is important that the recommended actions outlined below are reviewed in conjunction with Appendix "A" to this action plan, which outlines the fundamental elements and considerations of a successful water conservation campaign.

Recommended Actions

8.2.1 Priority One: Reduce Outdoor Water Use

Residential outdoor irrigation presents the best opportunity for water reductions in Fruitvale. Summer water use is more than double winter consumption. Outdoor irrigation drives peak demand and increases pumping costs.

Currently the Village imposes watering restrictions and primarily uses bylaw enforcement to inform residents of water practices that contravene the bylaw. While bylaw enforcement can be one part of a water conservation and education program, odd/even restrictions may inadvertently program residents to water every day that they are permitted to do so. When people comply with the bylaw they may believe that they are doing their part to conserve water and that nothing more is necessary (see Appendix B for a background on watering restrictions). The use of fines also puts Fruitvale in the position of being an enforcer. The Village and its residents should see each others in partners in the effort to reduce water consumption.

A bylaw enforcement officer is often perceived as a "water cop" who punishes undesirable behaviour, rather than someone who rewards the desired behaviour. To get beyond water reductions achieved through sprinkling regulations, a social marketing program focused on behaviour change is required.

8.2.2 Summer Student: The Bridge Between Information and Action

In Penticton they are called "Water Ambassadors" while in Kelowna they are known as "Water Spotters." These are personable summer students hired to enforce watering restrictions and trained in methods of outdoor water conservation. They rarely hand out fines. Instead, they spend their time in one-on-one consultation with homeowners, showing them how to set their irrigation timers and offering advice on landscape watering efficiency.

While it is important to ensure that water regulation bylaws are enforced, consideration should be given to the fact that many people do not break regulations wilfully. Often a malfunction in a sprinkler system will cause it to run at the wrong times without the homeowner's knowledge. Giving a fine in these situations causes resentment. Even the word "warning" has a confrontational sound to it.

Beaver Valley Water Service - Water Smart Action Plan

A summer student who is a helpful resource in Fruitvale (rather than someone who hands out fines) will help create positive awareness about water conservation and help facilitate actual behaviour change.

8.2.3 Free Landscape & Irrigation System Assessments

In ground automatic sprinklers systems are the main cause of excessive water use – both in a residential and a commercial setting. Studies by the irrigation industry in the United States indicate that the majority of homeowners do not know how to set their timers or how to properly maintain the system. Once installed, the systems are rarely inspected and malfunctions create inefficiencies over time.

A typical example of a system malfunction that creates excessive water use is a damaged sprinkler head. A sprinkler covered in snow might get run over by a car during the winter, resulting in a malfunction during the summer. This will create a brown spot on the lawn which the homeowner will attempt to rectify by boosting the timing of the entire system. As more malfunctions occur within the system over time, the homeowner will continue to increase the sprinkler run times to compensate.

Sprinkler system inefficiencies are compounded by the fact that they typically operate during early morning hours, so broken or misaligned sprinklers heads can go unnoticed and un-repaired for years, wasting increasing amounts of water as time goes on.

An inefficient sprinkler system will use 25 – 30 per cent more water than an efficient one. Therefore, ensuring efficient residential sprinkler systems should be a top priority for Fruitvale. It will have a significant impact on reducing peak day and peak hour demand.

The summer student could offer free landscape and irrigation system assessments as a part of their duties. They would be trained on how to conduct a basic irrigation system audit and how to recognize and recommend plants that use less water. This is an action-oriented program that will generate real, measurable results.

Homeowners with manual (surface) irrigation systems can also be wasteful. The student would patrol neighbourhoods on bicycle during primary surface irrigation times (early morning and evening). Wearing a clearly identifiable Water Smart uniform, the student would knock on doors of houses where watering regulations are not being followed, or wasteful water use is observed. If the homeowner does not answer, the student would leave a “doorknocker” to serve as a friendly reminder of watering regulations (as opposed to a serious warning). If the homeowner does answer, the student would engage them in conversation about watering regulations, and watering efficiency in general.

In cases where a home owner continues to break regulations, Fruitvale should be prepared to enforce the water regulations bylaw with fines.

Beaver Valley Water Service - Water Smart Action Plan

8.2.4 Advertising & Communications

If reducing outdoor irrigation is the priority for Fruitvale, all public education efforts should be initially focused in that direction. Newsletters, brochures, and advertisements containing water conservation tips are helpful, but their impact may be minimal and there is no mechanism to track results.

From a social marketing perspective, it makes more sense to develop a program for assessing irrigation systems and use the advertising budget to promote that program.

The program could be launched in the spring (May/June) at the home of a well-known citizen, perhaps the Mayor or a Village councillor. Local media could be invited to the launch, and the resulting publicity combined with advertising (direct mail might be the best option) would generate requests from the public.

Soon after the first several irrigation audits have been completed, the focus of the advertising and communications could shift to a testimonial approach, featuring the homeowners who have actually realized benefits through the program. This kind of public recognition reinforces positive behaviour and results in more requests for irrigation system assessments.

8.2.5 Parks & Public Spaces

When a community sets outdoor water conservation as a priority, their own water use comes under a critical spotlight. Parks and open spaces are a major user for many water suppliers. In fact, a 2005 study found that the largest single irrigation customer for most urban municipalities in British Columbia is their own Parks Department.

Before embarking on a comprehensive program to reduce outdoor water use, the Village should make every attempt to ensure that they are using water as efficiently as possible in parks and public spaces. This can be a challenge because communities often don't have the financial or human resources to maintain and operate sprinkler systems at optimum efficiency.

However, if the Village is perceived as "not practising what they preach" credibility is damaged and the commitment to water conservation is questioned.

When parks are maintained by different people over many years, inefficiencies may be created inadvertently. Broken sprinkler heads might be replaced by whatever happens to be in the inventory, rather than with the proper head. Maintenance practices and plans for future parks differ, resulting in a mix of products that may not be compatible with each other. Knowledge of each system's intricacies may be lost when experienced staff move or retire.

The summer student could perform irrigation system audits/inventories at all parks, schools, and other major public facilities with high irrigation needs. The audits would

Beaver Valley Water Service - Water Smart Action Plan

identify immediate system deficiencies such as misaligned or broken sprinkler heads. The inventory would help parks management develop a parks water management plan for the future.

The audit/inventory would consist of:

- 1) determining the distribution uniformity (DU) of existing systems
- 2) identifying every sprinkler head by type (rotor or fixed), manufacturer, and flow rate
- 3) noting where master valves are or are not present
- 4) creating a site map of each system for future reference

Following the inventory we recommend that staff develop a plan that consists of standards for new parks, and a purchasing/maintenance policy that will allow for the gradual replacement of existing stand alone irrigation timers to timers that can be connected to a weather-based centrally controlled system at some point in the future.

The audit/inventory will take place over the summer of 2010, but any repairs or policy changes are subject to budget and staff availability at some point in the future.

8.2.6 Share Resources

With Montrose only minutes away, Fruitvale may want to consider sharing resources with its neighbour. The two communities could share the cost of hiring and training a summer student who could serve both areas. Pooling resources would also help each community reduce the cost of producing advertising and brochures.

To ensure consistent awareness and behaviour, the summer student could also provide services to the rural customers who utilize groundwater outside of Fruitvale.

8.2.7 Expectations

Given Fruitvale's modest budget it is not possible to implement a water conservation program on the same level as larger municipalities. However, the Village's small population makes it easier to focus efforts and resources on one key priority and make it a community effort. If the population sees significant reductions in water use it helps the idea of water conservation gain momentum. This in turn makes it easier to take on the next priority.

It is important to keep in mind that Fruitvale has established a 5 year water conservation target, and that water conservation will likely be an ongoing area of action for Fruitvale. As such, a strategic and phased approach to water conservation education will ensure that each barrier and opportunity is addressed in order of highest priority and most significant potential results.

Beaver Valley Water Service - Water Smart Action Plan

Expected Water Use Reductions

As a stand-alone measure, public education programs can reduce water use by approximately 5 per cent. The United States Environmental Protection Agency's Water Conservation Plan Guidelines use a range of 2 per cent to 5 per cent as a benchmark.

Implementation of the multi-component program included in this action plan could increase these savings.

Supporting Tools and Resources

- A good reference for developing public education programs in support of various sustainability initiatives is a book entitled 'Fostering Sustainable Behaviour: An Introduction to Community-Based Social Marketing', by Doug McKenzie-Mohr and William Smith. The book is available through New Society Publishers, PO Box 189, Gabriola Island BC, V0R 1X0
- CBT Water Smart Ads (customizable).
- South East Kelowna Irrigation District (public education was part of this work <http://www.sekid.ca/>)
- CBT Water Smart Action Plan (useful for educating the public).

8.3 Objective 3 Background and Recommended Actions

Implement a leakage detection program to identify unaccounted for losses and leakage.

Background

The Village completed a large pipe replacement strategy that lead to water use reductions of 20 per cent over the last 7 years. However, current leakage rates are estimated at 13 per cent of overall water demands and more can be done to reduce the volume of water losses. Future phases of the leakage program should include planning to effectively detect problem areas. This information should be prioritized to develop a cost-effective leak reduction strategy.

The practice of leak detection has evolved significantly over the years and the practices and techniques used will be highly system dependent and need to be based on the knowledge and experience of the local operators in consultation with leak detection specialists.

Unaccounted for water rates are often relatively high for utilities that do not have meters. A key objective for Fruitvale is to ensure the utility is financially sustainable: reducing the amount of non-revenue water is important in this regard.

Recommended Actions

Leak localizing and temporary metering combined with step testing is still carried out by some smaller utilities. Pressure testing is also used to identify leaks. Pressure testing can be done by isolating a portion of the system and static pressure testing with water or air

Beaver Valley Water Service - Water Smart Action Plan

over a specified period of time to determine if there is leakage and provide an estimate of the leakage rates. This does not necessarily pinpoint the location of the leak. This method can help identify large problem areas for more detailed evaluation.

Identifying a district metering area for data analysis also has value in systems that have connection metering and meters installed throughout the system. Acoustic logging ground microphones have also emerged making it easier to pinpoint leaks. This technology continued to evolve recently with leak noise correlators that better enabled the size and position of the leak to be identified. More recently ground radar has also emerged to detect cavities that have formed around valves and fittings from leaking water. Gas injection and tracer techniques can also be used in smaller diameter pipes with sniffer technology to pinpoint leaks.

Finally there are new emerging surface technologies but also in pipe probes that can be launched and retrieved to identify leaks but also to perform condition assessments. For more information please visit <http://www.ppic.com/video/pipediver.shtml>.

To help identify problem areas, first isolate discrete sections of the community through use of system valves, and pressure test. This will allow more labour-intensive acoustic leak detection to be focused in sections which fail the pressure test. There are two items which deserve special attention in this discussion. If much of the water system infrastructure in Fruitvale was installed within a short time period, and used similar materials this may negate the need for pressure testing the system if it is believed all sections exhibit the same leakage characteristics. Second, if pressure testing is undertaken, it is important to notify all residents and property owners that water will be unavailable for a time (generally overnight), especially given that some may rely on a continuous flow (for example, refrigeration units).

Perform acoustic leak detection on selected portion of the water system that failed pressure test.

Where leaks are detected, determine the optimum approach for repair. There are two general methods which are available to Fruitvale. The first is excavation and replacement, and the second lining of the leaking pipe. Factors including pipe accessibility, status of surrounding / adjacent infrastructure (ie. wastewater collection line), condition of overlying road and pavement structure (ie. require concurrent upgrading), and contractor availability should all be taken into account in determining the optimum approach to repair leaks.

Specific Actions

1. Develop an accounting and reporting protocol for meter data at municipal facilities and parks. Spring 2011.
2. Complete the universal metering program for residential and ICI connections and begin analysing data. 2014.
3. Based on available data from the installed meters and the night-time draw down calculations, establish priority areas for isolation and pressure testing, acoustic surveys, and other detection techniques. This can be done gradually.

Beaver Valley Water Service - Water Smart Action Plan

4. Review leakage testing results and set priorities for capital planning. 2015
5. Report results to CBT and the public to celebrate success. Ongoing.

Determine UFW

- Install meters on all municipal facilities and parks. Ongoing.
- Estimate water usage for municipal activities:
- Reservoir cleaning
- Line flushing
- Indoor use at Village facilities, etc.
- Conduct a water audit to ensure 90 per cent accountability. Spring 2011.
- Develop a UFW demand management program. Fall 2011.

Expected Water Use Reductions

By pursuing an aggressive leak correction program (reduce leakage by 1/3) coupled with a UFW management program (reduce parks irrigation by 20 per cent) the Village should achieve a total water use reduction of 4 per cent.

Supporting Tools and Resources

- Water meter data.
- Two excellent references for leak detection and repair are:
- Water Use and Loss in Water Distribution Systems – A Best Practice by the National Guide to Sustainable Municipal Infrastructure – Federation of Canadian Municipalities (FCM) and National Research Council. This is available online through the FCM's Sustainable Communities website;
- Water Audits and Loss Control Programs, Third Edition, American Water Works Association (AWWA). This is available through the AWWA's online bookstore.

8.4 Objective 4 Background and Recommended Actions

Improve stream flow monitoring of Kelly Creek to better understand water yields and to provide the motivation for long term conservation.

Background

The Kelly Creek watershed is an active logging area, which lies outside the municipal boundary and is actually located within the Regional District Central Kootenay. The supply capacity of the watershed is not well known but staff does indicate concern regarding long-term water supplies.

Fruitvale is preparing to explore the need for additional water supply sources. Excluding the Kelly Creek Watershed Management Plan, these studies should be deferred, if possible, to determine if they are still needed after a 25 per cent reduction in water demands.

Recommended Actions

To create a watershed management plan for Kelly Creek. The watershed management plan should include an assessment of:

Beaver Valley Water Service - Water Smart Action Plan

1. Long term demand requirements based on water conservation targets and community growth
2. Hydrometric and climate station data management
3. Potential climate change impacts to annual and seasonal water supply
4. Resulting changes to storage requirements
5. Effective timing for and means of Stakeholder engagement
6. Other environmental considerations

Specific Watershed Study Topics:

- Review the stream flow data from the hydrometric station Kelly Creek at 850 m Contour (Water Survey of Canada station # 08NE113) for the period of record 1971-1982 to determine mean annual discharge and also mean annual low flows for the creek
- Re-establish hydrometric station Kelly Creek at 850 m Contour (Water Survey of Canada station # 08NE113) to collect stream flow data on Kelly Creek to determine current flow characteristics and compare to those for the period 1971-1982 as part of a long-term supply analysis.
- Complete a hydrologic assessment of the Kelly Creek watershed upstream of the Village intake to determine current condition of the watershed.
- Assess potential climate change impacts on precipitation patterns as summarized in the CBT reports *Climate Change in the Canadian Columbia Basin – Starting the Dialogue* and *Preliminary Analysis of Climate Variability and Change in the Canadian Columbia River Basin: Focus on Water Resources*, October 2006.
- Evaluate the need for additional water supply sources based on watershed yield projects, community water use, and anticipated growth.

Expected Water Use Reductions

The impact of improving management of the Kelly Creek source may not directly contribute to water use reductions. However, it should be seen as a foundational motivator that supports all other water use reduction techniques. It is also key to Fruitvale's long term water supply and use planning.

Supporting Tools and Resources

- Hydrometric Station
- Flow Database – Water Survey Canada
- *Climate Change in the Canadian Columbia Basin – Starting the Dialogue* and *Preliminary Analysis of Climate Variability and Change in the Canadian Columbia River Basin: Focus on Water Resources*, October 2006.

8.5 Total Expected Water Savings

The total estimated water savings for Fruitvale through implementing this action plan is 22 per cent.

Beaver Valley Water Service - Water Smart Action Plan

9.0 Monitoring and Reporting Protocol

CBT has finalized the following monitoring and reporting protocol after consultation with participating Water Smart Communities.

Baseline Measurement Protocol

CBT Basin wide target of 20 per cent reduction in community water consumption by 2015 is defined as:

20 per cent reduction from total gross 2009 community water consumption in participating Columbia Basin Water Smart Communities by 2015.

Points of Clarification

CBT's 20 per cent target will be evaluated against the aggregate result of participating Water Smart communities' change in gross consumption. The individual community targets will be based on the change in their own gross consumption.

Population change is not factored into achievement of this target but reporting BC census data for your community is included in the monitoring and reporting protocol so as to allow for calculation of estimated litres per capita per day (lpcd) figures. CBT will not report publicly on lpcd estimates due to lack of reliability of existing data. The exception to this is communities that are metered or become metered during the course of the Columbia Basin Water Smart initiative.

Reporting Frequency

Annual reports for the preceding year are due on January 30 beginning in January of 2011 through to January 2016 for a total of six reports for all participating Water Smart communities. 2009 baseline data has been established in the Water Smart Action Plans and need not be reported by each community.

Required Data

- Annual Gross Consumption.
- Monthly Gross Consumption.
- BC census data for your community for 2006, 2011, and 2016.
- Metering data summary if and when it becomes available.
- Number of connections by class including residential, commercial, Institutional.
- Notable climate event summary.

CBT Public Information Releases

CBT will report publicly on the aggregate percent change in gross consumption for the participating communities as well as individual community percent changes. Communities may choose to report additional information publically if desired such as litres per capita per day changes.

Beaver Valley Water Service - Water Smart Action Plan

APPENDIX A: Columbia Basin Water Smart Charter



The graphic features a black and white photograph of a river flowing over rocks. On the left, the Columbia Basin Trust logo is displayed, consisting of a stylized mountain range above the text "COLUMBIA BASIN TRUST" and the tagline "a legacy for the people". On the right, the words "Columbia Basin" are in a small sans-serif font, followed by "Water Smart" in a large, elegant script font, and "CHARTER" in a large, bold, all-caps sans-serif font at the bottom.

The Columbia Basin Water Smart Charter represents the commitment of communities in the Basin to work collectively to achieve water conservation goals. By signing the charter, your community has the opportunity to be part of a Basin-wide network of leaders, innovators and champions working toward local and regional water conservation efforts.

We, the undersigned, agree to the following objectives, key elements and commitments:

Basin-Wide Objectives

- Aim to achieve a 20 per cent Basin-wide reduction in community water consumption by 2015;
- Share our water conservation knowledge through the Water Smart Network; and
- Partner with Basin communities to cultivate and develop a water conservation legacy in the Columbia Basin.

Charter Key Elements

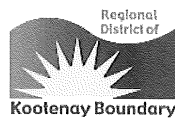
- Water is the foundation of our social, cultural, environmental and economic well being in the Columbia Basin;
- Water conservation is a collective responsibility to ensure healthy and sustainable communities;
- Basin residents and the communities they represent are important participants in water conservation; and
- Basin communities work together to create active and diverse partnerships of residents and organizations working on water conservation to improve and protect water resources in the Columbia Basin.

Charter Commitments

- Encourage and educate Basin residents in your community on the need for and importance of water conservation;
- Develop a Water Smart Action Plan or water conservation measures for your community with support from CBT;
- Implement a Water Smart Action Plan or water conservation measures and monitor and report the outcomes to CBT; and
- Collaborate and share information with Basin communities through the Water Smart Network.

Beaver Valley Water Service - Water Smart Action Plan

APPENDIX B: Fruitvale and District Vision for Water Conservation



Water System Vision and Plan

VISION: Ensuring a future of clean water through conservation and water system improvements

5 Year Goals

- To achieve 25% volume reduction in water consumption
- To develop a water leak detection plan
- To research the possibilities and implications of 100% metered water use
- To establish and begin implementation, if deemed appropriate, of a planned incremental rate structure including fees, parcel taxes and development charges
- To continue water source protection activities and expand the water source protection plan
- To identify an additional long term water source
- To ensure qualified, certified staff with succession planning in place
- To maintain an active and effective board
- To promote a well engaged, educated and accepting community

10 Year Goals

- To achieve 90% water accountability
- To develop a source expansion plan (funding, access, etc.)
- To finalize infrastructure replacement program
- To strive for cutting edge status for water use best practices with special focus on development
- To research and consider development of power generation

25 Year Goals

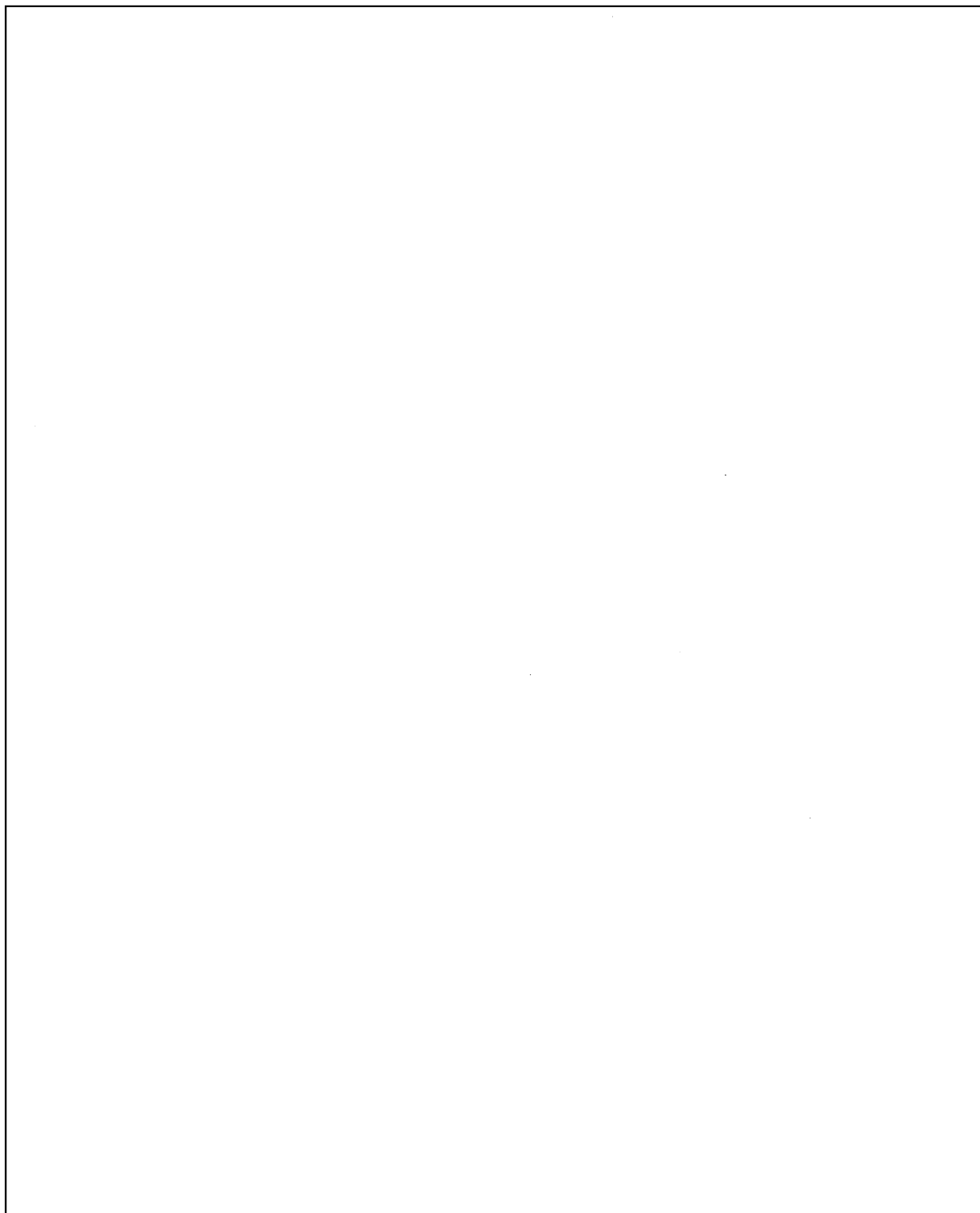
- To service a potential 30% increase in population
- To have a development cost reserve of \$1.35M (based on an estimated 30% population growth over twenty-five years)
- To bring a new water source online as required

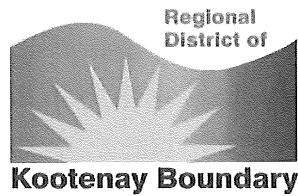
Beaver Valley Water Service - Water Smart Action Plan

APPENDIX C: Glossary of Acronyms

AWWA	American Water Works Association
CBT	Columbia Basin Trust
CWWA	Canadian Water Works Association
FCM GMF	Federation of Canadian Municipalities Green Municipal Fund
ICI	Institutional, Commercial, and Industrial
I&I	Infiltration and Inflow – Extraneous flows in a sewage collection system such as groundwater or surface water that enters the sanitary sewer system through defective pipes, leaking service connections, pipe joints, access port walls and/or manhole covers. Improper connections such as building foundation or cellar drains, yard and area drains, roof leaders or rainwater downspouts, cooling water discharge, and drains from springs/swampy areas are also typically included in I&I numbers.
Lpd	Litres per capita per day
m ³	Cubic metres
ML	Megalitre = 1,000,000 litres. For reference, an Olympic sized swimming pool holds 2.5 ML
OCP	Official Community Plan
SFD	Single Family Dwelling
UFW	Unaccounted For Water is also known as Non Revenue Water and is typically defined as water that is produced but is “lost” before it reaches the consumer. These identified losses can be real or perceived. Real losses (also referred to as physical losses) can be listed as leakage or unmetered flushing, testing, and fire fighting. Perceived or apparent losses are largely due to metering inaccuracies, metering bypass or illegal connections
USL	Urban Systems Ltd.

Appendix F
Emergency Response Plan

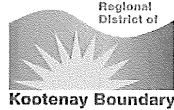




BEAVER VALLEY WATER SERVICE
OPERATED UNDER CONTRACT BY THE VILLAGE OF FRUITVALE



EMERGENCY RESPONSE PLAN



Beaver Valley Water Service

Potable Water

Emergency Response Plan Program

OBJECTIVE

To minimize a health threat and maintain a supply of safe drinking water in the event of an emergency within / affecting the Beaver Valley Water Service.

Beaver Valley Water Service

The Beaver Valley Water Service, operating under contract by the Village of Fruitvale, consists of a primary source, Kelly Creek (surface water) with two secondary sources, Well #1 (groundwater) and Well #2 (groundwater). The primary supply from Kelly Creek is diverted into an open reservoir that holds 2,727,600L. From there, it is treated by the chemical process of coagulation and flocculation to reduce most of the turbidity. It is then passed through two rapid rate granular filtration trains to reduce more of the remaining turbidity. For disinfection purposes, the water is dosed with a low concentration of sodium hypochlorite, and then passed through two ultra violet units which minimize the threat of pathogens such as cryptosporidium and giardia. The two secondary sources were chlorinated at the pump houses in 2013. Under normal operation the primary source is pumped from the clear well (which holds 2,727,600L) to the balancing tanks on Mill Road (which hold 454,600L) into the distribution system utilized by the Beaver Valley Water Service specified area. During peak season or high use times, the two wells will be pumped and sent to the Fruitvale tank (which holds 1,091,040L), this then supplies the distribution system for one third of the Beaver Valley. Historically, start-up is initiated on the secondary sources in July and disabled in October. The primary source can be operated on a back-up generator located at the Water Treatment Plant. The secondary source can be operated with portable generators which have to be outsourced.

This Emergency Response Plan program has been developed for the use of the Beaver Valley Water Service staff in the event of an emergency affecting the water system. Copies will be located in: all utility vehicles, the Village of Fruitvale Public Works Office (shop), the Water Treatment Plant, the Waste Water Treatment Plant and the Village of Fruitvale Office.

The Emergency Response Plan will be reviewed and updated annually, and changes will be recorded on the update checklist and the updated plans published to all copies.

Updated June 5, 2014
officefiles/water/emergencyresponseplanbvws/0.Objective



Beaver Valley Water Service

Emergency Response Plan Index

1. Introduction
 - a. Potable Water Emergency Response Plan Program Objective & Introduction
 - b. Implementing an Emergency Response Plan
2. Emergency Response Plan Master Contact List
3. Emergency Response Plans
 - a. Backflow Incident ERP
 - b. Broken Water Main ERP
 - c. Fire Effecting Water Distribution System Operations ERP
 - d. Flooding of the Pump House ERP
 - e. High Chlorine Residual Discovery ERP
 - f. High Turbidity at Water Treatment Plant (Finished Water) ERP
 - g. High Turbidity (Above 1.0 NTU) ERP
 - h. Loss of Kelly Creek Source ERP
 - i. Low Chlorine Residual Discovery ERP
 - j. Reservoir Intrusion
 - k. Pump / Power Failure
 - l. Spill / Vehicle Accident ERP
4. Public Notifications
 - a. Public Notification Decision Tree
 - b. High Hazard Contaminant
 - c. Boil Water Advisory
 - d. Water Conservation Advisory
 - e. Water Conservation Regulations
5. Advisories
 - a. Advisory #1 Water Quality
 - b. Advisory #2 Boil Water
 - c. Advisory #3 Mandatory Conservation
 - d. Advisory #4 Voluntary Conservation
 - e. Advisory #5 Conservation Advisory Lifted
 - f. Advisory #6 Boil Water Advisory Lifted
 - g. Advisory #7 Water Is Unsafe To Use
6. Procedures
 - a. Call Response Procedure
 - b. After Hours & Emergency Call-out Procedure
 - c. Emergency Bacteriological Sampling Procedures
7. Forms
 - a. Incident Investigation Form
 - b. Water Quality Investigation Form
8. Document Update Checklist

Updated June 5, 2014
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Beaver Valley Water Service

Implementing an Emergency Response Plan

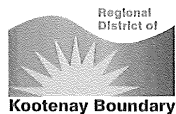
ACTIONS: In the event of an emergency affecting the water distribution system or any of its components, proceed as follows:

- Refer to the specific ERP for that event
- Use the ERP as a field check list
- Follow the list all the way to the bottom, checking off items as you go
- After an emergency, replace the used ERP with a new one and file the original in the Village of Fruitvale office
- Have a follow up meeting to confirm the plan's functionality and to make required updates and changes to the plan.
- Make notes of recommended changes and have the plan updated and published to all copies

NOTES:

[illegible]

Updated June 5, 2014
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Beaver Valley Water System

Emergency Response Plan Contact List

Personnel Contact Numbers

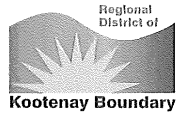
Title	Name	Office	Cell	Home
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Public Works 1	Jeff Mason		250-231-1614	
Public Works 2	Garth Kozler		250-231-3551	
Public Works 3	Jordan Kyle		250-231-1891	
Public Works ON-CALL Cell Number			250-231-0134	
After Hours Emergency Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Chief Administrative Officer	Kelli Tuttle	250-367-7551	403-715-5282	
Office Assistant	Karen Halifax	250-367-7551	250-512-2079	250-367-7712
Finance Specialist	Misti Stevens	250-367-7551	250-231-8588	
Mayor	Steve Morissette		250-921-5575	250-367-6224

Interior Health Emergency Contact Numbers

- *During office hours (8:30 am – 4:30 pm weekdays)*
 - *Please call 250-505-7200, state your name, water system, telephone number you can be reached at and the fact that this is an emergency call. Our admin staff will direct your call to the covering Water Specialist.*
- *After hours (after 4:30 pm weekdays, weekends and statutory holidays)*
 - *Please call the Medical Health Officer of the day at 1-866-457-5648 (not for public use)*

Title	Name	Office	Cell	Fax
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	250-365-4344
Medical Health Officer AFTER HOURS ONLY	After 4:30 pm	1-866-457-5648 Not for public use		
Public Health Engineer	Marianne Crowe Nelson Health Unit	250-505-7225		250-505-7211

Updated May 7, 2020
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Beaver Valley Water System

Emergency Response Plan Contact List

Miscellaneous Emergency Contact Numbers

Title	Name	Office	Cell	Fax
Provincial Emergency Preparedness Program	PEP	1-800-663-3456		
Ministry of Environment		1-800-663-3456		
Ministry of Transportation & Infrastructure		250-354-6400		
Department of Fisheries		1-800-465-4336		
Water Testing Lab	Caro Environmental	1-877-769-9646		
Hospital	K.B.R.H.	250-368-3311		
Ambulance	BC Ambulance	911	250-364-1000	
Police	RCMP Trail	911	250-364-2566	
Fire Department, Co. #6	Emergency Andrew Borsato, C Andre Gagnon, AC	911 250-367-6111 250-367-6111	250-512-7279 250-368-7731	
Regional Fire Services	Dan Derby, Chief	250-364-1737	250-368-7192	
Emergency Programs, RDKB	Chris Marsh Mark Stephens	250-368-0259 250-368-0257	250-368-0067	
BC 1 Call		1-800-474-6886		
Electricity	Fortis BC	1-866-436-7847		
Natural Gas	Fortis BC	1-800-663-9911		
Telephone	Telus	611		
Cable TV	Shaw Cable	250-368-5501		
Bottled Water Supplier	Kootenay Valley Water	250-365-8008		
Local Radio Station	EZ Rock	250-368-5510		
Local Radio Station 2	Vista Radio	250-365-7600		
Local TV Station	Shaw Cable	250-364-2676		
Local News Paper	Trail Daily Times	250-368-8551		
Public Schools 1	Fruitvale Elementary	250-367-7541		
Public Schools 2	J Lloyd Crowe Secondary	250-368-5591		

Updated May 7, 2020
officefiles/water/emergencyresponseplanbvws/Page4-mastercontactlist

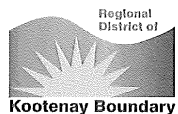


Beaver Valley Water System

Emergency Response Plan Contact List

Title	Name	Office	Cell	Fax
Seniors Complex	BV Senior Citizens Manor	250-367-7612		
Resident Care Facility	Mountain Side Village	250-367-9870		
Excavation Contractor	Wayne Underwood (Wayne's Excavating)		250-364-3825	250-367-9864
Excavation Contract 2	John Forlin (JR's)		250-231-0049	
Plumbing Contractor	Savage Plumbing & Heating Ltd.	250-364-9095	250-368-7320	250-367-9632
Electrical Contractor	John Avis Electric	250-367-7657	250-368-7401 John Avis	
Electrical Contractor 2	A Plus Electric	250-368-9253	250-368-1787 Wayne Titus	
Chlorinator Supplier	Clear Tech (LMI)	1-800-387-7503		
Pump Manufacturer	Precision Pumps	1-888-750-7010	604-308-5861	
Material Supplier 1	Corix	1-800-667-2343	250-212-0178 Dave Houghton	
Material Supplier 2	Andrew Sheret	250-365-2597 1-800-418-5565		
Alarm Service	Selkirk Security	250-368-3103 Dispatch	250-231-2737 William Trowell	
Engineering Contractor	Urban Systems	250-762-2517		
Chemical Supplier	Clear Tech (LMI)	1-800-387-7503		
Instrumentation 1 SCADA	West Tek Controls	250-365-5666	250-365-9829 Denis Woodcox	
Instrumentation 2	Kootenay Controls	250-367-9150		
Computers and Software	Pozitive Computers	250-365-6275 Ext 101 - Ed Ext 105 - Bruce	250-513 2525 Ed 250-513-0171 Bruce	
UV Equipment Supplier	Trojan	250-632-9154	1-403-221-8585 Gord Cassie	
Equipment Rentals	BV Tool Rental	250-364-5661		
Equipment Rentals 2	United Rentals	250-693-9154		

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Beaver Valley Water System
Emergency Response Plan Contact List

Title	Name	Office	Cell	Fax
Equipment Rentals 3	Trowlex Rentals	250-365-3315	.	
Traffic Control	Safe Start Safety	250-512-9714		
Tree Removal Service	P.R. Sims Contracting		250-231-4690	250-367-7939
Tree Removal Service 2	Helgren Hydro-Vac & Contracting	250-357-2641	250-354-3451	

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 officefiles/water/emergencyresponseplanbvws/Page4-mastercontactlist



EMERGENCY RESPONSE PLAN

INTERIOR HEALTH EMERGENCY CONTACT NUMBERS

The following is meant to assist water suppliers to reach the Interior Health representative in the event of a water quality problem as part of their Emergency response Plan protocol. Please include this information in the water system emergency plan.

- During office hours (8:30 am – 4:30 pm weekdays):
Please call 250-505-7200, state your name, water system, telephone number you can be reached at and the fact that this is an emergency call. The administration staff will direct your call to the covering Water Specialist.
- After Hours (after 4:30 pm weekdays, weekends and statutory holidays):
Call the Medical Health Officer of the day at 1-888-457-5648 (not for public use)

Title	Contact	Office	Cell	Fax
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	250-365-4344
Medical Health Officer After Hours Contact Not for public use	After 4:30 pm weekdays, weekends and statutory holidays,	1-866-457-5648		
Public Health Engineer	Marianne Crowe Nelson Health Unit	250-505-7225 1-877-221-3388		250-505-7211

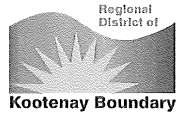
Updated June 5, 2014
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BEAVER VALLEY WATER SYSTEM
WATER SYSTEM INCIDENT REPORT



CALL RESPONSE
PROCEDURE

Updated June 5, 2014
<officefiles/water/emergencyresponseplanbvws/3.callresponseprocfure>



EMERGENCY RESPONSE PLAN

AFTER-HOURS & EMERGENCY WORKING ALONE PROCEDURE

AFTER-HOURS & EMERGENCY WORKING ALONE PROCEDURE

The intent of this procedure is to incorporate after-hours and emergency call-out safety checks for an employee that has been called out or scheduled to work alone at any time other than the regularly scheduled shift, as defined in the Collective Agreement. It will be the responsibility of the employee to use the Selkirk Security Services dispatch center as the "Check-in and Check-out" service provider.

CHECK-IN

Upon receipt of an after-hours call and/or the commencement of a scheduled after-hours shift where the employee will be required to work alone, the employee will contact Selkirk Security Services via telephone @ **1-866-417-4104** to initiate the safety check procedure. After an initial investigation, the employee may inform the dispatcher of the length of time expected to complete the required work along with an anticipated call back time.

CHECK-OUT

Once the employee determines all required tasks and associated duties have been completed, the employee will contact Selkirk Security Services informing them of the safe completion of the shift, effectively concluding the safety check procedure.

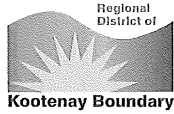
If, after two hours (or other agreed upon time frame), the employee fails to "check-out" or contact the dispatcher, Selkirk Security Services will initiate a search by attempting to contact the employee via telephone @ 250-231-0134.

If contact cannot be made with the employee, emergency personnel will be dispatched, and Village of Fruitvale staff will be informed.

Village of Fruitvale Contacts:

	<u>HOME</u>	<u>CELL</u>
Public Works Foreman (Jason Startup)		250-364-3800
Water Works Foreman (Glen Grieve)	250-367-6521	250-231-4722
Chief Administrative Officer (Kelli Tuttle)		403-715-5282
Lead Hand (Jeff Mason)		250-231-1614
MMW2 (Garth Kozler)	250-367-6645	250-231-3551
MMW1 (Jordan Kyler)		250-231-1891
MMW1 (Jay Scott)		250-505-5691
Labourer (Kevin Pii)		250-231-3142

Updated May 7, 2020
officefiles/water/emergencyresponseplanbvws/page7-afterhoursworkingaloneprocedure



EMERGENCY RESPONSE PLAN

<TYPE OF EMERGENCY>

ACTIONS: In the event of a <type of emergency>, the following procedures should be followed

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CONTACTS

Title	Name	Office	Cell	Home

Notes:

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Updated June 5, 2014
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EMERGENCY RESPONSE PLAN

BACKFLOW INCIDENT

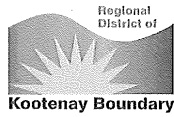
ACTIONS: In the event of a Backflow Incident, the following procedures should be followed:

• Implement After Hours and Emergency Call-Out Procedure (Working Alone)
• Investigate source of complaint
• Notify Water Works Foreman
• Acquire sample kit and relevant field equipment
• Interview Customer & inspect facility at origin of complaint
• Collect water samples and send off to lab
• Notify Drinking Water Officer (DWO) if contamination is severe
• Initiate water quality notification (based on initial determination)
• Review present conditions in the distribution system
• Question other customers in the area regarding noticeable changes in water quality or system pressure fluctuations
• Note adjacent facilities for possible source of contamination
• Inspect suspected facilities for cross connections
• Identify likely source of contamination if possible
• Evaluate and determine probability of occurrence
• Determine the degree of hazard – HIGH – LOW
• Initiate public notification procedures and phone contacts
• Begin isolation procedures to prevent the spread of further contamination
• Eliminate cross connections or install backflow preventer(s)
• Confirm identification of contaminant from sample test results from lab in order to determine course of action
• Initiate line flushing, disinfection or replacement procedures based on type of contaminant
• Re-sample water
• Implement actions based on results as per Environmental Health Officer (DWO)
• Complete Cross Connection Incident Report form
• Notify affected residents when all health dangers have been removed from the system

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Water Works #2	Jeff Mason	250-367-6384 (WTP)	250-231-1614	

Updated June 12, 2019
 officefiles/water/emergencyresponseplanbwws/page10-backflowincident

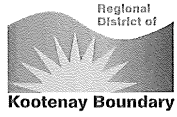


EMERGENCY RESPONSE PLAN

BACKFLOW INCIDENT

Title	Contact	Office	Cell	Home
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	
Medical Health Officer AFTER HOURS ONLY	After 4:30 pm	1-866-457-5648		
Provincial Emergency Preparedness Program	PEP	1-800-663-3456		
Water Testing Lab	Caro Environmental	1-877-769-9646		
Hospital	K.B.R.H	250-368-3311		
Bottled Water Supplier	Kootenay Valley Water	250-365-8008		
Public School	Fruitvale Elementary	250-367-7541		
Seniors Complex	BV Senior Citizens Manor	250-367-7612		
Resident Care Facility	Mountain Side Village	250-367-9870		

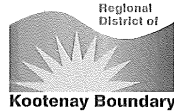
NOTES:



EMERGENCY RESPONSE PLAN

BACKFLOW INCIDENT

Updated June 12, 2019
officefiles/water/emergencyresponseplanbvws/page10-backflowincident



EMERGENCY RESPONSE PLAN

BROKEN WATER MAIN

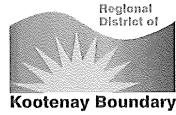
ACTIONS: In the event of a broken water main, the following procedures should be followed:

• Implement After Hours and Emergency Call-Out Procedure (Working Alone)
• Secure area and ensure public safety
• Using maps identify the isolation valves on either side of break (DO NOT SHUT DOWN)
• Contact the Public Works Foreman and Water Works Foreman
• Throttle down the isolation valves upstream and downstream of the break
• If the water will be down for an extended period of time, implement public notification protocol
• Arrange all necessary equipment required for exposing the repair
• Locate all existing utilities in the vicinity of the break
• Call Traffic Control Contractor, if required
• Excavate to expose the break and repair as required
• Backfill slightly and slowly turn on water to ensure repair holds
• Flush main in the vicinity of the repair / release air from nearest hydrant
• Take bacteriological sample and send to lab for analysis
• If contamination occurred, initiate Public Notification Protocol

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Fire Department Company #6, Fruitvale	Emergency Andrew Borsato, Dist. Chief Dave Kokiwi, A. Dist. Chief	911 250-367-6111 250-367-6111	250-512-7279 250-231-7107	250-367-6441
BC 1 Call		1-800-474-6886		
Hydro	FortisBC	1-866-436-7847		
Natural Gas	FortisBC	1-800-663-9911		
Phone	Telus	611		
Cable TV	Shaw Cable	250-368-5501		
Excavation Contractor #1	Wayne Underwood	250-367-7541	250-364-3825	250-367-9864

Updated June 12, 2019
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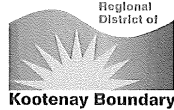
EMERGENCY RESPONSE PLAN

BROKEN WATER MAIN

Title	Contact	Office	Cell	Home
Excavation Contractor #2	John Forlin (JRs)			250-367-9398
Material Supplier	Corix	1-800-667-2343	250-212-0178 (Dave Houghton)	
Traffic Control	Safe Start Safety	250-512-9714		

NOTES:

Updated June 12, 2019
 officefiles/water/emergencyresponseplanbvws/page11-brokenwatermain



EMERGENCY RESPONSE PLAN

FIRE AFFECTING WATER DISTRIBUTION SYSTEM OPERATIONS

ACTIONS: In the event of a fire affecting the distribution system operations, such as depletion of available water supply, the following procedures should be followed:

• Implement After Hours and Emergency Call-Out Procedure (Working Alone)
• Notify Public Works Foreman and Water Works Foreman
• Investigate source: Reservoir source and Pump source
• If reservoir is primary source, initiate pumps manually
• If system is split, open valves to provide additional water to distribution system
• Notify Drinking Water Officer (DWO)
• Initiate drinking water advisory as per authority of Interior Health recommendations
• Continually sample water to ensure there is no contamination or unusual readings
• Once requirements are satisfied, return system back to normal operations
• Investigate for possible backflow contaminations and unusual test results

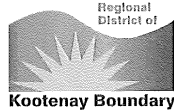
CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	
Fire Department Company #6, Fruitvale	Emergency Andrew Borsato, Dist. Chief Dave Kowkiw, A. Dist. Chief	911 250-367-6111 250-367-6111	250-512-7279 250-231-7107	250-367-6441

NOTES:

Updated June 12, 2019

officefiles/water/emergencyresponseplanbvws/page12-fireaffectingwaterdistributionsystemoperations



EMERGENCY RESPONSE PLAN

FLOODING OF THE PUMPHOUSE

ACTIONS: In the event of a flood in the vicinity of a pump house, the following procedures should be initiated:

• Implement After Hours and Emergency Call-Out Procedure (Working Alone)
• Visually assess the flooding
• Notify Public Works Foreman and Water Works Foreman
• Confirm proper operation of alternate source(s)
• DO NOT enter the pump house if there is evidence of flooding
• Ensure power is completely shut off to pump house – call FortisBC and electrical contractor
• Ensure no contamination of the system occurred
• Repair isolated area and return service
• Take bacteriological samples
• Notify Drinking Water Officer (DWO)
• Issue Water Quality Advisory after discussion with Drinking Water Officer (DWO), if required

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Hydro	FortisBC	1-866-436-7847		
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	
Electrical Contractor	John Avis	250-367-7657	250-368-7401	
Electrical Contractor 2	A-Plus Electric	250-368-9252		

NOTES:

Updated June 12, 2019
officefiles/water/emergencyresponseplanbvws/page13-floodingofthepumphouse



EMERGENCY RESPONSE PLAN

HIGH CHLORINE RESIDUAL DISCOVERY

ACTIONS: In the event you discover a High Chlorine residual (>1.5mg/L) during routine sampling, the following procedures should be followed.

- | |
|--|
| <ul style="list-style-type: none"> • Implement After Hours and Emergency Call-Out Procedure (Working Alone) • Notify Public Works Foreman and Water Works Foreman • Identify the area affected by the abnormal chlorine residual • Check the chlorinator for proper settings and operation at WTP • Readings greater than 1.0 PPM consider flushing the effected area • Implement de-chlorination process while flushing • Notify Drinking Water Officer (DWO) • Issue Water Quality Advisory after discussion with Drinking Water Officer (DWO), if required • Re-sample one day later at site of high chlorine residual |
|--|

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	

NOTES:



EMERGENCY RESPONSE PLAN

HIGH TURBIDITY AT WATER TREATMENT PLANT (FINISHED WATER) (ABOVE 1.0 NTU)

ACTIONS: IN THE EVENT OF HIGH TURBIDITY IN FINISHED WATER AT THE WATER TREATMENT PLANT, THE FOLLOWING PROCEDURES SHOULD BE IMPLEMENTED:

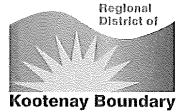
• Implement After Hours and Emergency Call-Out Procedure (Working Alone)
• Investigate raw water turbidity for changes and fluctuations
• If raw water is the cause, make changes to dosing to adjust
• Notify Water Works Foreman
• Implement WTP internal investigation to determine course of action
• If unable to resolve problem with turbidity greater than 1.0 NTU – Notify the Drinking Water Officer (DWO)
• Issue Water Quality Advisory after discussion with Drinking Water Officer (DWO), if required

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-505-7234	250-551-1911	

NOTES:

Updated June 12, 2019
officefiles/water/emergencyresponseplanbvws/page15-high-turbidity-at-WTP



EMERGENCY RESPONSE PLAN

HIGH TURBIDITY IN DISTRIBUTION SYSTEM (ABOVE 1.0 NTU)

ACTIONS: IN THE EVENT OF HIGH TURBIDITY IN DISTRIBUTION SYSTEM, THE FOLLOWING PROCEDURES SHOULD BE IMPLEMENTED:

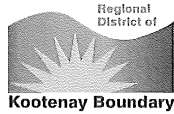
• Implement After Hours and Emergency Call-Out Procedure (Working Alone)
• Investigate and take water samples (determine course of action)
• Check source (Wells & WTP) for contamination, take water samples for turbidity and chlorine residual
• If OK at sources above: <ul style="list-style-type: none"> • Investigate for possible main break in distribution system (refer to Main Break) or look for other sources of contamination.
• Notify Public Works Foreman and Water Works Foreman
• If problem occurs for a prolonged period of time, contact Drinking Water Officer (DWO)
• Issue Water Quality Advisory after discussion with Drinking Water Officer (DWO), if required

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	

NOTES:

Updated June 12, 2019
officefiles/water/emergencyresponseplanbvws/page16-highturbidityindistributionsystem



EMERGENCY RESPONSE PLAN

LOSS OF KELLY CREEK SOURCE

ACTIONS: IN THE EVENT OF LOSING THE KELLY CREEK SOURCE, THE FOLLOWING PROCEDURES SHOULD BE IMPLEMENTED:

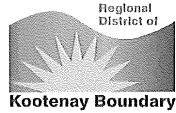
• Implement After Hours and Emergency Call-Out Procedure (Working Alone)
• Investigate possible intake problems: <ul style="list-style-type: none"> • Frozen intake • Dried up source, possible upper level damming
• Notify Public Works Foreman and Water Works Foreman
• Turn on pumps as alternate source
• Shut Water Treatment Plant off (ONLY on instruction of Water Works Foreman)
• Call Drinking Water Officer (DWO) and Provincial Emergency Program (PEP)
• Initiate Public Notification Protocol and Water Conservation Notice
• Implement “ Stage 5 ” protocol

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Fire Department Company #6, Fruitvale	Emergency Andrew Borsato, Dist. Chief Dave Kokiw, A. Dist. Chief	911 250-367-6111 250-367-6111	250-512-7279 250-231-7107	250-367-6441
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	
Provincial Emergency Preparedness (PEP)		1-800-663-3456		
Chief Administrative Officer	Kelli Tuttle	250-367-7551	403-715-5282	

NOTES:

Updated May 7, 2020
officefiles/water/emergencyresponseplanbvws/page17-lossofkellycreeksource



EMERGENCY RESPONSE PLAN

LOW CHLORINE RESIDUAL DISCOVERY (0.2 OR LESS)

ACTIONS: IN THE EVENT YOU DISCOVER A LOW CHLORINE RESIDUAL OF 0.2 OR LESS DURING ROUTINE SAMPLING, IMPLEMENT THE FOLLOWING PROCEDURE:

<ul style="list-style-type: none"> • Identify the area effected by the abnormal chlorine residual
<ul style="list-style-type: none"> • Notify the Water Works Foreman
<ul style="list-style-type: none"> • Check the chlorinator to proper settings and operation as well as chlorine residual at WTP
<ul style="list-style-type: none"> • Re-sample at location and possible other affected locations within area for turbidity and chlorine residual
<ul style="list-style-type: none"> • Determine cause and repair if possible
<ul style="list-style-type: none"> • Notify Drinking Water Officer (DWO)
<ul style="list-style-type: none"> • Issue Water Quality Advisory after discussion with Drinking Water Officer (DWO), if required
<ul style="list-style-type: none"> • Re-sample one day later at site of repair or where low reading was discovered

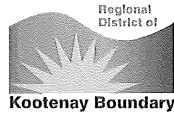
CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4344	250-551-1911	

NOTES:

[illegible]

Updated June 12, 2019
officefiles/water/emergencyresponseplanbvws/page18-lowchlorineresidualdiscovery



EMERGENCY RESPONSE PLAN

RESERVOIR INTRUSION

(Fruitvale Tank/Kelly Creek Reservoir/Balancing Tank)

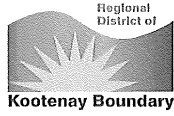
ACTIONS: IN THE EVENT OF A RESERVOIR INTRUSION, THE FOLLOWING PROCEDURES SHOULD BE IMPLEMENTED:

• Implement After Hours and Emergency Call-out Procedure (Working Alone)
• Inspect and hazard assess reservoir site
• Notify Public Works Foreman and Water Works Foreman
• Take water sample and determine water quality at reservoir and any downstream sampling sites to see extent of contamination
• Take necessary samples to send off to Lab for analysis
• If possibility of contamination, implement Public Notification Protocol
• Notify Drinking Water Officer (DWO)
• Notify all users on distribution system with an Advisory
• Isolate and lock out supply (server situation)
• Arrange alternate water source
• Drain reservoir and prepare for cleaning and disinfection
• Clean and disinfect reservoir
• Purge, flush and disinfect all distribution lines
• Take water samples at various sites to confirm no contamination
• Re-secure site to ensure problem will not re-occur in the future

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	
Provincial Emergency Preparedness Program		1-800-663-3456		
Fire Department Company #6, Fruitvale	Emergency Andrew Borsato, Dist. Chief Dave Kokiwi, A. Dist. Chief	911 250-367-6111 250-367-6111	250-512-7279 250-231-7107	250-367-6441
Police Department	RCMP	911	250-364-2566	
Water Testing Lab	Caro Environmental	1-877-769-9646		
Bottled Water Supplier	Kootenay Valley Water	250-365-8008		
Chief Administrative Officer	Kelli Tuttle	250-367-7551	403-715-5282	

Updated May 7, 2020
officefiles/water/emergencyresponseplanbwvs/page19-reservoirintrusion



EMERGENCY RESPONSE PLAN

RESERVOIR INTRUSION

(Fruitvale Tank/Kelly Creek Reservoir/Balancing Tank)

NOTES: _____

Updated May 7, 2020
officefiles/water/emergencyresponseplanbvws/page19-reservoirintrusion



EMERGENCY RESPONSE PLAN

PUMP / POWER FAILURE

ACTIONS: IN THE EVENT OF A PUMP / POWER FAILURE AFFECTING THE OPERATION OF THE WATER DISTRIBUTION SYSTEM, THE FOLLOWING PROCEDURES SHOULD BE IMPLEMENTED:

• Implement After Hours and Emergency Call-out Procedure (Working Alone)
• Identify the cause of the failure and attempt to determine the length of time the system will be offline
• If the system will be down for an extended period, confirm adequate supply from other sources
• Notify Public Works Foreman and Water Works Foreman
• Notify Drinking Water Officer (DWO) of power failure if the interruption is for an extended period of time (if required)
• Issue Water Quality Advisory after discussion with Drinking Water Officer (DWO), if required
• In the case of a power failure and this source is required, arrange for a portable back-up generator
• Implement Public Notification Protocol regarding interruption of services if back-up is inefficient
• In the case of a pump breakdown, arrange for repair service ASAP
• Once power is returned or pump is repaired, follow pump start-up procedures

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Hydro	FortisBC	1-866-436-7847		
Pump Manufacturer	Precision Pumps	1-888-750-7010	604-308-5861	
Well Pump-house Repairs	Golder	250-365-0344		
Electrical Contractor	John Avis Electric	250-367-7657	250-368-7401	
Electrical Contractor 2	A-Plus Electric	250-368-9253		
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	

NOTES:

Updated June 12, 2019
officefiles/water/emergencyresponseplanbvws/page20-pumppowerfailure



EMERGENCY RESPONSE PLAN

SPILL / VEHICLE ACCIDENT

ACTIONS: IN THE EVENT OF A SPILL OR ACCIDENT AFFECTING THE OPERATION OF THE WATER DISTRIBUTION SYSTEM, THE FOLLOWING PROCEDURES SHOULD BE IMPLEMENTED:

• Implement After Hours and Emergency Call-out Procedure (Working Alone)
• Ensure the scene is safe
• Determine how the water distribution system has been compromised
• Notify Public Works Foreman and Water Works Foreman
• Determine if the water supply has been contaminated and the source of the contaminant
• Take water samples with emergency incident sample kit
• If contamination of source has occurred:
• Notify Drinking Water Officer (DWO)
• Isolate the pump or intake connected to the contaminated source
• Implement public notification protocol
• Arrange alternate source if necessary
• Confirm alternate source is not affected by the contaminant
• Switch to alternate source
• Proceed with corrective measures as recommended by the Drinking Water Officer

CONTACTS:

Title	Contact	Office	Cell	Home
After Hours Call-Out (Working Alone)	Selkirk Security Services	1-866-417-4104		
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384 (WTP)	250-231-4722	250-367-6521
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	
Provincial Emergency Preparedness Program	PEP	1-800-663-3456		
Fire Department Company #6, Fruitvale	Emergency Andrew Borsato, Dist. Chief Dave Kokiwi, A. Dist. Chief	911 250-367-6111 250-367-6111	250-512-7279 250-231-7107	250-367-6441
Police Department	RCMP Trail	911	250-364-2566	
Ministry of Environment		1-800-663-3456		
Dept. of Fisheries		1-800-465-4336		

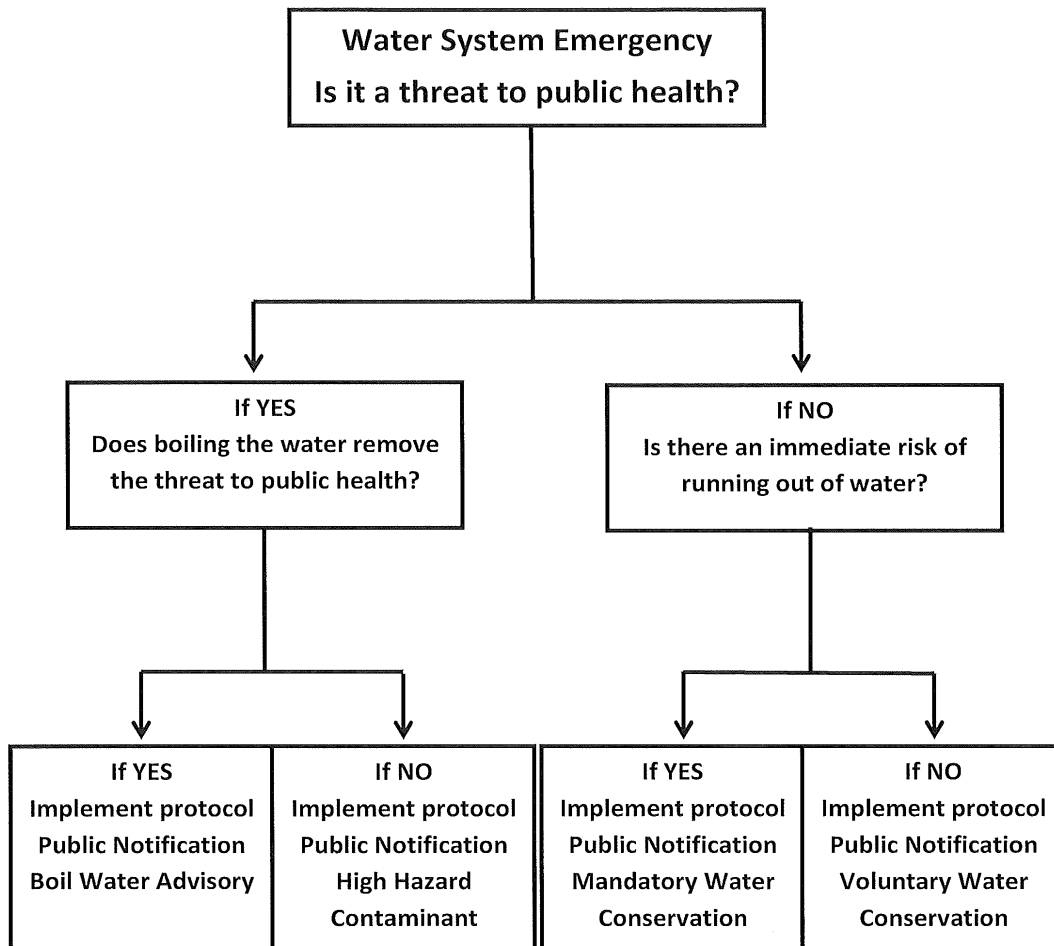
NOTES:

Updated June 12, 2019
officefiles/water/emergencyresponseplanbvws/page21-spillorvehicleaccident

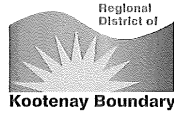


EMERGENCY RESPONSE PLAN

PUBLIC NOTIFICATION DECISION TREE



Updated June 5, 2014
 officefiles/water/emergencyresponseplanbvws/page22-publicnotificationdecisiontree



EMERGENCY RESPONSE PLAN

Public Notification Protocols

HIGH HAZARD CONTAMINANT ADVISORY

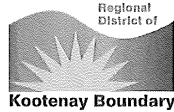
ACTIONS: In the event of a contaminant posing an immediate health hazard entering the water supply, public notification should proceed as follows:

• Contact Fire Department to assist in the notification process
• Contact Police
• Contact Local Radio Stations
• Contact all high risk facilities below
• Hospital
• School (list schools by name)
• Seniors complex
• Day cares
• Arena & Swimming Pool
• Contact Mayor
• Door to door notification (vacant homes leave a door hanger)
• Hotels & Restaurants
•
•
•
• Upon confirmation of the contaminant being removed and the lines are cleared publish Advisory – High Hazard Contaminant Advisory Lifted as above.

CONTACTS:

Title	Contact	Office	Cell	Home
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	250-367-0170
Water Works Foreman	Glen Grieve	250-367-6384	250-231-4722	250-367-6521
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	
Fire Department Company #6, Fruitvale	Emergency Andrew Borsato, Dist. Chief Dave Kokiw, A. Dist. Chief	911 250-367-6111 250-367-6111	250-512-7279 250-231-7107	250-367-6441
Police	RCMP Trail	911	250-364-2566	
Chief Administrative Officer	Kelli Tuttle	250-367-7551	403-715-5282	

Updated May 7, 2020
Officefiles/water/emergencyresponsebvvs/page23-highhazardcontaminant



EMERGENCY RESPONSE PLAN

Public Notification Protocols

BOIL WATER ADVISORY

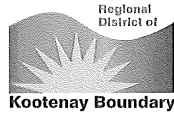
ACTIONS: In the event of a chlorinator failure and under the advice of the Drinking Water Officer, the boil water advisory should be published as follows:

<ul style="list-style-type: none"> • Confirm the order with Interior Health
<ul style="list-style-type: none"> • Contact the Fire Department for assistance in notifying re: Advisory 1 Boil Water Order
<ul style="list-style-type: none"> • Door to door notification (vacant homes leave a door hanger)
<ul style="list-style-type: none"> • Contact Local Radio stations and have them announce Advisory 1 Boil Water Order
<ul style="list-style-type: none"> • Contact all high risk facilities below <ul style="list-style-type: none"> • Hospital • School • Seniors complex
<ul style="list-style-type: none"> • Contact the Mayor
<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> •
<ul style="list-style-type: none"> • Once water quality has been returned to potable, publish Advisory 5 Boil Water Order Lifted as above.

CONTACTS:

Title	Contact	Office	Cell	Home
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	
Water Works Foreman	Glen Grieve	250-367-6384	250-231-4722	250-367-6521
Drinking Water Officer/ Large Water Specialist	Pouria Mojtahedi	250-365-4311	250-551-1911	
Fire Department Company #6, Fruitvale	Emergency Andrew Borsato, Dist. Chief Dave Kokiw, A. Dist. Chief	911 250-367-6111 250-367-6111	250-512-7279 250-231-7107	250-367-6441
Police	RCMP Trail	911	250-364-2566	
Chief Administrative Officer	Kelli Tuttle	250-367-7551	403-715-5282	
Mayor	Steve Morissette		250-921-5575	250-367-6224

Updated May 7, 2020
Officefiles/water/emergencyresponsebvws/page24-boilwateradvisory



EMERGENCY RESPONSE PLAN

Public Notification Protocols

WATER CONSERVATION ADVISORY

ACTIONS: In the event of a partial or complete loss of water source, the following process to advise the water users should be implemented:

• Ensure all staff are aware of the requirement to conserve
• Contact the local radio stations as listed below and have them broadcast Advisory 2 - Mandatory Conservation
• Contact the local paper and have them publish Advisory 2 - Mandatory Conservation
• Post in conspicuous places throughout town Advisory 2 - Mandatory Conservation
• Contact the Mayor
•
•
•
•
•
•
• Upon reinstatement of the water supply, post Advisory 4 - Conservation Advisory Lifted

CONTACTS:

Title	Contact	Office	Cell	Home
Public Works Foreman	Jason Startup	250-367-6162	250-364-3800	250-367-0170
Water Works Foreman	Glen Grieve	250-367-6384	250-231-4722	250-367-6521
Local Radio Station	KBS/EZ Rock	250-368-5510		
Local Radio Station 2	Vista Radio	250-365-7600		
Local TV Station	Shaw Cable	250-364-2676		
Local Newspaper	Trail Times	250-368-8551		
Chief Administrative Officer	Kelli Tuttle	250-367-7551	403-715-5282	
Mayor	Steve Morissette		250-921-5575	250-367-6224

Updated May 7, 2020
 Officefiles/water/emergencyresponsebvws/page25-waterconservationadvisory

VILLAGE OF FRUITVALE WATER RESRICTIONS LEVELS 1 – 5

BEAVER VALLEY WATER SERVICE WATER RESTRICTIONS – LEVEL 1

- ODD NUMBERED HOUSES WATER ON ODD NUMBERED DAYS
- EVEN NUMBERED HOUSES WATER ON EVEN NUMBERED DAYS
- ONLY ONE SPRINKLER PER HOUSEHOLD
- SPRINKLE BETWEEN 7:00 am -10:00 am & 7:00 pm – 10:00 pm
- UNDERGROUND SPRINKLER SYSTEMS TO WATER BETWEEN 1:00 am & 6:00 am for 20 minute intervals per zone
- ENSURE THAT THE WATER STAYS ON THE LAWNS AND NOT RUNNING ONTO THE ROADS OR SIDEWALKS AND PLEASE REFRAIN FROM SPRINKLING WHEN IT IS RAINING.

BEAVER VALLEY WATER SERVICE WATER RESTRICTIONS – LEVEL 2

- ODD NUMBERED HOUSES WATER ON ODD NUMBERED DAYS
- EVEN NUMBERED HOUSES WATER ON EVEN NUMBERED DAYS
- THERE IS TO BE ABSOLUTELY NO SPRINKLING EXCEPT DURING THE HOURS OF 8:00am - 9:00am & 8:00pm - 9:00pm
- UNDERGROUND SPRINKLERS ARE TO BE SET TO WATER BETWEEN 2:00 am – 4:00 am for 20 minute intervals per zone
- ONE SPRINKLER PER HOUSEHOLD
- KEEP YOUR SPRINKLER ON THE LAWN AND GARDEN, ABSOLUTELY NO HOSING OFF THE ROADS AND SIDEWALKS AND PLEASE REFRAIN FROM WATERING WHEN IT IS RAINING.

BEAVER VALLEY WATER SERVICE WATER RESTRICTIONS – LEVEL 3

- SPRINKLING ALLOWED FOR HOMES WITH ODD NUMBERED CIVIC ADDRESSES ONLY ON MONDAYS AND THURSDAYS
- SPRINKLING ALLOWED FOR HOMES WITH EVEN NUMBERED CIVIC ADDRESSES ONLY ON TUESDAYS AND FRIDAYS
- SPRINKLING TIMES ARE RESTRICTED TO THE FOLLOWING HOURS:
 - FROM: 8:00 am TO 9:00 am
 - FROM: 8:00 pm TO 9:00 pm
 - FROM: 2:00 am TO 4:00 am - for automatic sprinklers for 20 minute intervals per zone
- SCHOOLS, MUNICIPALITIES AND REGIONAL DISTRICTS WILL CEASE ALL SPRINKLING
- HOSING OF SIDEWALKS AND DRIVEWAYS NOT ALLOWED
- WASHING OF CARS IS PERMITTED PROVIDED A SPRING-LOADED SHUTOFF DEVICE IS ATTACHED TO THE HOSE AND IT IS DONE DURING WATERING TIMES.

BEAVER VALLEY WATER SERVICE WATER RESTRICTIONS – LEVEL 4

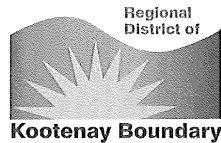
- SPRINKLING ALLOWED FOR HOMES WITH ODD NUMBERED CIVIC ADDRESSES: ONLY ON MONDAYS
- SPRINKLING ALLOWED FOR HOMES WITH EVEN NUMBERED CIVIC ADDRESSES: ONLY ON TUESDAYS
- SPRINKLING TIMES ARE RESTRICTED TO THE FOLLOWING HOURS:
 - FROM: 8:00 am TO 9:00 am
 - FROM: 8:00 pm TO 9:00 pm
 - FROM: 2:00 am TO 4:00 am - for automatic sprinklers for 20 **minute** intervals per zone
- SCHOOLS, MUNICIPALITIES AND REGIONAL DISTRICTS WILL CEASE ALL SPRINKLING
- HOSING OF SIDEWALKS AND DRIVEWAYS IS NOT ALLOWED.
- WASHING OF CARS IS PERMITTED AT THE CARWASH ONLY.

BEAVER VALLEY WATER SERVICE WATER RESTRICTIONS – LEVEL 5

- ABSOLUTELY NO WATERING

Emergency Response Plan

Advisory #1



Beaver Valley Water Service Important Notice

As a precautionary measure, a "Water Quality Advisory" is being issued to inform the users of the Beaver Valley Water Service of a change in the water quality due to increased turbidity. Recent testing shows that current water quality is now FAIR. Current levels exceed the 1 NTU standard recommended in the Federal Guidelines for Canadian Drinking Water Quality. Turbidity can interfere with disinfection, limiting chlorine's ability to remove or inactivate viruses, bacteria such as *E-Coli*, and parasites such as *Giardia* and *Cryptosporidium*.

While health risks are considered low, the BVWS and Interior Health recommend that young children, the elderly people with weakened immune systems, and anyone seeking additional protection drink boiled water or a safe alternative until further notice. For these at-risk populations, water intended for drinking, washing fruits or vegetables, making beverages or ice, or brushing teeth should be boiled for one minute.

Owners of all public facilities must post a **WATER QUALITY ADVISORY** at all sinks or drinking water fountains accessible to the public (alternatively, public fountains and taps may be turned off). As opportunities arise, they must also advise their clientele verbally of the **WATER QUALITY ADVISORY**.

The public will be notified when conditions change or water quality has improved. We apologize for any inconvenience this might cause, and appreciate your cooperation and patience during this time.

WATER QUALITY ADVISORY

IS EFFECTIVE _____ UNTIL FURTHER NOTICE.

ENQUIRIES PLEASE CALL – 250-367-7551

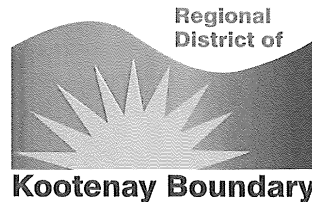
PLEASE SPREAD THE WORD TO YOUR NEIGHBOURS

Updated June 8, 2017

Officefiles/water/emergencyresponsebvws/page27-Advisory1-waterqualityadvisory

Emergency Response Plan

Advisory #1.5

**Beaver Valley Water Service****Important Notice**

As a precautionary measure, a "Water Quality Advisory" is being issued to inform the users of the Beaver Valley Water Service of a change in the water quality due to total coliform counts.

The risk is considered low; however, customers with compromised immune systems, the young and the elderly, may choose to take extra precautions when drinking, washing fruits and vegetables, making beverages or ice, or when brushing teeth.

Boil water rapidly for at least one minute or use an alternative, safe source of water.

WATER QUALITY ADVISORY

IS EFFECTIVE _____ UNTIL FURTHER NOTICE.

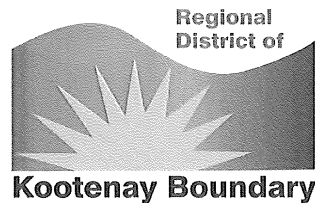
ENQUIRIES PLEASE CALL – 250-367-7551

PLEASE SPREAD THE WORD TO YOUR NEIGHBOURS

Updated June 8, 2017
Officefiles/water/emergencyresponsebvws/page27-Advisory1.5-waterqualityadvisory

Emergency Response Plan

Advisory #2

**Beaver Valley Water Service**

Important Notice

Because of the system's inability to adequately disinfect water at this time, for your safety, it is recommended that you boil your drinking water prior to consumption. Water should be subject to a rolling boil for at least three (3) minutes prior to cooling and consumption.

BOIL WATER ADVISORY

IS EFFECTIVE _____ UNTIL FURTHER NOTICE.

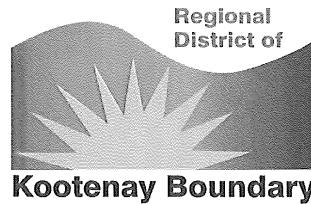
ENQUIRIES PLEASE CALL – 250-367-7551

PLEASE SPREAD THE WORD TO YOUR NEIGHBOURS

Updated May 5, 2014
Officefiles/water/emergencyresponsebvws/page28-Advisory2-boilwateradvisory

Emergency Response Plan

Advisory #3

**Beaver Valley Water Service****Important Notice**

As a result of _____, the main pumping system is inoperative; there is no water entering the system. Please refrain from using faucets and fixtures and please use stored or bottled water for household use. If this situation persists for more than 24 hours you may wish to contact your plumber for advice or assistance with your hot water tank.

MANDATORY CONSERVATION NOTICE

IS EFFECTIVE _____ UNTIL FURTHER NOTICE.

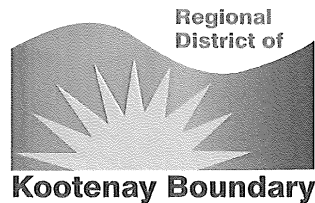
ENQUIRIES PLEASE CALL – 250-367-7551

PLEASE SPREAD THE WORD TO YOUR NEIGHBOURS

Updated June 5, 2014
Officefiles/water/emergencyresponsebvws/page29-Advisory3mandatoryconservationnotice

Emergency Response Plan

Advisory #4

**Beaver Valley Water Service**

Important Notice

As a result of _____, there is a strong probability that pumping systems will have to be shut down. Residents are asked to reduce water consumption immediately and to be prepared for a temporary water shortage. It is recommended that you store a small quantity of water for consumption and general household use.

VOLUNTARY CONSERVATION NOTICE

IS EFFECTIVE _____ UNTIL FURTHER NOTICE.

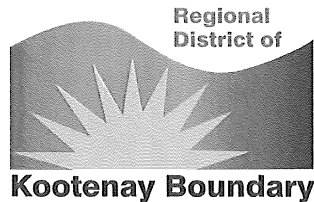
ENQUIRIES PLEASE CALL – 250-367-7551

PLEASE SPREAD THE WORD TO YOUR NEIGHBOURS

Updated June 5, 2014
Officefiles/water/emergencyresponsebvws/page30-Advisory4voluntaryconservationnotice

Emergency Response Plan

Advisory #5

**Beaver Valley Water Service**

Important Notice

Pumping systems have been repaired and are operating normally. While the system is recovering to operating levels, your assistance with conservative use of water from the system over the next two or three days would be appreciated.

**Thank you for your patience
and co-operation**

EFFECTIVE _____

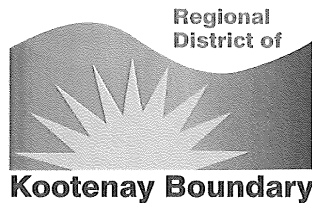
ENQUIRIES PLEASE CALL – 250-367-7551

PLEASE SPREAD THE WORD TO YOUR NEIGHBOURS

Updated June 5, 2014
Officefiles/water/emergencyresponsebvws/page31-Advisory5thankyouforcooperation

Emergency Response Plan

Advisory #6

**Beaver Valley Water Service****Important Notice**

Bacterial sampling of the water system indicates that it is no longer necessary to boil water prior to consumption. You may notice elevated levels of chlorine (smell and taste) for a short period of time. Levels of disinfection will be reduced as soon as possible.

**Thank you for your patience
and co-operation**

EFFECTIVE _____

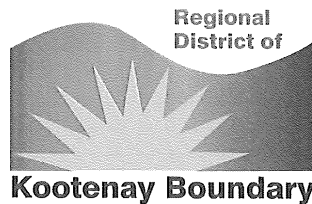
ENQUIRIES PLEASE CALL – 250-367-7551

PLEASE SPREAD THE WORD TO YOUR NEIGHBOURS

Updated June 5, 2014
Officefiles/water/emergencyresponsebvws/page32-Advisory6thankyouforcooperation

Emergency Response Plan

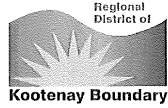
Advisory #7

**Beaver Valley Water Service****Important Notice**

Due to circumstances beyond our control, all Beaver Valley Water System users are hereby advised **not to use the water** for any purpose until further advised. The Beaver Valley Water Service apologizes for any inconvenience this may cause and will be providing updates regarding the water system as often as possible.

WATER IS UNSAFE TO USE ADVISORY**IS EFFECTIVE _____ UNTIL FURTHER NOTICE.****ENQUIRIES PLEASE CALL – 250-367-7551****PLEASE SPREAD THE WORD TO YOUR NEIGHBOURS**

Updated June 5, 2014
Officefiles/water/emergencyresponsebvws/page33-Advisory7waterunsafetouse



Beaver Valley Water System Water Quality/Incident Investigation Form

NOTIFICATION

Date of report:		Date of Investigation:	
Name of person reporting:		Phone:	
Address of person reporting:			
Service address of facility in question:			
Reason for report:			
Previous Quality Issue	YES <input type="checkbox"/>	NO <input type="checkbox"/>	

WATER QUALITY

At time of report	At time of investigation
• Colour	• Colour
• Odour	• Odour
• Taste	• Taste
• Bubbles	• Bubbles
• Physical Irritant	• Physical Irritant
• Debris	• Debris
• Temperature	• Temperature

DISTRIBUTION SYSTEM at time of complaint

<ul style="list-style-type: none"> Pressure Loss 		<ul style="list-style-type: none"> Pressure Increase 	
Vicinity Pressure Reading:		psig	
Taken at:			
High Velocity Occurrence			
Main Break:		Peak Demand:	
Fire:		Flushing:	
Date & Time:		Location:	
Nearby potentially hazardous facilities:		1.	
		2.	
		3.	
		4.	

INVESTIGATION ACTIONS

Water Sample Taken	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Pending <input type="checkbox"/>
Immediate Results:			
Samples shipped	YES <input type="checkbox"/>	NO <input type="checkbox"/>	To:
Temperature	Pre-flush:	Post-flush:	Stable temp. time:
ERP Notification	Immediate <input type="checkbox"/>	Pending <input type="checkbox"/>	Type:

RESPONDER

Name of Person who received call:	Office:
Name of Investigator:	
Recommendations:	

Updated June 5, 2014
Officefiles/water/emergencyresponsebvws/page34-waterqualityinvestigationform



Corporation of the Village of Fruitvale

ERP DOCUMENT UPDATE CHECKLIST

Document Name	Date of Draft	First Review by	Book updated by	Final Update
ERP Intro & index	24/06/2016	Karen		27/06/2017
Implementing an ERP Plan	04/04/2014	Karen		27/06/2017
Master Contact List	07/05/2020	Karen		07/05/2020
Interior Health Contact List	05/06/2016	Karen		27/06/2017
Call Response Procedures:				
- Water Quality Incident Report	04/04/2014	Karen		27/06/2017
- After Hours & Emergency Working Alone Procedure	07/05/2020	Karen		07/05/2020
- Emergency Bacteriological Sampling Procedures	04/04/2014	Karen		27/06/2017
ERP Template	04/04/2014	Karen		27/06/2017
Backflow Incident ERP	12/06/2019	Karen		12/06/2019
Broken Water Main ERP	12/06/2019	Karen		12/06/2019
Fire Effecting the Distribution System Operations ERP	12/06/2019	Karen		12/06/2019
Flooding of the Pump House ERP	12/06/2019	Karen		12/06/2019
High Chlorine Residual ERP	12/06/2019	Karen		12/06/2019
High Turbidity at Water Treatment Plant (Finished Water) ERP	12/06/2019	Karen		12/06/2019
High Turbidity in Distribution System ERP	12/06/2019	Karen		12/06/2019
Loss of Kelly Creek Source ERP	07/05/2020	Karen		07/05/2020
Low Chlorine Residual ERP	12/06/2019	Karen		12/06/2019
Reservoir Intrusion ERP	07/05/2020	Karen		07/05/2020
Pump / Power Failure ERP	12/06/2019	Karen		12/06/2019
Spill / Vehicle Accidents ERP	12/06/2019	Karen		12/06/2019
Public Notification Decision Tree	27/06/2017	Karen		27/06/2017
Public Notification Protocol - High Hazard Contaminant	07/05/2020	Karen		07/05/2020
Public Notification Protocol - Boil Water Advisory	07/05/2020	Karen		07/05/2020
Public Notification Protocol - Water Conservation	07/05/2020	Karen		07/05/2020
Water Restrictions Levels 1 to 5	04/04/2014	Karen		27/06/2017
Advisory 1 – Water Quality Advisory due to increased turbidity	08/08/2017	Karen		17/07/2017
Advisory 1.5 – Water Quality Advisory due to total coliform counts	08/08/2017	Karen		17/07/2017
Advisory 2 - Boil Water Order	04/04/2014	Karen		27/06/2017

Updated May 7, 2020

officefiles/water/emergencyresponseplanbvws/page35-ERPdocumentupdatechecklist



Corporation of the Village of Fruitvale

ERP DOCUMENT UPDATE CHECKLIST

Advisory 3 - Mandatory Conservation	04/04/2014	Karen		27/06/2017
Advisory 4 - Voluntary Conservation	04/04/2014	Karen		27/06/2017
Advisory 5 - Conservation Advisory Lifted	04/04/2014	Karen		27/06/2017
Advisory 6 - Boil Water Order Lifted	04/04/2014	Karen		27/06/2017
Advisory 7 - Water Unsafe for Use	04/04/2014	Karen		27/06/2017
Water Quality/Incident Investigation Form	04/04/2014	Karen		27/06/2017
Document Update Checklist	07/05/2020	Karen		07/05/2020

Updated May 7, 2020
officefiles/water/emergencyresponseplanbvws/page35-ERPdocumentupdatechecklist

Appendix G
Environmental Operators Certificate Program (EOCP)
System Classification and Certification

ENVIRONMENTAL OPERATORS CERTIFICATION PROGRAM

Facility Classification

THIS IS TO CERTIFY THAT

**The Beaver Valley
Water Treatment Facility**

has been classified by the Environmental Operators Certification Program in accordance
with the guidelines established in co-operation with the Association of Boards of Certification (A.B.C.) as a

Class III


Dated at Burnaby, B.C. on September 22, 2006


Secretary - Certification Board


Chairman - Certification Board

 **CERTIFICATE NO. 568**

MEMBER OF ASSOCIATION OF BOARDS OF CERTIFICATION
AFFILIATE OF B.C. WATER AND WASTE ASSOCIATION
A Society Incorporated under the Society Act, S.B.C. S-28724



Attendance Certificate

This certifies that

Glen Grieve

has attended the

Water Treatment Level III/IV Course
(EOCP Course #7606)

Offered by MTS Maintenance Training Systems Inc.

Date Completed: March 16, 2012

Instructors: Brian Thorburn

CERTIFICATE OF COMPLETION


Issued to

JASON STARTUP

In recognition of completion of BC Water & Waste Association's

Water Treatment II Course

May 16-20, 2011
Vancouver, BC



DAISY FOSTER
CHIEF EXECUTIVE OFFICER

 **BCWWA**
BC WATER & WASTE ASSOCIATION

2.4 CEUs will be awarded for this course

*Safeguarding public health and the environment through the sharing of skills, knowledge,
education and experience, and providing a voice for the water and waste community.*



CERTIFICATE of QUALIFICATION

Environmental Operators Certification Program

This is to certify that:

Jeff Mason

By examination has qualified as a

**Water Treatment Operator
Level II**



CHAIR, BOARD OF DIRECTORS

CHIEF EXECUTIVE OFFICER

Certification No. 6449

Valid until: 31 December 2020

A society incorporated under the Society Act, S.B.C. S-28724

ENVIRONMENTAL OPERATORS CERTIFICATION PROGRAM

Facility Classification

THIS IS TO CERTIFY THAT

**Beaver Valley
Water Distribution System**


has been classified by the Environmental Operators Certification Program in accordance
with the guidelines established in co-operation with the Association of Boards of Certification (A.B.C.) as a

Class II


Dated at Burnaby, B.C. on September 6, 2006


Secretary - Certification Board


Chairman - Certification Board

 **CERTIFICATE NO. 1329**

MEMBER OF ASSOCIATION OF BOARDS OF CERTIFICATION
AFFILIATE OF B.C. WATER AND WASTE ASSOCIATION
A Society Incorporated under the Society Act, S.B.C. S-28724





ENVIRONMENTAL OPERATORS CERTIFICATION PROGRAM

Certificate of Competency

This is to certify that:

Jason M. Startup

By Examination Has Qualified As A

Water Distribution System Operator

and certifies that he/she has met the established qualifications and has the ability to efficiently operate and maintain a specified maximum size and type of water distribution system designated as follows:

CLASS



Secretary - Certification Board

November 7, 1997



Chairman - Certification Board

Certificate No: 1961

Member of Association of Boards of Certification
Affiliate of B.C. Water and Waste AssociationThis certificate shall be in full force and effect when accompanied by an annual renewal seal
A Society Incorporated under the Society Act, S.B.C. S-28724

ENVIRONMENTAL OPERATORS CERTIFICATION PROGRAM

Certificate of Qualification

This is to certify that:


Jeff Mason


By Examination Has Qualified As A

Water Distribution System Operator

and certifies that he/she has met the established qualifications and has the ability to efficiently operate and maintain a specified maximum size and type of water distribution system designated as follows:

Level I


Secretary - Certification Board


Chairman - Certification Board

September 26, 2008

Certificate No: 6449



Member of Association of Boards of Certification
This certificate must hold the EOCP seal

This certificate shall be in full force and effect when accompanied by an annual renewal seal
A Society Incorporated under the Society Act, S.B.C. S-28724

Appendix H
Beaver Valley Water Operating Permit



Interior Health

Health Protection

Permit To Operate

Drinking Water System 301 - 10,000 Connection

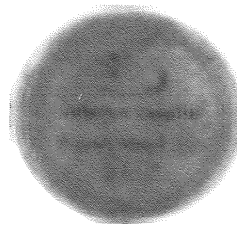
Facility Number: 0210644
Name of Facility: Beaver Valley Water System
Address: 930A Columbia Gardens Road
Fruitvale, BC V0G 1L0
Owner: Regional District of Kootenay Boundary
Conditions:

April 1, 2004

Effective Date

Public Health Inspector

*This permit is nontransferable and must be displayed in a
conspicuous place.*



007625 June 04



Interior Health

November 6, 2014

Beaver Valley Water System
Regional District of Kootenay Boundary
202-843 Rossland Avenue
Trail, BC, V1R 4S8

Attn: Bryan Teasdale, Manager of Infrastructure and Sustainability

**RE: Beaver Valley Water System, Facility # 0210644
Conditions on Operating Permit**

The following terms and condition on your Permit to Operate are placed under Section 8 of the Drinking Water Protection Act. As such, there is a legal requirement to comply with all terms and conditions of the permit. It is important to note that any amendment of an operating permit must occur in accordance with section 8(4) of the Act, which requires prior consultation with the water supplier and consideration of any comments the water supplier may provide in respect of the proposed changes. The terms and conditions in this letter will supersede and update previous terms and conditions.

Condition 1: Provide Source Water Protection Plan for each Water Source

Status: In Progress

Phase I of a source water protection plan has been budgeted for by the Regional District of Kootenay Boundary in the 2014 year.

Request:

- Provide a progress update on your Source Protection Plan in the annual report.

Condition 2: Provide a Certified Operator to Operate the System

Status: In Compliance

- This water system is classified as a WT III and WD-II. An updated list of certified operators was reviewed on October 12, 2013.

Request:

- Provide a training plan for staff to achieve and maintain the required certification level. The training plan should be based on a reasonable time frame in consideration of the EOCP educational course (CEU's) and work hour requirements.

Bus: (250)364-6202
Fax: (250)364-6218
Email: juliana.gola@interiorhealth.ca
Web: interiorhealth.ca

INTERIOR HEALTH
Health Protection
Suite 2-1500 Columbia Avenue
Trail, BC, V1R 1J9



Condition 3: Operate According to your Water Quality Monitoring Program

Status: In Compliance

- A written water quality monitoring program been submitted to Interior Health which outlines the frequency and location of bacteriological sampling points. Monthly reports are submitted which report chlorine residual monitoring and turbidity monitoring.

Request:

- Provide any updates or changes to the water quality monitoring program for review to Interior Health.

Condition 4: Operate According to your Cross Connection Control Program

Status: In Compliance

- A cross connection control bylaw is in place for the Beaver Valley Water System.
- A cross connection control program has been submitted for review to Interior Health.
- Backflow prevention devices are inspected and tested annually as part of the cross connection control program.

Request:

- Provide an update in the annual report indicating successes and challenges of the cross connection control program.

Condition 5: Provide a Turbidity Monitoring Program

Status: In Compliance

- Turbidity monitoring information is being provided in monthly reports to Interior Health.

Condition 6: Provide Continuous On-line Monitoring of the Water Disinfection Process

Status: In Compliance

SCADA summary data is being provided in monthly reports to Interior Health.

Condition 7: Provide Long term Plans for Source, Treatment and Distribution System Improvements Taking into Account the Drinking Water Protection Act and Regulation and the Guidelines for Canadian Drinking Water Quality

Status: In Compliance

- Interior Health has been provided with the Beaver Valley Water System Long Term Water Strategy-July 2003 Summary Report update.

Request:

- Provide a summary and any changes or updates to the long term plan in the annual report.

Bus: (250)364-6202
Fax: (250)364-6218
Email: juliana.gola@interiorhealth.ca
Web: interiorhealth.ca

INTERIOR HEALTH
 Health Protection
 Suite 2-1500 Columbia Avenue
 Trail, BC, V1R 1J9



Interior Health

Condition 8: Review and Update the Emergency Response Plan Annually

Status: In Compliance

- Interior Health has been provided an updated copy of the Emergency Response Plan.

Request:

- Provide an updated Emergency Response Plan annually prior to June 30th.

Condition 9: Monthly & Annual Water System Reports

Monthly Report Status: In Progress

- Microbiological test results, chlorine usage, turbidity monitoring results, and water consumption records are currently being submitted to Interior Health.
- The validation data for the UV system should be established in order to determine if the UV treatment is operating and maintained as intended.
- Maintenance and calibration data for the UV system is not currently included in monthly reporting.

Request:

- Provide a monthly report which includes:
 - Comments on source, treatment, distribution system events
 - Records of customer complaints and response
 - Operational and maintenance activities that could affect water quality (ie: main repairs, reservoir cleaning, distribution flushing)
 - Maintenance and calibration data for UV system

Annual Report Status: In Compliance

- Annual reports have been submitted to Interior Health.
- Annual reports should be provided to water users to enhance communications regarding water quality, operations, monitoring results and capital works protects for the water supply system. Annual reports should include:
 - Annual consumption data
 - Updates to water system assessment
 - Updates to Master Water Plan
 - Updates to Capital Works Plan
 - Updates to Water Monitoring Plan
 - Updates to Emergency Response Plan
 - Updates to Cross Connection Control Program
 - EOCP certification level for each operator
 - Updates to EOCP System Classification

Request:

- A complete annual report is to be made available to the public/users within six months of the end of the calendar year. A copy is to be provided to Interior Health by June 30th annually.

Bus: (250)364-6202
Fax: (250)364-6218
Email: juliana.gola@interiorhealth.ca
Web: interiorhealth.ca

INTERIOR HEALTH
 Health Protection
 Suite 2-1500 Columbia Avenue
 Trail, BC, V1R 1J9



Thank you for your continued cooperation and success in providing Beaver Valley Water System users with clean, safe, reliable tap water.

If you have any questions please contact me directly at 250 364 6202

Sincerely,

A handwritten signature in black ink, appearing to read "JGola".

Juliana Gola, CPHI(C)
Specialist-Environmental Health Officer

Cc: Lila Cresswell, CAO, Village of Fruitvale
Glen Grieve, Chief Operator, Village of Fruitvale
Dan Byron, Team Leader, Infrastructure Programs, Interior Health
Marianne Crowe, Public Health Engineer, Interior Health

Bus: (250)364-6202
Fax: (250)364-6218
Email: juliana.gola@interiorhealth.ca
Web: interiorhealth.ca

INTERIOR HEALTH
Health Protection
Suite 2-1500 Columbia Avenue
Trail, BC, V1R 1J9

**STAFF REPORT**

Date: 08 Oct 2020 **File**
To: **Chair Langman and Board of Directors**
From: Brian Champlin, Manager of Building Inspection Services
Re: Building Bylaw Contravention

Issue Introduction

A staff report from Brian Champlin, Manager of Building Inspection Services, regarding a Building Bylaw Contravention for the property described as:

35 Beacon Road, Carmi, B.C.

Electoral Area 'E' / West Boundary

Parcel Identifier: 027-348-237

Lot D District Lot 472S Similkameen District Yale District Plan KAP85695

Owner: John Morice

History/Background Factors

The Building Official confirmed that there have been no changes concerning the above referenced property. The owner, John Morice, has constructed an accessory building without a building permit.

Implications

Should the Regional District not file a Notice on Title against the above mentioned property pursuant to Section 302 of the *Local Government Act* and Section 57 of the *Community Charter*, future purchasers of the property would not be aware that the building(s) are in contravention of the B.C. Building Code and/or Building Bylaw.

Advancement of Strategic Planning Goals

Not applicable.

Background Information Provided

- Staff Report dated August 19, 2020, submitted to the Board regarding the building bylaw contravention;
- Letter dated September 29, 2020, inviting the Owners to the October 14, 2020 Board Meeting.

Alternatives

1. Once all deficiencies are rectified, the Owner may request that that Regional District of Kootenay Boundary Board of Directors remove the Notice on Title upon receipt of \$200.00 (Administration fee for removal of the Notice).

Recommendation(s)

That the Regional District of Kootenay Boundary Board of Directors direct the Chief Administration Officer to file a Notice in the Land Title Office pursuant to Section 302 of the *Local Government Act* and Section 57 of the *Community Charter* against the property legally described as Lot D, District Lot 472S, Similkameen Division Yale District, Plan KAP85695.



**Regional District of
Kootenay Boundary**

STAFF REPORT

Date: 19 Aug 2020 **File**
To: Chair Langman and Board of Directors
From: James Chandler, General Manager of Operations / Deputy CAO
Re: Building Bylaw Contravention

Issue Introduction

A staff report from James Chandler, General Manager of Operations / Deputy CAO, regarding a Building Bylaw Contravention for the property described as:

35 Beacon Road, Carmi, B.C.

Electoral Area 'E' / West Boundary

Parcel Identifier: 027-348-237

Lot D District Lot 472S Similkameen District Yale District Plan KAP85695

Owner: John Morice

History/Background Factors

The owner, John Morice, has constructed an accessory building without a building permit.

The Regional District of Kootenay Boundary Building and Plumbing Amendment Bylaw No. 449 states:

Duties of the Owner

12.1 Every owner shall:

b) obtain where applicable from the authority having jurisdiction, permits relating to demolition, excavation, building, repair of buildings, zoning, change in classification of occupancy, sewers, water, plumbing, signs, canopies, awnings, marquees, blasting, street occupancy, electricity, buildings to be moved, and all other permits required in connection with the proposed work prior to the commencement of such work.

Implications

The Regional District of Kootenay Boundary Board of Directors has dealt with a number of Bylaw Contraventions by Filing a Notice on Title. The effect of this Notice is to alert future Purchasers of the property that the building(s) are in contravention of the B.C. Building Code and/or regulatory bylaws. The above action does not preclude the Regional District of Kootenay Boundary from taking such steps as may be further authorized by Bylaw, *Local Government Act* and *Community Charter* to enforce compliance with regulations.

Advancement of Strategic Planning Goals

Not applicable.

Background Information Provided

- History / Background Factors;
- Registered letter dated April 28, 2020;
- Registered letter dated March 2, 2020;
- Registered letter dated January 7, 2020.

Alternatives

1. Once all deficiencies are rectified, the Owner may request that the Regional District of Kootenay Boundary Board of Directors remove the Notice on Title upon receipt of \$200.00 (Administration fee for removal of the Notice).

Recommendation(s)

1. That the Regional District of Kootenay Boundary Board of Directors invite the owner, John Morice, to appear before the Board to make a presentation relevant to the filing of a Notice in the Land Title Office pursuant to Section 302 of the *Local Government Act* and Section 57 of the *Community Charter* against the property legally described as Block D, District Lot 472S, Similkameen Division Yale District, Plan KAP85695.



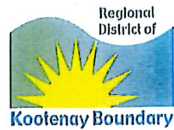
STAFF REPORT ATTACHMENT

Date:	August 19, 2020	File:	
To:	Chair Langman and Board of Directors		
From:	Brian Champlin, Manager of Building Inspection Services		
RE:	<u>BUILDING BYLAW CONTRAVENTION</u> 35 BEACON ROAD, CARMI, B.C. ELECTORAL AREA 'E' / WEST BOUNDARY PARCEL IDENTIFIER: 027-348-237 LOT D DISTRICT LOT 472S SIMILKAMEEN DIVISION YALE DISTRICT PLAN KAP85695 OWNER: JOHN MORICE		

History/Background Factors

The owner, John Morice, has constructed an accessory building without a building permit.

Dec. 19, 2019	Stop Work Order posted;
Jan. 7, 2020	First registered letter mailed to owner, requesting a response by February 7, 2020;
Jan. 16, 2020	Canada Post confirmation that the letter was delivered;
March 2, 2020	Second registered letter mailed to owner, requesting a response by April 2, 2020;
March 11, 2020	Canada Post confirmation that the letter was delivered;
April 28, 2020	Third registered letter mailed to owner, requesting a response by May 28, 2020;
April 30, 2020	Canada Post confirmation that the notice card was left for owner – new Covid protocol;
Aug. 19, 2020	To date, we have received no further response from the owner.



April 28, 2020

REGISTERED

John Morice
P.O. Box 146
Beaverdell, BC
VOH 1A0

Re: STOP WORK ORDER
Construction of an Accessory Building without a Building Permit
35 Beacon Road, Carmi B.C.
Lot D, D.L. 472S, Plan KAP 85695

A review of the above referenced file indicates that we have not received the documentation requested in our letter dated January 7, 2020 and March 2, 2020. A Stop Work Order was posted on December 19, 2019 for construction of an accessory building without a building permit.

To date, no response has been received by this office as requested.

We will now be recommending to the Regional District of Kootenay Boundary Board of Directors that a notice be registered on title pursuant to Section 302 of the Local Government Act and Section 57 of the Community Charter (copies attached). This notice will refer to a building bylaw contravention on the above referenced property and does not limit further action being taken.

If you have any questions or wish to discuss this notice, please contact the undersigned by May 28, 2020.

The above action does not preclude the Regional District of Kootenay Boundary from taking such steps as may be further authorized by Bylaw, Local Government Act and Community Charter to enforce compliance with regulations. Your attention to this matter is appreciated.

Respectfully,

A handwritten signature in cursive script, appearing to read "R. Silva".

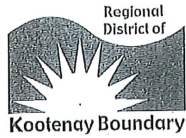
Robert Silva, RBO
Building & Plumbing Official

Attachment
RS:rj

Cc: Brian Champlin, RBO, CRBO | Manager of Building Inspection Services

2140 Central Ave. Box 1965 Grand Forks, British Columbia Canada V0H 1H0
toll-free: 1 877 520-7352 • tel: 250 442-2708 • fax: 250 442-2688
email: gtbuilding@rdkb.com • web: www.rdkb.com





March 2, 2020

REGISTERED

John Morice
P.O. Box 146
Beaverdell, BC
V0H 1A0

Re: STOP WORK ORDER
Construction of an Accessory Building without a Building Permit
35 Beacon Road, Carmi B.C.
Lot D, D.L. 472S, Plan KAP 85695

A review of the above referenced file indicates that we have not received the documentation requested in our letter dated January 7, 2020. A **Stop Work Order** was posted on December 19, 2019 for construction of an accessory building without a building permit.

No building permit has been issued as required by the Regional District of Kootenay Boundary Building Bylaw No. 449

Section 7.1 No person shall commence or continue any work provided for in Section 3.2 or related to building unless he has a valid and subsisting permit issued by the authority having jurisdiction.

Section 12.1 b) Every owner shall:
obtain where applicable from the authority having jurisdiction, permits relating to demolition, excavation, building, repair of buildings, zoning, change in classification of occupancy, sewers, water, plumbing, signs canopies, awnings, marquees, blasting, street occupancy, electricity, buildings to be moved, and all other permits required in connection with the proposed work prior to the commencement of such work;

To apply for a permit, please fill out the enclosed application form and submit the relevant documentation listed on the "How to Obtain a Building Permit" checklist to our office by April 2, 2020. Failure to comply may result in legal action.

If you have any questions, please contact the undersigned.

Respectfully,

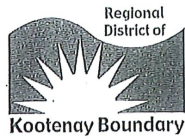
Robert Silva, RBO
Building & Plumbing Official

Attachment
RS:rj

Cc: Brian Champlin, RBO, CRBO | Manager of Building Inspection Services

2140 Central Ave. Box 1965 Grand Forks, British Columbia Canada V0H 1H0
toll-free: 1 877 520-7352 • tel: 250 442-2708 • fax: 250 442-2688
email: gfbldg@rdkb.com • web: www.rdkb.com





January 7, 2020

REGISTERED

John Morice
P.O. Box 146
Beaverdell, BC
V0H 1A0

Re: STOP WORK ORDER
Construction of an Accessory Building without a Building Permit
35 Beacon Road, Carmi B.C.
Lot D, D.L. 472S, Plan KAP 85695

This letter confirms the posting of a Stop Work Order on December 19, 2019 for Construction of an Accessory Building without a Building Permit at the above referenced property.

No building permit has been issued as required by the Regional District of Kootenay Boundary Building Bylaw No. 449,

Section 7.1 No person shall commence or continue any work provided for in Section 3.2 or related to building unless he has a valid and subsisting permit issued by the authority having jurisdiction.

Section 12.1 b) Every owner shall:
obtain where applicable from the authority having jurisdiction, permits relating to demolition, excavation, building, repair of buildings, zoning, change in classification of occupancy, sewers, water, plumbing, signs canopies, awnings, marquees, blasting, street occupancy, electricity, buildings to be moved, and all other permits required in connection with the proposed work prior to the commencement of such work;

To apply for a permit, please fill out the enclosed application form and submit the relevant documentation listed on the "How to Obtain a Building Permit" checklist to our office by **February 7, 2020**. Failure to comply may result in legal action.

If you have any questions, please contact the undersigned.

Respectfully,

Robert Silva, RBO
Building & Plumbing Official

RS:mc

Cc: Brian Champlin, RBO, CRBO | Manager of Building Inspection Services

Attachment

2140 Central Ave. Box 1965, Grand Forks, British Columbia Canada V0H 1H0
toll-free: 1 877 520-7352 • tel: 250 442-2708 • fax: 250 442-2608
email: glbuilding@rdkb.com • web: www.rdkb.com



September 29, 2020

John Morice
PO Box 146
Beaverdell, B.C. V0H 1A0

**Re: Constructed Accessory Building without a Building Permit
635 Beacon Road, Carmi, B.C. Electoral Area 'E' / West Boundary
Contravention of Building Bylaw No. 449
Lot D District Lot 472S Similkameen Division Yale District Plan KAP85695**

On September 17, 2020 the Board of Directors reviewed the attached report regarding the above referenced property. As a consequence, the Board will, at its next regular meeting, be considering a resolution to direct the Chief Administrative Officer to file a formal Notice in the Land Title Office regarding this contravention. Pursuant to Section 302 of the *Local Government Act* and Section 57 of the *Community Charter*, you are to be afforded the opportunity to be heard by the Board of Directors before such a Notice is filled. The Board has therefore, adopted the following resolution.

"That John Morice be invited to appear before the Board to make a presentation relevant to the filing of a Notice in the Land Title Office pursuant to Section 302 of the *Local Government Act* and Section 57 of the *Community Charter* against the property legally described as Lot D, District Lot 472A, Similkameen Division Yale District, Plan KAP85695".

This hearing before the Board of Directors is scheduled for Wednesday, October 14, 2020 at approximately 1:00 p.m. As our offices are closed to the public at this time, this meeting will be held remotely through Zoom Video Conferencing. Please email Sara Bradley at sbradley@rdkb.com in advance, confirming whether you or a representative will be present for this hearing. If you will be remotely attending this hearing, we request a written submission from you relating to this matter by October 9, 2020. This will provide sufficient time for your report to be distributed to the Board of Directors and for us to send correspondence on how to join through Zoom Video Conferencing.

Please be advised that, in order to avoid registration of this Notice, the Board of Directors require a written confirmation from the Building Inspection staff that the property is now in compliance. You are encouraged to acquire that confirmation before the hearing date.

Enclosed for your information is a copy of Section 302 of the *Local Government Act* and Section 57 of the *Community Charter*. The effect of this Notice is to remove liability from the Regional District of Kootenay Boundary and warn future purchasers of the property that the building(s) or construction on the property may have been in violation of the B.C. Building Code and/or Regulatory Bylaws of the Authority having Jurisdiction.

Yours truly,



Theresa Lenardon
Manager of Corporate Administration

202 – 843 Rossland Avenue, Trail, BC V1R 4S8 | T: 250.368.9148 | T/F: 1.800.355.7352 | rdkb.com





Federal/Provincial Gas Tax Funding Application

The personal information you provide on this RDKB document is being collected in accordance with the Freedom of Information and Protection of Privacy Act and will be used only for the purposes of processing RDKB business. This document may become public information. If you have any questions about the collection of your personal information, please contact Theresa Lenardon, Manager of Corporate Administration/Corporate Officer and Freedom of Information and Protection of Privacy Officer at 250-368-9148 or foi@rdkb.com.

Application Date

Project Title

Applicant Contact Information:

Name of Organization	Rock Creek & Boundary Fair Association		
Address	PO Box 83, Rock Creek, BC V0H 1Y0		
Phone No.	250-446-2465	Fax No.	250-446-2639
Email Address	rcfair.gm@gmail.com		

Director(s) in Support
Of Project

Area

Amount Required

Is your organization a (please check where appropriate):

☒ Not-For-Profit/Charity ☒ Society # 0003913 ☒ Community Organization

Land Ownership – Please check one of the following:

☐ The applicant is the owner of the property
☒ The property is Crown Land. Tenure/license number

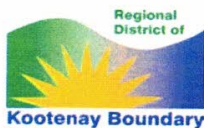
Do you have the Landowner's written approval to complete the works on the land(s)?

☒ Yes (include copies of permits)
☐ No

Ownership and Legal Description details are required for all parcels of land on which the proposed works will occur.

Registered Owners of Land	Legal Description of land(s)
Her Majesty the Queen in Right of the Province of British Columbia	Block C of District Lot 215, Similkameen Division of Yale District, Plan 5758

202-843 Rossland Ave Trail, British Columbia Canada V1R 4S8
Toll-free: 1 800 355 7352 · tel: 250 368-9148 · fax: 250 368-3990
Email: admin@rdkb.com · web: rdkb.com



Application Contents – must include all of the following:

1. Description of the project including management framework
2. Project Budget including project costs (E.g. employee, equipment, etc.)
3. Outline of project accountability including Final Report and financial statements

1. Eligible Project Description including timeline:

The washrooms and meeting room in the Pavilion building were constructed in 1975 after receiving funding from the Provincial Lottery Corporation. Forty-five years later, with little to no changes or upgrades, these facilities are in serious need of retrofit due to health and safety concerns originating from years of moisture and condensation issues, as well as overall deterioration due to the significant increase in use of the facility.

The proposed renovations of the washrooms and meeting rooms includes the following:

Male & Female Washrooms: Retrofit washrooms including new flooring & cove base, LED light fixtures, touchless fixtures such as sinks, soap and paper towel dispensers, countertops, metal toilet partitioning (replacing unhygienic plywood stalls) and drywall. New drop ceiling including rerouting and upgrade of plumbing lines from exterior walls (which are subject to freezing in winter) to ceiling space. Upgrade wiring to accommodate new LED lighting and energy efficient heating system and installation of emergency lighting.

Meeting Room: Retrofit of the meeting room to include new flooring & cove base, new drop ceiling to accommodate LED lighting and provide better acoustics for meetings and various classroom uses. Install drywall and sound proofing on walls which will also be utilized as display boards for various art, photography and quilt exhibitions.

Hall way & Janitors Closet: Retrofit hallway & janitor's closet between washrooms and meeting room to include new flooring & cove base, drywall, display boards for education material, LED lighting & emergency lighting, replace sink and faucets.

The project is expected to begin no later than November 1, 2020 with an expected completion date of not later than December, 2020. The project has been approved by the Ministry of Forests, Lands and Natural Resource as representative of Her Majesty the Queen in the Right of the Province of BC (Copy of Approval Letter attached). The structure will be built by a qualified general contractor with the appropriate Liability Insurance and WorkSafe BC certificates.

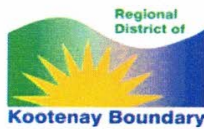
The anticipated project timeline is as follows:

- Week 1 - Demolition, rough-in Mechanical & Electrical
- Week 2 - Install drywall, tape, mud & sand
- Week 3 - Install sound proofing, backsplash (urinals), drop ceiling frame
- Week 4 - Mechanical & Electrical finishing, install ceiling tiles
- Week 5 - Install flooring
- Week 6 - Install washroom partitions & countertops
- Week 7 - Install washroom accessories (toilet paper, paper towel, soap dispensers) & final finishes
- Week 8 - Final clean up and inspections.

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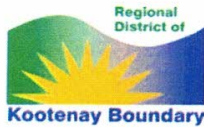


1.1 Project Impact:

This September 2020, the Rock Creek & Boundary Fair Association (RCBFA) was set to celebrate its Diamond Jubilee, hosting its 75th Annual Agricultural Fair. Unfortunately this year, due to the health pandemic, we are unable to carry through with this event, however, the “silver lining” is that it has given us the opportunity of some “down time” to carry out the renovations to the most “highly used” part of the facility.

The Fair began as a one day event in 1917 and was held at the community hall on the highway. The Fair went on hiatus during the Second World War and started up again in 1946. At its current location of 50+ acres along the Kettle River, the Fair is held over two days, attracting over 10,000 visitors to the area who are entertained, educated and exposed to agriculture and related rural life. As the largest facility of its type in the West Boundary, the Rock Creek Fair Grounds has become more than just a venue to hold an annual two day agricultural Fair; it has become the “community centre” of the West Boundary. The facilities are used by many, for recreational, cultural and humanitarian purposes including local non-profit associations such as the Lion’s Club for their Christmas Hamper Program & free Community Easter Dinner, the ladies Baseball team to host baseball games and tournament, the 46 members strong Boundary C 4-H Club and Borderline Sheep Club, who are sponsored by the RCBFA, use the facilities for meetings, speeches, Rally Day and the Cattle Baron’s Ball which is their major annual fundraiser, the Rock Creek Horse Association to hold horse events and clinics, Quilt Shows, Art Groups, Local, Provincial & Federal polling stations. We also are able to host a local tree planting group every year who are instrumental in the reforestation of our lands after wildfires. Plus we are becoming an increasingly well-known stopover for bicyclists and outdoor enthusiast because for our amazing campground along the Kettle River. In addition, large event organizers such as Interior BC Association for Injured Motorcyclists and the Rock ‘N Kettle Rodeo hold annual events utilizing every square metre of the Fair Grounds, drawing a diverse range of people from all over the province, and beyond, to our amazing and unique facility. The spillover effect from these large users directly impacts and increases tourism which supports the economy of the local businesses. Also, since the wildfires of 2015 the Fair Grounds has been designated as an Emergency Evacuation Centre which can house and feed evacuees as well as shelter displaced animals in the livestock barn. And most importantly, it is a place where the local community comes together to celebrate marriages, anniversaries and milestone events, and to comfort family and friends in times of loss and sorrow.

A large part of the growth in the use of the Fair Grounds and Facilities is all of the amenities that we are able to provide in one beautiful location. It is estimated that in the last five years alone, there have been in excess of 125,000 people that have rented, camped, visited, volunteered and attended events at the Rock Creek Fair Grounds. In order to keep promoting and attracting people to the facility, and area, we must provide facilities that are safe, healthy, functional and esthetically pleasing. After years of operation and a plethora of facility users, guests, visitors and tourists, the washrooms and meeting room, which are an integral part of the facility, are very “tired” and in need of renovation. Over the years, moisture and condensation, from lack of proper heating and insulation, are creating health and safety issues, not to mention how outdated and unsightly these areas have become. Addressing the moisture and condensation issues, and then updating the amenities, will not only reduce expenses but greatly enhance the facility user’s experience which will increase their likelihood to return to the area and also provide a positive “word of mouth” review to their friends and family and so on and so on.



1.2 Project Outcomes:

1. Renovate and update the female and male washrooms, meeting room, hallway and janitor' s closet including energy efficient lighting and plumbing fixtures, as well as address health and safety concerns.
2. Increase the overall use of the facilities by providing a friendly and safe environment that is also esthetically pleasing.
3. Increasing the overall use of the facilities translates into an increased awareness of the Community and surrounding areas which in turn provides economic spin-off to the businesses within the Community.
4. Provide local construction trades with an economic opportunity.
5. Sourcing/purchasing construction materials from local providers. Keeping money within the Community.

1.3 Project Team and Qualifications:

The project will be overseen by the General Manager of the Rock Creek & Boundary Fair Association. The GM has over 33 years of experience managing the commercial real estate portfolio of a BC Pension Fund including the responsibility for tendering extensive building renovations and retrofits and overseeing various contractors to repair and maintain building systems.

The GM is supported by a nine member Board of Directors, several of which have a background in construction and building trades. The Project will be carried out by a qualified General Contractor who will have the appropriate liability insurance and WorkSafeBC coverage.

2. Project Budget:

Eligible costs for this project are outlined below. These include all direct costs that are reasonably incurred and paid by the Recipient under the contract for goods and services necessary for the implementation of the Eligible Project. **Schedule B** outlines Eligible Costs for Eligible Recipients (see attached). **Attach supporting quotes and estimates.**

Items	Details	Cost (\$)
General Conditions	Labour, travel, waste disposal, equipment	\$41,531.00
Site Construction	Demolition	\$1,140.00
Wood & Plastics	Material for wood framing, blocking, back framing, countertops	\$4,324.00
Thermal & Moisture Control	Caulking and sealants	\$165.00
Doors & Windows	Doors, hardware, trim, paint, washroom mirrors	\$3823.00
Finishes	Rubber base, window trim, drywall, FRP backsplash, t-bar ceiling, flooring, paint	\$24,058.00
Specialties	Toilet partitions	\$10,724.00
Mechanical	Plumbing including fixtures	\$13,870.00
Electrical	As per spec	\$10,355.00
Total includes PST but not GST	Total	\$109,990.00

Additional Budget Information

The Rock Creek & Boundary Fair Association has a GST number and will be claiming the GST as an input tax credit.

The Rock Creek & Boundary Fair Association was successful in a BC Gaming Capital Project Grant of \$58,600.00 and this money must be spent by March 21, 2021.

3. Accountability Framework:

The Eligible Recipient will ensure the following:

- Net incremental capital spending is on infrastructure or capacity building
- Funding is used for Eligible Projects and Eligible Costs
- Project is implemented in diligent and timely manner
- Provide access to all records
- Comply with legislated environmental assessment requirements and implement environmental impact mitigation measures
- **Provision of a Final Report including copies of all invoices**

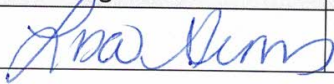
Schedule of Payments

The RDKB shall pay the Proponent in accordance with the following schedule of payments:

- (a) 75% upon signing of the Contract Agreement;
- (b) 25% upon receipt of progress report indicating 75% completion of the Project and a statement of income and expenses for the Project to that point.

By signing below, the recipient agrees to prepare and submit a summary final report outlining project outcomes that were achieved and information on the degree to which the project has contributed to the objectives of cleaner air, cleaner water or reduced greenhouse gas emissions. This must also include financial information such as revenue and expenses.

In addition, an annual report (for 5 years) is to be submitted to the RDKB prior to October 31st of each year detailing the impact of the project on economic growth, a clean environment, and/or strong cities and communities.

Signature	Name	Date
	Lisa Sims	Sept. 16/20

rcfair.gm@gmail.com

From: Dailey, Sharon H FLNR:EX <Sharon.Dailey@gov.bc.ca>
Sent: May 30, 2018 12:27 PM
To: 'rcfair.gm@gmail.com'
Subject: RE: Letter of Approval

Good afternoon Lisa,

As an authorized representative of the Crown under the Land Act, I provide you with the permission to carry out the works of replacing your heating system and upgrades to the washroom and meeting facilities in the Pavilion Building located on your Crown lease.

If you require anything further from me with respect to this permission, please let me know.

Best regards,

Sharon Dailey
Section Head, Land Authorizations
Kootenay Boundary Region
Ministry of Forests, Lands and Natural Resource Operations
Tel: 250-426-1753
Email: Sharon.dailey@gov.bc.ca

From: rcfair.gm@gmail.com [mailto:rcfair.gm@gmail.com]
Sent: Wednesday, May 30, 2018 1:22 PM
To: Dailey, Sharon H FLNR:EX
Subject: Letter of Approval

Hello Sharon:

Thank you for getting back to me so quickly.

As discussed, I am applying for grant funding to replace the heating system and upgrade the washroom& meeting room facilities in the Pavilion Building as outlined on the Management Plan of Lease No. 404713. The Funding bodies require the Land Owner's permission to carry out this work. Can you please provide a letter that gives permission to the Rock Creek and Boundary Fair Association to proceed with the replacements and upgrades.

Thank you very much.

Regards,

Lisa Sims, General Manager
Rock Creek & Boundary Fair Association

Office Hours are Monday to Friday 8:30 am -12:30 pm
Telephone: 250-446-2465
Facsimilie: 250-446-2639

rcfair.gm@gmail.com

From: Justin Cromarty <justin@planbcontractors.com>
Sent: September 14, 2020 8:50 AM
To: rcfair.gm@gmail.com
Cc: Bryan Murray; Brandon Westgate; Josh Fita
Subject: Rock Creek Fairgrounds project scope and cost revision

Good Morning Lisa

Thank you for meeting with me on Friday. Below is a cost revision with the modified scope we discussed on site. Our total fixed price for this would be **\$109,990.00**

1. Delete drywall work in meeting room.
 - a. Drop ceiling included
 - b. New rubber base and trim included
 - c. Painting included
2. Delete washroom accessories and reuse existing fixtures on site. (They are like new.)
3. Change plumbing fixtures from touchless to manual
4. Delete corkboards from meeting room and hallway
5. Replace meeting room double door and hardware
 - a. Reuse the existing doors/frames on the washroom and janitor closet
 - b. Clean up and paint existing doors.
 - c. Install new door hardware on men, women and janitor closet doors
6. Replace tile back splash with FRP panel behind urinals
7. Use 5mm Ames Vinyl Planking (upgrade from 2.5 mm) Better durability and life span
8. Keep new toilet partitions in the spec
9. Keep Electrical requirements in the spec
10. Keep plumbing requirements in the spec
11. Drop ceiling in hallway, meeting room and washrooms
12. Keep new drywall in washrooms and hallway
13. Building permits by owner if required. (I don't think we need one)

We can start October 1 (or a maybe sooner depending on approvals) and turn over the space by December 1st if everything goes well. The longest lead item we would need to order right away would be the toilet partitions. Please let me know if you have any more questions. Thank you very much for considering Plan B Contractors for this project.

Justin Cromarty
 Project Manager

PLAN B CONTRACTORS INC.
 #4 – 715 Evans Court, Kelowna, BC V1X 6G4
 D: 250.215.5542
www.planbcontractors.com



A PLAN B GROUP COMPANY

Rock Creek & Boundary Fair Association Upgrade

3880 Kettle Valley Road South, Rock Creek, BC



Proposal for General Contracting Services

Submitted: August 21st, 2020



Joshua Fita, ASCT, GSC, PMP
Estimator

&
Justin Cromarty
Project Manager

PLAN B CONTRACTORS INC.
4 – 715 Evans Court, Kelowna, BC V1X 6G4
O: 250.717.8234
www.planbcontractors.com



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1. CONTRACTOR BID SUBMISSION
FORM



CONTRACTOR BID SUBMISSION FORM

ROCK CREEK & BOUNDARY FAIR ASSOCIATION UPGRADE

CONTRACTOR INFORMATION

Company Name:	Plan B Contractors Inc.
Address:	Suite #4, 715 Evans Court, Kelowna, BC, V1X 6G4
Contact Person:	Joshua Fita
Position:	Estimator
Email:	Josh@planbcontractors.com
Phone:	250-717-8234

PROJECT MILESTONES

Contract Award (estimated):	August 31, 2020
Project Start-up:	August 31, 2020
Construction Start:	September 14, 2020
Substantial Completion:	November 11, 2020

TENDER DOCUMENTS

Received:	June 23, 2020
Document:	Scope of Work for washroom upgrades

ADDENDUMS

No.:	N/A
Received:	N/A
Document:	N/A

BID COST

Project Cost (excluding GST):	130,000.00 (CAD \$)
Contingency:	N/A

TERMS AND CONDITIONS

- Regular working hours are 7am – 3pm, Monday – Friday
- Project scope is based on the tender documents provided during the tendering stage of the project
- Any deviation from the tender documents may result in additional charges
- CCDC 2 – 2008 Stipulated Price Contract will be executed upon award
- Change orders will be billed at cost + 10%
- All fixtures are based on commercial grade specifications

INCLUSIONS

- Project insurance
- Project management and full-time site superintendent during construction
- LOA and travel expenses
- First aid/safety and small tools
- Construction waste disposal and professional post construction cleaning
- Finish protection
- 1x4 strapping to all 5 areas (meeting room, hallway, men's washroom, woman's washroom, and janitor's closet)
- ½" GWB to all new partitions (level 4 finish)
- Armstrong Prelude XL 15/16" color white T-bar to meeting room, hallway, men's washroom, and woman's washroom
- Cortega 769a 2' X 4' ceiling tile to all new T-bar areas
- 4'x8'x1/2" cork board to meeting room perimeter and one wall in hallway complete with ¾" MDF trim to top and bottom
- Prime 1 coat and paint 2 coats to all new drywalled areas
- New post form laminate countertops (1 ea. in men's washroom and 1 ea. in woman's washroom)
- 2 ea. 3068 hollow metal doors with 1 ea. 6068 pressed steel frame for meeting room complete with Schlage lockset x flush bolts
- 2 ea. 3068 hollow metal doors and pressed steel frames complete with Schlage AL Series passage sets, Schlage B Series deadbolt, and LCN 1460 Series closers to washrooms
- 6 ea. Hadrian overhead braced standard metal partitions to woman's washroom
- 3 ea. Hadrian overhead braced standard metal partition to men's washroom
- 3 ea. Hadrian wall hung urinal screens to men's washroom
- 3 ea. 4'H x 6'W washroom mirrors (1 ea. in men's washroom and 2 ea. in woman's washroom)
- 2 ea. Koala KB-200-00 Baby Changing Stations
- 7 ea. Bobrick B-2012 Automatic / Touchless Soap Dispensers
- 6 ea. Bobrick B-72974 Automatic / Touchless Roll Paper Towel Dispensers
- Black 4" rubber base throughout all 5 areas (meeting room, hallway, men's washroom, woman's washroom, and janitor's closet)
- New 6x6 or 4x4 wall tile with Schluter trim to new men's washroom urinal backsplash
- New 2.5MM Ames vinyl plank to all 5 areas (meeting room, hallway, men's washroom, woman's washroom, and janitor's closet)
- HVAC
 - o 2 ea. Panasonic FV-0511VQ1 exhaust fans with timer switches
- Plumbing
 - o Remove all existing waterlines in washrooms and re-pipe
 - o Cap hot waterline from kitchen HWH
 - o Remove and cap urinal and sink in men's handicap washroom
 - o Re-pipe lavatory drainage in both washrooms
 - o 6 ea. washroom sinks, battery touchless faucets, mixing valves, ABD P-traps, and flex risers
 - o 4 ea. urinals with battery touchless valves, ABS P-traps, drain parts, and flex risers

- 1 ea. janitor mop sink and faucet with ABS P-trap and tailpiece, flex risers with bucket fill tap under the sink
 - Reconfigure kitchen sink with mixing valves and flex risers
- Electrical
 - All wiring upgrades, connection of new equipment and installation of electrical parts necessary to complete the scope of work
 - Switches and receptacles
 - Extension boxes, cabling, and circuit breakers where necessary
 - Baseboard heaters replaced in meeting room, hallway, and added in each washroom
 - Updated exit/emergency lighting in the hallway
 - 8 ea. 2x4 flat panel LED fixtures in meeting room
 - 3 ea. 1x4 flat panel LED fixtures in hallway
 - 10 ea. 4" LED pot light fixtures per washroom
 - 2 ea. emergency lights per washroom due to irregular shape and stall layout

EXCLUSIONS

- Building permit
- Any design or code reviews
- Engineering
- Gas piping or permits
- Any remedial work/testing and/or asbestos abatement
- Fire suppression
- Afterhours or overtime work

ALTERNATIVES/COST SAVINGS

DEDUCT: \$1,800.00 for hand flush valve urinals

DEDUCT: \$2,000.00 for manual valve faucets for all washroom sinks

DEDUCT: \$6,689.00 to repurpose the existing washroom partitions with new paint (does not include urinal screens)

ADD: \$1,150.00 to upgrade the 2.5MM Ames vinyl plank to 5MM Ames vinyl plank

ALTERNATIVE: Substitute 2 ea. Xlerator XL-SB brushed stainless hand dryers for 6 ea. touchless roll paper towel dispensers



2. DELIVERY OF SERVICES

- 2.1 INTRODUCTION
- 2.2 PROJECT OVERVIEW
- 2.3 CONSTRUCTION SERVICES
- 2.4 POST-CONSTRUCTION SERVICES
- 2.5 FORCE ACCOUNT RATE
SCHEDULE



DELIVERY OF SERVICES

ROCK CREEK & BOUNDARY FAIR ASSOCIATION UPGRADE

2.1 INTRODUCTION

Our passion for the industry makes Plan B Contractors (Plan B) the top choice for commercial construction in the Okanagan. We believe collaboration on all levels is important to ensure project success. Our clients value our honesty and accountability.

With over 15 years of experience in the commercial construction industry we continue to live our dream of building the Okanagan. Located in Kelowna, our team of highly skilled and motivated individuals

brings a combined skill set that will ensure the Owner's project objectives will be met and exceeded. We pride ourselves on working closely with our clients, design professionals and all members of the construction team in a collaborative way to ensure a successful project with all team members.

There is no firm in the Okanagan that is more qualified to provide these services in terms of Construction Scheduling and Cost Analysis.

2.2 PROJECT OVERVIEW

This project includes the renovation of an existing meeting room, men's washroom, woman's washroom, janitor's closet, and hallway at the Rock Creek Fairgrounds. The subject area will receive new vinyl plank flooring, rubber base, drywall, light fixtures, ceiling tiles and paint. In addition, the

washrooms will receive all new accessories, partitions, and plumbing fixtures. Minor demolition will be required prior to construction that will include much of the washroom's interior. Cork board will be installed in the meeting room and hallway to help provide sound dampening.

2.3 CONSTRUCTION SERVICES

Plan B has been successful in completing our projects on-time, on-budget, and above expectations as our references attest to. This is only achievable through careful planning and rigorous management during the construction phase. Our management plan for success is brought into each project and tailored to suit each project.

The Project Manager that has been assigned will provide a high level of control throughout the project and will be responsible for managing all communication between the trades, the consultants, and the owner. Daily communication with the Site Superintendent to monitor construction on-site will provide quality assurance and quality control on behalf of the Owner in

coordination with the Project Consultants. Regular communication with the Owner will ensure that all crucial project information is relayed in a timely fashion.

Services during this phase include, but are not limited to the following:

- Management of construction for conformity with approved design, schedule, and budget
- Management of testing and inspections
- Management of all trades and suppliers
- Quality control and quality assurance
- Prime Contractor (Worksafe BC) and all site safety
- Site Supervision



DELIVERY OF SERVICES

ROCK CREEK & BOUNDARY FAIR ASSOCIATION UPGRADE

- Review and administer all submittals, shop drawings, and samples. Provide mock-ups as required
- RFI management
- Manage changes in the work and Owner requests
- Progress meetings – trade, consultants, & client
- Weekly progress reports with photos, work complete, upcoming work, and outstanding RFIs/shop drawings to all consultants/trades as construction progresses
- Monthly project budget and schedule updates, and implementation of solutions to keep the project on-track
- Coordination of Owner supplied, and Owner provided components
- Project close-out documentation and deficiency management

PROJECT CONTROLS & PROCESSES

Every Plan B project has an internal construction start-up meeting with members of the project team to review the project using a standardized start-up checklist. The project is reviewed first in broad strokes, identifying each team member's responsibilities, project safety procedures and site-specific conditions. The team then re-reviews the schedule, budget, and the project checklist to identify the project risks, long lead-time items and project specific procedures.

Plan B's Construction Management System (CMS) is software developed in-house that integrates the automatic tracking and processing of information including shop drawings, RFI/SIs, changes, subcontracts, and progress claims related to the project. When we can easily control and manage this information, we are better able to drive the

process and, in turn, drive the schedule. In addition to this measure of control, we can perform time-consuming tasks much more efficiently, allowing us to focus on proactive management of the project.

Plan B utilizes Bluebeam software extensively which we consider to be the best construction focused PDF software available. Bluebeam allows us to create quick digital markups, layout changes, detailed RFI sketches, and perform accurate perimeter/area/volume takeoffs. Without a 3D model, we can overlay drawings to review drawing coordination from different disciplines and to easily identify drawing changes between drawing revisions. It is also possible to host a web conference to allow users to view and markup drawings in an online workspace, concurrently.

SCHEDULE CONTROL

The initial project schedule is developed, and a baseline is created using MS Project. It is updated monthly (or more frequently where required) to track progress. If the project scope changes, the impact is evaluated to establish whether it will be completed within the original duration if we continue at the same rate. If not, an evaluation of the critical path is made to review accelerating these activities to get back on track.

Our weekly progress reports are invaluable to keeping the trades and consultants in touch with what is happening on-site as it inherently helps to keep our projects top-of-mind and always in queue. With this information available to them, the trades material and short-term manpower scheduling is much more successful.

Plan B will assign a Site Superintendent who will be the eyes and ears on-site for the duration of the project and will report directly to the Project



DELIVERY OF SERVICES

ROCK CREEK & BOUNDARY FAIR ASSOCIATION UPGRADE

Manager. The Site Superintendent provides notice to trades in advance of their upcoming start date and regularly monitors the schedule ensuring trade performance adheres to their contract requirements. Long lead material and equipment lead times are reviewed ensuring timely deliveries and the activities of the various trades are sequenced to avoid interference with one another.

QUALITY CONTROL

Quality control begins in pre-qualifying suitable and competent trades. We have developed lasting relationships with local trades, which shows through quality workmanship and on time projects. Quality control is not limited to the finished product at turn-over, rather it is part of the construction process from start to finish.

The Project Manager drives the shop drawing process and carefully reviews the submittals against the drawings and specifications, other trades' submittals, and uses past project experience to catch and rectify issues at the earliest stages of the project.

The Site Superintendent continually reviews and monitors any deficiencies caught during the construction stage to manage deficient work. This helps reduce the time spent by the consultants on inspection/re-inspection of the site. With 3-4 weeks remaining in the construction stage, the Project Manager and Site Superintendent will develop a task list together of the remaining items to complete which is distributed to the responsible trades. Plan B will then manage and distribute updated deficiency lists weekly for action until all items are completed. Any deficiencies noted by consultants will be incorporated into our master list for a single source tracking list. Our goal is zero

deficiencies at building turn-over and this system ensures any remaining deficiencies near the end of the project are completed in a timely manner.

SAFETY

Plan B Contractors Inc. recognizes the right to work in a safe and healthy workplace. We are committed to providing such a workplace for our employees, sub-contractors, and clients. Working safely is our primary goal, including public safety and the environment.

Plan B Contractors Inc. achieves these goals through effective leadership, relevant education and training of the workers, and benchmarking of our standards, practices, and procedures. All employers and employees will be made aware and held accountable for ensuring they are knowledgeable, skilled, and progressive in meeting their responsibilities with WorkSafeBC Regulations and Guidelines, as well as our Company Standards. This begins with the award of contracts, sub-contractor pre-construction orientations, and worker orientations to our sites. All Plan B Contractors employees are responsible to help lead and manage this policy.

ONLINE PLANS ROOM

The private Plan B fileshare website provides secure access to the project files during the tender and construction phases. It is used to distribute the plans and specifications to the trades and consultants. The site is also used continuously throughout the construction phase for easy access to supplementary project documents such as shop drawings, site instructions, RFI responses and Change Notices, construction schedule, etc.



DELIVERY OF SERVICES

ROCK CREEK & BOUNDARY FAIR ASSOCIATION UPGRADE

2.4 POST-CONSTRUCTION SERVICES

During the commissioning phase, a complete maintenance package will be prepared for the Owner in electronic format (paper format available upon request). This package will include all relevant maintenance information, including but not limited to trade contact information, materials summary, record (as-built) drawings, warranty information, and technical manuals.

We will work directly with the Owner's representatives to ensure a successful

commissioning of the new facility, including equipment start-up and training the Owner's team in the operations of the building equipment and systems.

During the one-year warranty period, Plan B will directly manage any warranty items that may occur and schedule a one-year walk-through with the Owner and Consultants prior to the warranty period completion.

2.5 FORCE ACCOUNT RATE SCHEDULE

Occupation	Hourly Rate
Project Manager	\$80.00/hr
Superintendent	\$60.00/hr
Carpenter	\$55.00/hr
Apprentice	\$50.00/hr
Labourer	\$40.00/hr
Safety (CSO)	\$55.00/hr
Office Admin	\$50.00/hr
LOA	\$160.00/day
Travel	\$150.00/round trip

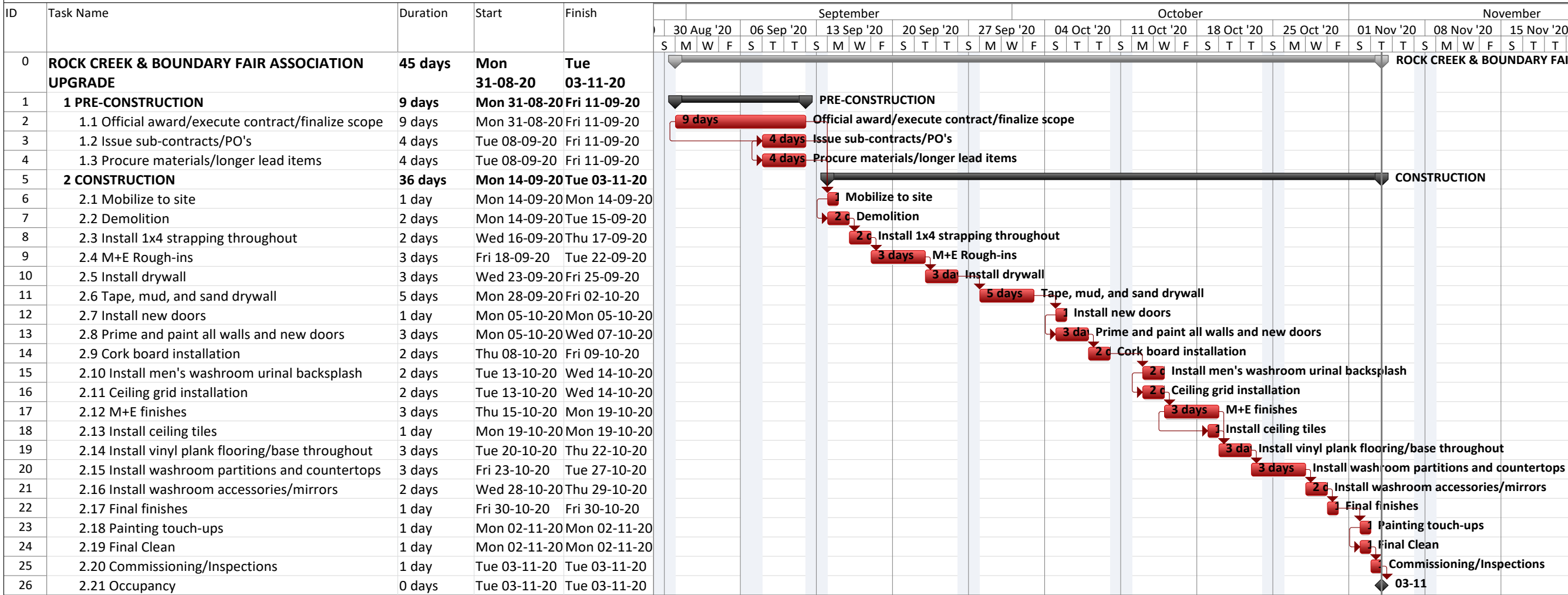


3. PROPOSED CONSTRUCTION SCHEDULE



ROCK CREEK & BOUNDARY FAIR ASSOCIATION UPGRADE

Fri 21-08-20





4. PLAN B PROJECT TEAM
4.1 JUSTIN CROMARTY CAREER
ABSTRACT (PROJECT MANAGER)



PLAN B PROJECT TEAM

ROCK CREEK & BOUNDARY FAIR ASSOCIATION UPGRADE

Bryan Murray
Managing Partner/CEO

With decades of experience in the construction industry, Bryan is the CEO and founding partner of Plan B Contractors. He has a passion for excellence and proudly inspires his team to provide superior service and quality craftsmanship in a time sensitive and dollar conscious environment. He is an advocate of job safety and makes it his personal responsibility to inspire his team to achieve the highest level of education available. Nothing puts a bigger smile on his face than customers who are more than satisfied with their project completion because his team is performing at their best.

Justin Cromarty
Project Manager

Justin is a driven and motivated Project Manager who has extensive experience in general contracting and construction management. He moved back to Kelowna in 2016 from Calgary, Alberta where he was the Operations Manager for a large size design-build contracting firm. Since entering the construction industry in 2004, he has successfully worked with stakeholders at all levels. He has numerous project management and safety certifications from SAIT, BOMA, and Mount Royal and a Power Engineering certification through the Alberta Boiler Safety Association (ABSA).

Joshua Fita
Estimator

Originally from Kitchener, Ontario, Joshua graduated from the Civil Engineering Technology program at Conestoga College and has since been continually building a diverse heavy civil construction portfolio including wind farm, deep foundation, shoring and road construction projects. Joshua is highly motivated with exceptional attention to detail and continues to develop and sharpen his skills through professional development. Joshua is an Applied Science Technologist (AScT) through ASTTBC, a Gold Seal Certified (GSC) Project Manager in Civil Infrastructure, and a Project Management Professional (PMP) through the Project Management Institute. With his continual appetite to learn and grow in the construction industry, Joshua brings a new element to Plan B Contractors in hopes of providing an innovative outlook on project planning and execution.

Kyle Maskell
Safety/Project Coordinator

As Plan B Contractor's Certified Safety Officer, Kyle will be responsible for ensuring our safety program not only meets but exceeds Worksafe BC standards. Our CSO's number one concern is to protect the lives of all those working on our projects and to make sure everyone returns home safe and sound at the end of the day. Kyle has extensive experience with creating, implementing, and monitoring safety programs and brings a personable yet firm approach to his management style.



Justin Cromarty
PROJECT MANAGER

CAREER ABSTRACT

Justin is a driven and motivated Project Manager who has extensive experience in general contracting and construction management. He moved back to Kelowna in 2016 from Calgary, Alberta where he was the Operations Manager for a large size design-build contracting firm. Since entering the construction industry in 2004, he has successfully worked with stakeholders at all levels. He has numerous project management and safety certifications from SAIT, BOMA, and Mount Royal and a Power Engineering certification through the Alberta Boiler Safety Association (ABSA).

RECENT MAJOR PROJECTS

Airport Business Centre	2020	\$2,880,000
Le Vieux Pin Winery	2020	\$1,450,000
kí cǫǫk stím Hatchery- ONA	2020	\$25,000
Grey Monk Wine Storage	2019	\$2,400,000
EECO Building RDCO renovation	2019	\$95,000
Grand Forks Public library washroom reno	2019	\$90,000
Club Pilates tenant improvement	2019	\$175,000
Canco Gas Grand Forks	2018	\$990,000
Canco Gas Penticton	2018	\$895,000
ONA Storage facility	2018	\$165,000
Westside Properties	2018	\$2,400,000

EXPERIENCE

2016-Present
Plan B Contractors – Project Manager

2013-2016
Midwest Design and Construction- Operations Manager

2010-2013
Indevelopments Corp – Project Manager

Justin Cromarty


PROJECT MANAGER

EDUCATION & TRAINING

- Absa 5th Class Power Engineer- Mount Royal/BOMA
- OSSA/CSTS
- AMHSA Site inspections
- SAIT communicating effectively for managers
- SAIT Performance Management
- SAIT Project Risk Management
- SAIT Marketing for managers
- SAIT Business writing for professionals
- SAIT CNST-246 Plans and specifications
- SAIT CIVL-220 Contract Management



5. PROOF OF INSURANCE

CERTIFICATE OF INSURANCE					ISSUE DATE (YY/MM/DD) 19/08/12	
BROKER Wilson M. Beck Insurance Services (Kelowna) Inc. Invue Tower #107 - 2040 Springfield Road Kelowna BC V1Y 9N7			This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policies below.			
INSURED'S FULL NAME AND MAILING ADDRESS Plan B Contractors Inc. 4 - 715 Evans Crt Kelowna BC V1X 6G4			COMPANY A Economical Insurance Group			
			COMPANY B			
			COMPANY C			
			COMPANY D			
			COMPANY E			
COVERAGES						
This is to certify that the policies of insurance listed below have been issued to the insured named above for the policy period indicated, notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain. The insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies. Limits shown may have been reduced by paid claims.						
TYPE OF INSURANCE	CO LTR	POLICY NUMBER	POLICY EFFECTIVE DATE (YY/MM/DD)	POLICY EXPIRATION DATE (YY/MM/DD)	LIMITS OF LIABILITY (Canadian dollars unless indicated otherwise)	
COMMERCIAL GENERAL LIABILITY - Severability of Interest or Cross Liability - Bodily Injury & Property Damage - Contingent Employers Liability - Personal & Advertising Liability - Broad Form Property Damage - Contractual Liability	A	040169931	19/08/13	20/08/13	Per Occurrence	10,000,000
					General Aggregate	N/A
					Prod & Comp Operation	10,000,000
					Non-Owned Auto - SPF 6	5,000,000
					Tenant's Legal Liability	500,000
					Advertising Liability	5,000,000
DESCRIPTION OF OPERATIONS/LOCATIONS/AUTOMOBILES/SPECIAL ITEMS/ADDITIONAL INSURED Project Management and Tenants Improvement Projects						
CERTIFICATE HOLDER To Whom it May Concern			CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES. AUTHORIZED REPRESENTATIVE 			



WORKING TO MAKE A DIFFERENCE

Assessment Department Location**Mailing Address**

PO Box 5350
 Station Terminal
 Vancouver BC V6B 5L5

6951 Westminster Highway
 Richmond BC
 V7C 1C6
www.worksafebc.com

Clearance Section

Telephone 604 244 6380
 Toll Free within Canada
 1 888 922 2768
 Fax 604 244 6390

PLAN B CONTRACTORS INC
 4 - 715 EVANS CRT
 KELOWNA, BC V1X 6G4

August 10, 2020

Person/Business : PLAN "B" CONTRACTORS INC
 Account number : 714755

This letter provides clearance information for the purposes of Section 258 of the *Workers Compensation Act*.

We confirm that the above-referenced firm is active, in good standing, and has met WorkSafeBC's criteria for advance clearance. Accordingly, if the addressee on this letter is the prime contractor, the addressee will not be held liable for the amount of any assessment payable for work undertaken by the above-referenced firm to October 01, 2020.

This firm has had continuous coverage with us since March 02, 2004.

Employer Service Centre
 Assessment Department

Clearance Reference # : C131805613
 CLRAAA

For more information about Section 258 and clearance letters visit WorkSafeBC.com

Please refer to your account number in your correspondence or when contacting the Assessment Department.

To alter this document constitutes fraud.

- 1 -



6. REFERENCE LIST

Josh Fita

From: Bryan Murray
Sent: June 19, 2020 8:32 PM
To: Josh Fita; Justin Cromarty
Subject: Fwd: Invitation to Bid: Rock Creek & Boundary Fair Association Upgrade

Bryan Murray
Plan B Contractors Inc.
250.212.8287

Begin forwarded message:

From: MARY LAUTARD <mdlautard@hotmail.com>
Date: June 19, 2020 at 8:21:03 PM PDT
To: Plan B Info <info@planbcontractors.com>
Subject: Fw: Invitation to Bid: Rock Creek & Boundary Fair Association Upgrade

I do not know whether you have seen this Invitation to Bid.
When I remarked on the quality renewal of the washrooms at the Grand Forks Public Library,
and asked about the contractor, I was told 'Plan B' - and kept the info on file.

From: West Boundary Connect <donotreply@westboundaryconnect.com>
Sent: June 19, 2020 7:39 PM
To: mdlautard@hotmail.com <mdlautard@hotmail.com>
Subject: Invitation to Bid: Rock Creek & Boundary Fair Association Upgrade

Display problems? [View this newsletter in your browser.](#)



Invitation to Bid

The Rock Creek & Boundary Fair Association invites all prospective contractors to submit bids for the washroom and meeting room upgrade project at the Rock Creek Fair Grounds located at 3880 Kettle Valley Road South, Rock Creek, BC.

Shohreh Sabet

From: Frank Kaminski <fkaminski@icloud.com>
Sent: November 5, 2018 3:18 PM
To: Shohreh Sabet
Subject: Testimonial

Hi Shohreh

Plan B contractors INC. has been K. Kaminski Construction Ltd. preferred contractor since 2004. Their professional and trustworthy approach to projects big or small puts them at the top of our list when planning a new project.

Frank Kaminski
President
K.Kaminski Construction Ltd.



868 McCurdy Place Kelowna, BC

The team at Plan B managed our build at 868 McCurdy place. We engaged Plan B to complete the tenant improvements for us as their pricing was within the market and their timelines were well laid out and presented with confidence.

The Plan B team had been contracted by the landlord to complete the structural build and after meeting Brandon Westgate I set a meeting with him and Brian Murry to determine if they were the best option to complete NCA's Tenant Improvements as well. The two of them listened to our requirements along with our budget and quickly had a proposal to us. The pricing was well supported and itemized allowing us to ask specific questions and determine that they were market competitive. The proposal was above our budget however equally important to us was our timeline; we had a hard deadline as to when we needed to vacate our old facility while still leaving time to move our business.

The team at Plan B kept us well informed of progress and clearly communicated how any adjustments we wanted during the build would affect both those priorities. The project was completed on time and at a high standard. Plan B has also been very responsive to our calls after the project and shows great pride in ensuring we are more than happy with their work.

I would recommend Plan B for any organization undertaking either a new build or a renovation.

Regards,

A handwritten signature in black ink, appearing to read 'Brent Tremblay', written over a horizontal line.

Brent Tremblay, Branch Manager

National Concrète Accessories

"Our experience working with PlanB was excellent. Everyone we worked with was hard working and accommodating. Our flexible project manager Rob Kline was always a phone call away and was very resourceful when the designer wanted changes in the middle of the build. They still are great, if I ever need a skilled tradesman for anything, the team at PlanB are happy to help, or provide a recommendation."

Seth Carlyle
Manager
Famoso Pizzeria + Bar

RIEL FURNITURE**August 21, 2020****QUOTE #2045**

GST#810197368 RT001

The following is a summary of my bid submittal for the washroom and meeting room upgrade project for the Rock Creek Fall Fair Grounds. This quote is based on the details that were provided in person by Lisa Simms, as well as the written plan of work. This includes all requested renovations to the meeting room, hallway, janitor's closet, men's washroom, women's washroom, and the "other" extras. Work to commence January 2021, and be completed prior to February 2021

The total quote for the above described project \$120,166.20

Final selection of specific colors, items, design will need to be finalized prior to beginning of construction, and will affect final cost.

*All plumbing and electrical costs are included in this quote.

** Prices are subject to change based on selection of specific materials. The prefabricated items vary in price based on quality such as: automatic soap dispensers, flooring, towel dispenser, baby change tables etc. To give a proper estimate of these items more specific details are required. This quote includes mid-high range (American Standard, Moen, etc.) estimates for these items.

*** Current prices reflect stainless steel fixtures (sinks, change tables). The prices also include automatic flush for requested urinals and automatic dispensing for soap and towel dispensers.

**** Vinyl plank flooring allowance \$6.50 per sq. ft.

***** Necessary permits that may be required are not included.

***** All taxes are included in this price.

Thank you for the opportunity to bid,

Duran McDonald- Owner/Operator

Riel Furniture

1685 Old Nicholson Cr. Rd. | www.rielfurniture.com
p. 250-449-8226 | duran_riel@live.ca



Regional District of
Kootenay Boundary

Staff Report

RE:	Temporary Use Permit Referral – City of Rossland		
Date:	October 14, 2020	File #:	R-1
To:	Chair Langman and members of the Board of Directors		
From:	Danielle Patterson, Planner		

Issue Introduction

The Regional District of Kootenay Boundary (RDKB) received a referral from the City of Rossland on October 2, 2020, regarding a Temporary Use Permit for a parking lot on a property abutting the RDKB (see Referral Package).

Property Information	
Owner:	Not specified
Agent:	RMR Acquisition Corp.
Location:	Red Mountain Resort
Legal Description:	District Lot 1295 Kootenay District
Area:	Approximately 80 ha (198 ac)
Current Use:	Recreation

History / Background Information

The subject property is located within the City of Rossland, near Red Mountain. Access to the proposed parking lot would be via 4720 Highway 3B, which is north-west of Mann Road and located in the RDKB. The property does not have direct access to a road.

The property at 4720 Highway 3B is zoned "Drinking Water Resource 1" in the *Electoral Area 'B'/Lower Columbia – Old Glory Zoning Bylaw* and designated "Drinking Water Resource 1" in the *Electoral Area 'B' Official Community Plan (OCP)*. As such, the property is located in the Drinking Water Resource Development Permit Area.

Proposal

The applicant is proposing a temporary (one year) topping chair parking lot to provide a mid-level access point to the ski hill. This is proposed to reduce congestion and promote physical distancing in response to the COVID-19 pandemic.

Implications

The City of Rossland has jurisdiction regarding land use, including Temporary Use Permits within its municipal boundaries.

The City of Rossland has stated that the applicant has an agreement in place with the owner of 4720 Highway 3B for road access and a highway access permit from the Ministry of Transportation and Infrastructure (MoTI). The City of Rossland confirmed via email

that a notification letter was sent to 4700 Highway 3B which is abutting 4720 Highway 3B and also located in the RDKB.

It is not clear from the referral package whether the property at 4720 Highway 3B requires land alterations to facilitate access to the temporary parking lot. As 4720 Highway 3B is located within the Drinking Water Resource Development Permit Area, any clearing of land within 30 m of the natural boundary of a stream would require a Drinking Water Resource Development Permit in order to allow the use of the 4720 Highway 3B as a private access road to the proposed temporary parking lot.

A single family dwelling is located at 4700 Highway 3B, just south of 4720 Highway 3B. The residents of this property may be effected by changes in the volume of vehicles accessing 4720 Highway 3B.

Advisory Planning Commission (APC)

The City of Rossland's Public Hearing to consider the Temporary Use Permit is scheduled for October 19, 2020. Due to this, the referral did not have an opportunity to be considered by the Advisory Planning Commission for Electoral Area 'B'/Lower Columbia-Old Glory. Director Worley was provided information about the referral in advance and supported the referral going to the Board of Directors to ensure an opportunity for comment by the RDKB.

Recommendation

That the staff report regarding the City of Rossland referral for a proposed Temporary Use Permit for the parcel legally described as District Lot 1295 Kootenay District, the City of Rossland, be received.

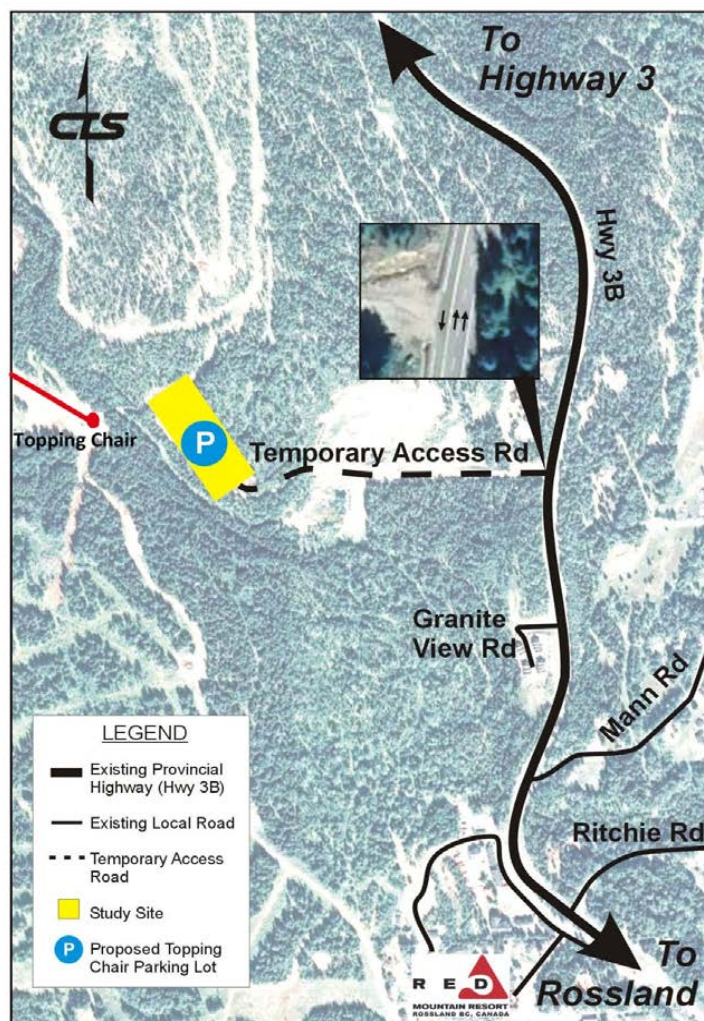
Attachments

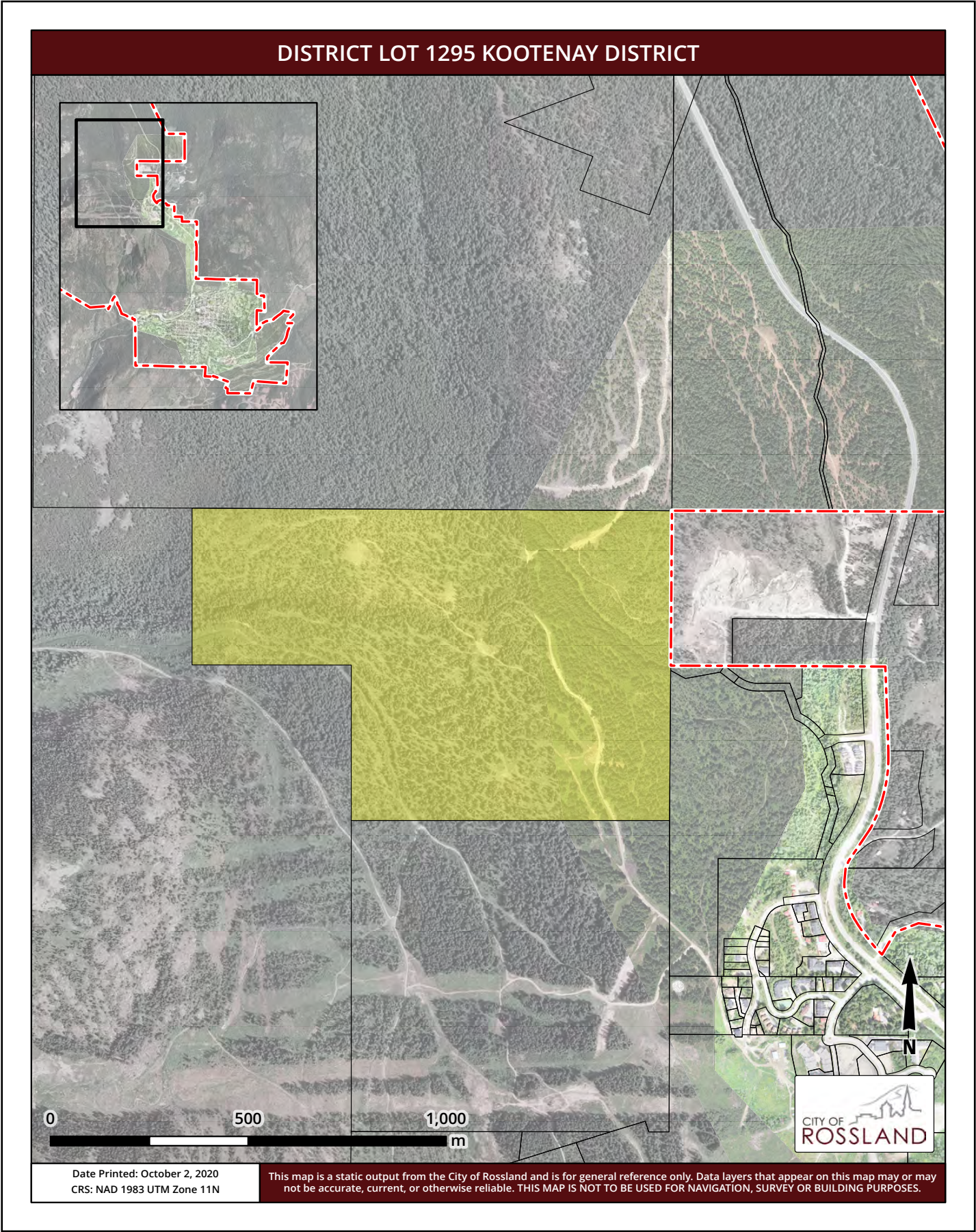
- Referral Package

Temporary Use Permit - Passholder Parking Lot for the 2020/21 Ski Season

As part of our COVID Response plan RED Mountain Resort is proposing to operate a passholders only parking lot near the base of the Topping Chair for 2020/21 ski season. The proposed parking area would permit passholders direct access to the Topping Lift and would help to alleviate congestion in the base area for the coming season. The temporary access and intersection engineering review has been completed by CTS Engineering and has been approved by the Ministry of Transportation and Highways.

This is a temporary step and the North Portal Access Road and parking remain our goal for the following season.







Regional District of
Kootenay Boundary

Staff Report

RE:	Policy Directive 20-26 – Liquor and Cannabis Regulation Branch		
Date:	October 14, 2020	File #:	L-8
To:	Chair Langman and members of the Board of Directors		
From:	Danielle Patterson, Planner		

Issue Introduction

The Regional District of Kootenay Boundary (RDKB) received Policy Directive 20-26 from the Liquor and Cannabis Regulation Branch (LCRB) for the expansion of Temporary Expanded Service Area authorizations for Food Primary, Liquor Primary, and Manufacture Licensees from October 31, 2020 to October 31, 2021 (see Attachment).

The LCRB has requested local governments confirm their support or objection for the extension of the expanded service areas by October 16, 2020. The correspondence from LCRB also makes reference to Policy Directive 20-27 for information only.

History / Background Information

The LCRB released Policy Directive 20-13 on May 22, 2020. This Policy Directive authorized Food Primary, Liquor Primary, and Manufacture Licensees (such as wineries or distilleries) to apply for a temporary expansion of services areas until October 31, 2020. This Policy Directive allowed approved Licensees to expand their outdoor seating to provide physical distancing for patrons during COVID-19 pandemic. Policy Directive 20-26 would replace Policy Directive 20-13.

Implications

The extension to the Temporary Expanded Service Area authorizations to Food Primary, Liquor Primary, and Manufacture Licensees would allow for businesses with approved service expansion applications submitted to the LCRB as of October 31, 2021 to have their service area expansions automatically extended to October 31, 2021. Any expanded service area must comply with local bylaws and health and fire regulations.

In telephone communications with the LCRB, staff confirmed that the purpose of this LCRB request is to allow local governments an opportunity to object if there are incidents of temporary expansion of services areas creating concerns to public safety or public interest in the RDKB.

Any objection to Policy Directive 20-26 would result in the LCRB working with the RDKB on specific Licensees or issues related to the expansion. To date, staff are not aware of any concerns related to temporary service area expansions in the RDKB.

Recommendation

That the staff report regarding the Liquor and Cannabis Regulation Branch Policy Directive 20-26 be presented to the Regional District of Kootenay Boundary Board of Directors for consideration, with a recommendation of support.

Attachments

- Policy Directive 20-26

Danielle Patterson

From: Sandra Surinak
Sent: September 18, 2020 12:24 PM
To: Donna Dean; Elizabeth Moore; Danielle Patterson
Subject: FW: Policy Directive 20-26 and Policy Directive 20-27 – Extensions of Temporary Expanded Service Area (TESA) authorizations and LP FP off-site sales authorizations

Follow Up Flag: Follow up
Due By: September 30, 2020 4:00 PM
Flag Status: Flagged

FTI

From: LCRB Liquor Policy LCRB:EX <LCRBLiquorPolicy@gov.bc.ca>
Sent: Friday, September 18, 2020 12:16 PM
Subject: Policy Directive 20-26 and Policy Directive 20-27 – Extensions of Temporary Expanded Service Area (TESA) authorizations and LP FP off-site sales authorizations

Hello,

I'm writing to announce Policy Directive 20-26 and Policy Directive 20-27.

To continue to support the hospitality industry in maintaining their operations while complying with the orders of the Provincial Health Officer related to the COVID-19 pandemic, the Province has made amendments to the Liquor Control and Licensing Regulation to allow for the extension of existing Temporary Expanded Service Area (TESA) authorizations.

Originally, all existing TESA authorizations were set to expire on October 31, 2020. However, through [Policy Directive 20-26](#), the Liquor and Cannabis Regulation Branch (LCRB) is announcing the intention to extend TESA authorizations until **October 31, 2021**.

The LCRB will be reaching out to local governments to confirm their support for the extension of approved TESA authorizations in their jurisdiction prior to extensions being granted. If concerns related to public safety and public interest are raised regarding TESA authorizations or the operation of particular TESAs, the LCRB will work with licensees and local governments to ensure TESAs operate in a manner that balances the interests of licensees, municipalities and the general public.

To limit the risk of disruptions for licensees, local governments **must confirm their support or objection for extension of TESA authorizations in their jurisdiction with the LCRB by October 16, 2020**. To do so, please email LCRBLiquorPolicy@gov.bc.ca. Providing confirmation as soon as possible will ensure licensees time to prepare for continuing or changing operational requirements for fall and winter.

If the local government is supportive, the LCRB will reissue authorization letters to existing TESAs automatically extending the expiry date of their authorizations before October 31, 2020. There will be no application or fee required for this extension.

Unless a new authorization letter has been issued, existing TESAs will expire on October 31, 2020.

Approved and extended TESA authorizations must remain in compliance with local bylaws and requirements. All other requirements relating to TESA authorizations remain the same.

If at any time local government bylaws or requirements change and prevent the operation of TESAs in a jurisdiction, we ask that local governments advise the LCRB by emailing the address below.

Licensees who have not yet submitted a TESA authorization application can do so by visiting the [online licensing application portal](#) up to October 31, 2021.

Local governments will continue to have two options for new approvals of TESA authorizations for liquor primary and manufacturer licensees:

- Pre-approval to cover all liquor primary and manufacturer establishments within their jurisdiction who may apply for an expanded service area; or
- Review/approval of all individual applications of all liquor primary and manufacturer expansions prior to licensees submitting their completed application package to the LCRB.

Note: Since food primary establishments are not generally required to obtain local government approval to expand their service areas, the LCRB will continue to process food primary requests for expanded service areas without requiring prior local government approval.

In addition to the above, [Policy Directive 20-27](#) replaces Policy Directive 20-19 and extends the temporary authorization for food primary and liquor primary licensees to sell and deliver packaged liquor to patrons with the purchase of a meal for off-site consumption until **March 31, 2021**.

This will continue to provide increased opportunities to generate revenue for the hospitality industry while helping vulnerable British Columbians continue to observe physical distancing guidelines.

As always, the LCRB is committed to continuing to support licensees through this challenging time. If you have any questions about this policy, please email LCRBLiquorPolicy@gov.bc.ca.

These authorizations will be reviewed as the provincial health context changes.

Sincerely,

Mary Sue Maloughney
Assistant Deputy Minister and General Manager
Liquor and Cannabis Regulation Branch



Liquor and Cannabis Regulation Branch
POLICY DIRECTIVE
No: 20 - 26

Date: September 18, 2020

To: All Licensees
 All LCRB Staff
 All Industry Associations
 All local government, First Nations and police agencies

Re: **Temporary Expanded Service Area, extension**

Current Policy

Under the Liquor Control and Licensing Regulation (LCLR), s.109.1, the General Manager (GM) of the Liquor and Cannabis Regulation Branch (LCRB) may issue a Temporary Expanded Service Area (TESA) authorization to Food Primary, Liquor Primary, and Manufacturer licensees.

Under LCLR, s. 109.4 all TESA authorizations expire at the end of the day on October 31, 2020. Further, under LCLR s. 109.5, the TESA provisions in the LCLR will be repealed on October 31, 2020.

See Policy Directive 20-13 for further information.

New Policy

In light of the ongoing COVID-19 pandemic, the Province's March 2020 declaration of a state of emergency and the Provincial Health Officer's (PHO) March 2020 declaration of a public health emergency, this time-limited measure is being amended to support the PHO's direction and recommendations.

The TESA provisions in the LCLR will now expire on **October 31, 2021**. Licensees may apply for new TESA authorizations up to this date.

The GM's authority to extend existing approved TESA authorizations up to this date, without first requiring the licensee to make an application, has also been made explicit.

The LCRB is reaching out to local authorities with approved TESAs in their jurisdiction to confirm their support for extending the TESAs to October 31, 2021. To limit the risk of disruptions in service, local authorities must confirm their position with the LCRB by October 16, 2020.

If concerns related to public safety and public interest are raised regarding the TESA authorizations or the operation of particular TESAs, the LCRB will work with licensees and local authorities to ensure TESAs operate in a manner that balances the interests of licensees, municipalities and the general public.

If the local authority is supportive, the LCRB will reissue authorization letters to licensees with existing TESAs in that jurisdiction prior to October 31, 2020. The new authorization letter will provide an extended expiry date of the TESA. Unless a new authorization letter has been issued, the existing TESA will expire on October 31, 2020.

Licensees will not need to apply to the LCRB for an extension, and there will be no fee charged.

All other requirements relating to TESA authorizations remain the same. To meet the intent of this temporary authorization, licensees will not be permitted to increase or exceed their currently approved person/patron capacities or occupant loads. All means of access to the service area must also be supervised to the satisfaction of the GM. Finally, licensees must comply with all local bylaws and health and fire regulations.

Approved TESAs must be in compliance with local bylaws and requirements. If the local authority bylaws or requirements change and prevent the operation of TESAs in that jurisdiction, the local authority should advise the LCRB.

For licensees who are applying for new TESA authorizations, an expedited online application is available at no charge. Please check our website for a link to the application.

Explanation

The new policy is provided in the context of the provincial state of emergency and public health emergency related to the COVID-19 pandemic. Extending TESA authorizations, which increase the size of existing service areas, is expected to support licensees in complying with requirements under the PHO and recommendations, in particular with respect to social/physical distancing.

Further Information

Further information regarding liquor and cannabis regulation and licensing in British Columbia is available on the Liquor and Cannabis Regulation Branch website at <http://www.gov.bc.ca/liquorregulationandlicensing>

If you have any questions regarding these changes, please contact the Liquor and Cannabis Regulation Branch toll free in Canada at 1-866-209-2111 or 250 952-5787 if calling from the Victoria area.

Disclaimer

This communication is intended to be used only for general informational purposes and may not apply to all situations. This communication does not constitute legal advice nor is it a comprehensive statement of the legal obligations that arise under the Liquor Control and Licensing Act, regulations, or any other applicable laws. When interpreting and applying the information contained in this communication, you are encouraged to seek specific advice from your professional advisors as appropriate in the circumstances.

Original signed by
Mary Sue Maloughney,
Assistant Deputy Minister and General Manager

Jennifer Kuhn

From: is@rdkb.com
Sent: September 23, 2020 11:19 AM
To: Theresa Lenardon; Information Services; Jennifer Kuhn; Melissa Zahn
Subject: Grant-in-Aid Form submitted by Mrs. Loretta Jones / JL Crowe Secondary School, email address - ljones@sd20.bc.ca

Online Grant-in-Aid Application**Electoral Area(s) Applied to:**

Electoral Area 'A' Director Ali Grieve, Electoral Area 'B' / Lower Columbia- Old Glory Director Linda Worley

Applicant Information:

Applicant: Mrs. Loretta Jones / JL Crowe Secondary School

Address: 1300 Frances Moran Rd.

Phone: 250-368-5591

Fax: 250-364-1567

Email: ljones@sd20.bc.ca

Representative: Loretta Jones

Make Cheque Payable To: JL Crowe Secondary School

Other Expenses:

Total Cost of Project: \$18,375

Amount Requested from
RDKB Director(s):

\$2940

81470 Approved Director Grieve
September 23, 2020

What is the Grant-in-Aid for?

I have been working hard since May on getting funding for our low income students to get a chromebook. We have found that the gap between the "have's" and the "have not's" was really emphasized by the

COVID crisis and online learning. This continues to be a problem for these families that have been impacted financially and also just by the new education style. Every teacher uses Google Classroom now and this enables students to stay caught up with all the learning in case they need to stay home due to sickness or anxiety or having a family that is medically compromised. Even completing homework and regular school assignments are being completed this way to reduce touch points. Students can hand in assignments through Google Classroom. They can use their own Chromebook at school and reduce the need to use a school supplied one. All their files and info is on their own computer. It really is a pretty fantastic platform for education.

Our district can get them at a reduced cost of \$218 plus taxes for a total of \$245.

List of Other Organizations Applied to for Funding

Name of Organization Murphy Family Foundation - Trail Smoke Eaters

Amount Requested 2000

Amount Secured 2000

Name of Organization Skool Aid through Le Roi and Presbyterian church

Amount Requested 2500

Amount Secured 10,500

Name of Organization

Amount Requested

Amount Secured

Documents uploaded with Submission?

☐

I:\Portals\0\Documents\GIA-Attachments\

Jennifer Kuhn

From: is@rdkb.com
Sent: September 23, 2020 11:19 AM
To: Theresa Lenardon; Information Services; Jennifer Kuhn; Melissa Zahn
Subject: Grant-in-Aid Form submitted by Mrs. Loretta Jones / JL Crowe Secondary School, email address - ljones@sd20.bc.ca

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Electoral Area 'A' Director Ali Grieve, Electoral Area 'B' / Lower Columbia- Old Glory Director Linda Worley

Applicant Information:

Applicant: Mrs. Loretta Jones / JL Crowe Secondary School

Address: 1300 Frances Moran Rd.

Phone: 250-368-5591

Fax: 250-364-1567

Email: ljones@sd20.bc.ca

Representative: Loretta Jones

Make Cheque Payable To: JL Crowe Secondary School

Other Expenses:

Total Cost of Project: \$18,375

Amount Requested from
RDKB Director(s):

~~\$2940~~

*\$1,470 Approved Director Worley
September 23, 2020*

What is the Grant-in-Aid for?

I have been working hard since May on getting funding for our low income students to get a chromebook. We have found that the gap between the "have's" and the "have not's" was really emphasized by the

COVID crisis and online learning. This continues to be a problem for these families that have been impacted financially and also just by the new education style. Every teacher uses Google Classroom now and this enables students to stay caught up with all the learning in case they need to stay home due to sickness or anxiety or having a family that is medically compromised. Even completing homework and regular school assignments are being completed this way to reduce touch points. Students can hand in assignments through Google Classroom. They can use their own Chromebook at school and reduce the need to use a school supplied one. All their files and info is on their own computer. It really is a pretty fantastic platform for education.

Our district can get them at a reduced cost of \$218 plus taxes for a total of \$245.

List of Other Organizations Applied to for Funding

Name of Organization Murphy Family Foundation - Trail Smoke Eaters

Amount Requested 2000

Amount Secured 2000

Name of Organization Skool Aid through Le Roi and Presbyterian church

Amount Requested 2500

Amount Secured 10,500

Name of Organization

Amount Requested

Amount Secured

Documents uploaded with Submission?

☐

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Linda J. Worley

Jennifer Kuhn

From: is@rdkb.com
Sent: October 6, 2020 9:09 AM
To: Theresa Lenardon; Information Services; Jennifer Kuhn; Melissa Zahn
Subject: Grant-in-Aid Form submitted by Bruce Gerrand, email address - bgerrand@shaw.ca

Online Grant-in-Aid Application**Electoral Area(s) Applied to:**

Electoral Area 'B' / Lower Columbia- Old Glory Director Linda Worley

Applicant Information:

Applicant: Bruce Gerrand

Address: 2429-12th Ave Castlegar, BC V1N4A9

Phone: 250304-2429

Fax:

Email: bgerrand@shaw.ca

Representative:

Make Cheque Payable To: Twin Rivers Community Choir

Other Expenses:

Total Cost of Project: \$\$12000.00

Amount Requested from
RDKB Director(s): \$\$1000.00

*Approved Director Worley
October 6, 2020*

What is the Grant-in-Aid for?

The Twin Rivers Community Choir is creating a Virtual Choir presentation for the citizens of the West Kootenay. While our choir has been financially successful in the past and we have been returning money to the community, the cost of the Virtual Choir is more than we can finance. Each choir member is

contributing to the cost of the project but we find ourselves \$6000.00 short of funds to complete.
Hence we are asking for support to the Regional Districts to carry on bringing culture to our communities.

List of Other Organizations Applied to for Funding

Name of Organization	Area I
Amount Requested	\$1500.00
Amount Secured	\$1500.00

Name of Organization	Area J
Amount Requested	\$1500.00
Amount Secured	\$1500.00

Name of Organization
Amount Requested
Amount Secured

Documents uploaded with Submission?

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Jennifer Kuhn

From: is@rdkb.com
Sent: October 2, 2020 11:38 AM
To: Theresa Lenardon; Information Services; Jennifer Kuhn; Melissa Zahn
Subject: Grant-in-Aid Form submitted by **Grand Forks Border Bruin Association**, email address - dfunk@rdkb.com

Online Grant-in-Aid Application**Electoral Area(s) Applied to:**

Electoral Area 'D' / Rural Grand Forks Director Roly Russell

Applicant Information:

Applicant: **Grand Forks Border Bruin Association**

Address: 5784 Nursery Rd

Phone: 12504426001

Fax:

Email: dfunk@rdkb.com

Representative: Darryl Funk - President

Make Cheque Payable To: Grand Forks Border Bruin Association

Other Expenses:

Total Cost of Project: \$\$7500

**Amount Requested from
RDKB Director(s):**

\$\$5000

*Approved Alternate Director Jellis
October 7, 2020*

What is the Grant-in-Aid for?

To assist with costs to replace existing showers, install upgrades to sinks and bathroom to minimize high

contact surfaces and maintain social distancing requirements. All funds to be spent locally and will be leveraged with local supplier donations.

List of Other Organizations Applied to for Funding

Name of Organization Grand Forks Border Bruin Association

Amount Requested

Amount Secured

Name of Organization

Amount Requested

Amount Secured

Name of Organization

Amount Requested

Amount Secured

Documents uploaded with Submission?

☐

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Jennifer Kuhn

From: is@rdkb.com
Sent: October 7, 2020 12:30 PM
To: Theresa Lenardon; Information Services; Jennifer Kuhn; Melissa Zahn
Subject: Grant-in-Aid Form submitted by Grand Forks Seniors Society, email address - mylesmom@shaw.ca

Online Grant-in-Aid Application**Electoral Area(s) Applied to:**

Electoral Area 'D' / Rural Grand Forks Director Roly Russell

Applicant Information:

Applicant: Grand Forks Seniors Society

Address: PO Box 553 Grand Forks BC V0H 1H0

Phone: 2504440333

Fax:

Email: mylesmom@shaw.ca

Representative: Juliana Chadwick

Make Cheque Payable To: Grand Forks Seniors Society

Other Expenses:

Total Cost of Project: \$2000

Amount Requested from
RDKB Director(s):

\$2000

Approved Alternate Director Jolies
October 8, 2020

What is the Grant-in-Aid for?
the purchase of a new carpet for carpet bowling

List of Other Organizations Applied to for Funding

Name of Organization New Horizons Grand

Amount Requested 5000.00

Amount Secured none

Name of Organization

Amount Requested

Amount Secured

Name of Organization

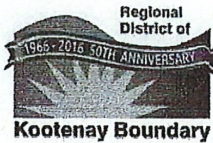
Amount Requested

Amount Secured

Documents uploaded with Submission?

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Grant-in-Aid Request

The personal information you provide on this RDKB document is being collected in accordance with the Freedom of Information and Protection of Privacy Act and will be used only for the purpose of processing RDKB business. This document may become public information. If you have any questions about the collection of your personal information, please contact Theresa Lenardon, Manager of Corporate Administration/Corporate Officer and Freedom of Information Protection of Privacy Officer at 250-368-9148 or foi@rdkb.com.

Please check all Electoral Area Boxes You Are Making Application To:

<input type="checkbox"/> Electoral Area 'A' Director Ali Grieve	<input type="checkbox"/> Electoral Area 'B' Lower Columbia-Old Glory Director Linda Worley	<input type="checkbox"/> Electoral Area 'C' Christina Lake Director Grace McGregor	<input type="checkbox"/> Electoral Area 'D' Rural Grand Forks Director Roly Russell	<input checked="" type="checkbox"/> Electoral Area 'E' West Boundary Director Vicki Gee
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Applicant:	*Beaverdell Community Club and Recreation Commission			
Address:	* 5841- Highway 33. Beaverdell BC. V0H 1A0			
Phone:	* 250 484 5658	Fax:		E-Mail: *flo.hewer@yahoo.com
Representative:	* Flo Hewer			
Make Cheque Payable To:	* Beaverdell Community Club			

*Starred items, including contact information, must be completed in full.

***GIA Requests of \$5,000.00 or more may require official receipt. The Electoral Area Director may ask for additional information.

What is the total Cost of the Project? \$ 500.00 What amount are you requesting from this RDKB Director(s)? \$ 500.00

What is the Grant-in-Aid for? (attach an extra sheet if necessary)

Rose Zitko would like to do a Haunted House. She will put in place Covid-19 protocols.

Please list all other organizations you have applied to for funding (attach an extra sheet if necessary)

Name of Organization _____	Amount Requested: \$ _____	Amount Secured: \$ _____
Name of Organization _____	Amount Requested: \$ _____	Amount Secured: \$ _____
Name of Organization _____	Amount Requested: \$ _____	Amount Secured: \$ _____
Date: <u>Oct. 1/20</u> Applicant Signature: <u>[Signature]</u>	Print Name: <u>Flo Hewer</u>	

Office Use Only

Grant approved by Electoral Area Director: [Signature]

Approved by Board: _____

SUBMIT

BEAVERDELL COMMUNITY CLUB AND RECREATION COMMISSION

PROPOSED BUDGET

01/01/2021 – 12/31/2021

REGIONAL DISTRICT OF
KOOTENAY BOUNDARY

SEP 29 2020

REF. TO:

CC: MF

Revenue

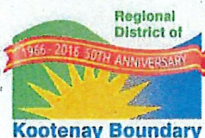
Regional District of Kootenay Boundary	\$19,950.00
Fund Raising	\$ 3,800.00
Shower Income	\$ 700.00
Membership Income	\$ 200.00
Hall/Post Office Rental	\$ 2,500.00
Total Revenue	\$27,150.00

Expenses

Accounting Fees	\$2,000.00
Insurance and Event Licenses	\$4,000.00
Cleaning/Yard Maintenance Expenses	\$5,000.00
Postage & Dump Fees	\$ 350.00
Meal Program	\$3,500.00
Special Event Supplies	\$3,000.00
Telephone	\$1,500.00
Hall Supplies/Repairs/Maintenance	\$3,000.00
Utilities – Hall/Post Office/Rink (Fortis)	\$5,000.00
Christmas Hampers	\$4,000.00
Total Expenses	\$31,350.00

Projected Excess Expenses over Revenue **-\$4,200.00**

Read on September 8, 2020 at BCCRC meeting. Voted on and passed at meeting.



Grant-in-Aid Request

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Please check all Electoral Area Boxes You Are Making Application To:

<input type="checkbox"/> Electoral Area 'A' Director Ali Grieve	<input type="checkbox"/> Electoral Area 'B' Lower Columbia-Old Glory Director Linda Worley	<input type="checkbox"/> Electoral Area 'C' Christina Lake Director Grace McGregor	<input type="checkbox"/> Electoral Area 'D' Rural Grand Forks Director Roly Russell	<input checked="" type="checkbox"/> Electoral Area 'E' West Boundary Director Vicki Gee
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Applicant:	* KETTLE RIVER FOOD SHARE SOCIETY			
Address:	* 3990 HWY 3, ROCK CREEK, B.C. V0H 1Y0			
Phone:	* 250-443-1634	Fax:	N/A	E-Mail: * leslieghall@gmail.com
Representative:	* LESLIE HALL, TREASURER			
Make Cheque Payable To:	* KETTLE RIVER FOOD SHARE SOCIETY (KRFSS)			

*Starred items, including contact information, must be completed in full.

***GIA Requests of \$5,000.00 or more may require official receipt. The Electoral Area Director may ask for additional information.

What is the total Cost of the Project? \$ 616⁰⁰ What amount are you requesting from this RDKB Director(s)? \$ 616.00

What is the Grant-in-Aid for? (attach an extra sheet if necessary)

<p>TO PAY FOR A MONTHLY SUBSCRIPTION TO QUICKBOOKS ONLINE, A BOOKKEEPING PROGRAM. 12 months @ \$28 = \$616.00.</p> <p>Our society is wanting to standardize our financial records and have our "books" up to date. Using QUICKBOOKS ONLINE and current technology will help us achieve this important goal/task.</p>
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Please list all other organizations you have applied to for funding (attach an extra sheet if necessary)

Name of Organization _____
Amount Requested: \$ _____ Amount Secured: \$ _____

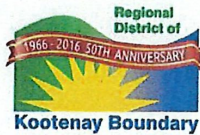
Name of Organization _____
Amount Requested: \$ _____ Amount Secured: \$ _____

Name of Organization _____
Amount Requested: \$ _____ Amount Secured: \$ _____

Date: OCT 3/2020 Applicant Signature Leslie Hall Print Name LESLIE HALL
TREASURER

Office Use Only	
Grant approved by Electoral Area Director:	<u>V. Gee</u>
Approved by Board:	

SUBMIT



Grant-in-Aid Request

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Please check all Electoral Area Boxes You Are Making Application To:

<input type="checkbox"/> Electoral Area 'A' Director Ali Grieve	<input type="checkbox"/> Electoral Area 'B' Lower Columbia-Old Glory Director Linda Worley	<input type="checkbox"/> Electoral Area 'C' Christina Lake Director Grace McGregor	<input type="checkbox"/> Electoral Area 'D' Rural Grand Forks Director Roly Russell	<input checked="" type="checkbox"/> Electoral Area 'E' West Boundary Director Vicki Gee
---	--	--	---	---

Applicant:	* Westbridge Recreation Society		
Address:	* 2935 Hwy 33, Westbridge, BC V0H 1Y0		
Phone:	* 250 449 2993	Fax:	E-Mail: * Viviansplace@hotmail.com
Representative:	* Duncan Campbell Scott, Vice President		
Make Cheque Payable To:	* Westbridge Recreation Society		

*Starred items, including contact information, must be completed in full.

****GIA Requests of \$5,000.00 or more may require official receipt. The Electoral Area Director may ask for additional information.


What is the total Cost of the Project? \$ _____ What amount are you requesting from this RDKB Director(s)? \$ 588.00

What is the Grant-in-Aid for? (attach an extra sheet if necessary)

2 years subscription to Quick Books

Please list all other organizations you have applied to for funding (attach an extra sheet if necessary)

Name of Organization _____	Amount Requested: \$ _____	Amount Secured: \$ _____
Name of Organization _____	Amount Requested: \$ _____	Amount Secured: \$ _____
Name of Organization _____	Amount Requested: \$ _____	Amount Secured: \$ _____

Date: Oct 3, 2020 Applicant Signature  Print Name Duncan Campbell Scott

Office Use Only

Grant approved by Electoral Area Director: _____

Approved by Board: _____

SUBMIT

Film & TV Production Booming in the South Okanagan Productions Booked into Summer 2021

For Immediate Release

Kelowna BC – September 9, 2020 – Film production is booming in the Okanagan and there is no end in sight of the projects coming to the region. There have been non-stop films and television being shot locally since the 3rd week of lockdown and productions are booked well into the summer of 2021.

Jon Summerland, Okanagan Film Commissioner states, “Because the Okanagan Film Commission initiated a pro-active approach to Covid-safe film production and worked with Work Safe BC to create protocols for the industry, which continue grow now from the initial strategies, the Okanagan set an industry standard by being in the forefront of safe production and hence became the first region in Canada ‘to go to camera’ during Covid.”

The economic impact of film production in the Okanagan in 2020 will be upwards of \$35 million, which will surpass previous years. **Jon continues**, “We landed a slate of MOW’s (movies of the week) ie Hallmark and Lifetime films that are booked and will take production in the region significantly into 2021.” In addition there are more productions being lined up to film here including two reality shows, dozens of additional MOW’s, and multiple features (timing dependent on cross border talent).

Currently filming includes in Peachland: *Romance At Crystal Cove*; in Kelowna: *The Angel Tree*; and in Vernon: *Under a Lover’s Moon*, *Love in Romance*, *Or, Love on the Vine*.

-30-

For more information on the Okanagan Film Commission visit okanaganfilm.com

Media Contact: Jon Summerland, jon.summerland@cord.bc.ca, 250-717-0087



Columbia River Treaty Monthly Update for the Local Governments' Committee – September 2020

Issued October 2, 2020

Key Updates:

- B.C. government during the B.C. election period
- Columbia River Treaty Negotiations
- Public Engagement during the interregnum
- Columbia River Treaty-related community interest project updates

Notes regarding the B.C. election period

- During the current B.C. election period, the B.C. government is in caretaker mode.
- During this period, we cannot comment on B.C.'s perspective on future direction or actions regarding the Treaty; and
- We cannot speculate on what the new cabinet's direction will be regarding the Treaty.
- In addition, our public engagement on the Treaty is paused. We can continue to receive messages from the public but are unable to respond or provide public updates until a new government is formed. This includes postponing our next newsletter.
- We can and will continue to work with the LGC and CBRAC where appropriate.

Treaty Negotiations

- There are no new updates to share regarding the Treaty negotiations. We will continue to keep you informed as and when possible.
- The Indigenous-led ecosystem function work continues at an operational level.

Public Engagement

- During the interregnum, all public engagement and communication is paused.
- This includes the September newsletter, sharing of the Koocanusa Weir draft report, and any public meetings (virtual or in person).
- No new commitments or decisions can be made, or initiatives started, until the interregnum is over.



- We will communicate future engagement plans after the election period has ended.
- The B.C. Treaty Team will continue working with the LGC and CBRAC at an operational level.
- CBRAC met by webinar on September 29, 2020 to receive an update on the Indigenous-led ecosystem function work and a review of the draft ecosystem function goals and objectives that were presented to CBRAC in October 2019. (These same goals and objectives were presented at the Province's 2019 CRT Community Meetings.)
- CBRAC's next webinar is tentatively planned for the end of November. Details will be confirmed after the interregnum.

Community Interest Projects

- The Province is continuing operational work on community interest projects during the B.C. election period where appropriate.
- Community interest projects that are actively underway include: Columbia River Treaty Heritage Project; Creston Valley dike management; Meadow Creek mosquitos impacts/conservation property; Valemount air quality/dust; and Basin high speed fibre digital connectivity infrastructure.
- There are three projects that are on pause: Duncan Dam fish passage; Grants in lieu of taxes; and Kinbasket recreational opportunities

COLUMBIA RIVER TREATY

Director Worley-RDKB Board of Directors-Appointment Updates

October 14, 2020

Ongoing work continues at the Executive level and Committee level. We have finally completed the massive task of Updated Recommendations. Due to the upcoming election and the Govt being shut down in the interim the Committee has postponed releasing the Updated Recommendations for Negotiation purposes, to a later date post elections .

CBRAC SEPTEMBER 20, 2020
Discussion Topics

New member Director Joseph Hughes of Nakusp replacing Amy Watson whom has stepped down due to time management challenges.

Unpredictability of virtual meetings.

No new updates about CRT during this time and no new date selected for Negotiations

Indigenous Nations Ecosystem Function work is progressing : Marc Thomas gave a Presentation on Secwepmenc Ecosystem Function Studies.

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Natalie Allard of Ktunaxa Nation spoke to cultural values work in relation to Ecosystem which are tied to their cultural value responsibilities which is tied directly to Ecosystem Function.

Bill Green representing Ktunaxa nation gave report on Treaty mandated flows, and the lack of flexibility in the current Treaty requirements for the Canadian side in meeting our future objectives EF studies.

RDI: Housing Needs.

Director Worley-RDKB Board of Directors-Appointment Updates

October 14, 2020

Spoke about housing and needs. Including a future web map to show different info on available parcels with info on minimum parcel size noted. Also a top view table of available land across RDKB and subregions. Organized by Electoral Areas and Municipalities. This would be a snapshot as of a certain date and update it on a regular basis as data changes, to keep current records for possible investors. Discussion perused on how to achieve those updates without stressing RD staff.

Development cost charges with a few local Municipalities were discussed.

Draft housing needs draft report is near to being available to the Steering Committee for consideration.