Alberni-Clayoquot Regional District

BEAVER CREEK WATER ADVISORY COMMITTEE MEETING
WEDNESDAY, NOVEMBER 18, 2020, 10:00 AM

Due to COVID-19, the meeting will be held via Zoom Video Conferencing and will be livestreamed on the ACRD website at https://www.acrd.bc.ca/events/18-11-2020/

Public Attendance: the public are welcome to attend the meeting via Zoom Webinar by registering at:
https://portalberni.zoom.us/webinar/register/WN_Iud8grruQC2HV1D2mhDAPA

AGENDA

PAGE #

1. CALL TO ORDER

Recognition of Territories.

Notice to attendees and delegates that this meeting is being recorded and livestreamed to YouTube on the Regional District Website.

2. APPROVAL OF AGENDA
(motion to approve, including late items requires 2/3 majority vote)

3. RECEIPT OF MINUTES

a. **Beaver Creek Water Advisory Committee Meeting held January 28, 2020** **3-5**

THAT the minutes of the Beaver Creek Advisory Committee meeting held on January 28, 2020 be received.

4. REQUEST FOR DECISIONS

a. **REQUEST FOR DECISION** **6**
Local Service Area Boundary Amendment

THAT the Beaver Creek Water Advisory Committee recommend that the Alberni-Clayoquot Regional District Board of Directors amend the boundaries of the Beaver Creek Water System Local Service area to include District Lot 30, Alberni Land District, Except Plan 9787, THAT PT LYING E OF BEAVER CRK RD & S OF BAINBRIDGE Road, 7685 and 7620 Bainbridge Road.

b. **REQUEST FOR DECISION** **7-12**

McKenzie Road Pump Station

THAT the Beaver Creek Water Advisory Committee recommend to the ACRD Board of Directors that the McKenzie Road Pump Station be decommissioned.

c. **REQUEST FOR DECISION**
Unidirectional Flushing Program **13-14**

THAT the Beaver Creek Water Advisory Committee support the development and implementation of a unidirectional flushing program.

d. **REQUEST FOR DECISION** **15-20**
Beaver Creek Water –Capital Replacement Plan

THAT the Beaver Creek Water Advisory Committee recommend to the ACRD Board of Directors that the Beaver Creek Water System proposed capital plan be included in the 2021-2025 Alberni-Clayoquot Regional District Financial Plan.

5. REPORTS

a. **Report For Information – Fayette and Lamarque Watermain Project Update – J. Brunn** **21**

b. **Report For Information – Development Cost Charges for Renovations – J. Brunn** **22-23**

THAT the Beaver Creek Water Advisory Committee receives information reports a-b.

6. LATE BUSINESS
(requires 2/3 majority vote)

7. QUESTION PERIOD

Questions/Comments from the public participating in the Zoom meeting.

Questions/Comments from the Public, respecting an agenda item, can be emailed to the ACRD at responses@acrd.bc.ca and will be read out by the Corporate Officer at the meeting.

8. ADJOURN

Alberni-Clayoquot Regional District

MINUTES OF THE BEAVER CREEK WATER ADVISORY COMMITTEE MEETING HELD ON TUESDAY, JANUARY 28, 2020, 1:30 PM

Regional District Board Room, 3008 Fifth Avenue, Port Alberni, BC

MEMBERS PRESENT: John McNabb, Chairperson, Director, Electoral Area "E" (Beaver Creek)
Gord Blakey
Harold Carlson
Pam Craig

STAFF PRESENT: Rob Williams, GM of Environmental Services
Jenny Brunn, Manager of Operations

1. CALL TO ORDER

The Chairperson called the meeting to order at 1:34pm.

The Chairperson recognized the meeting this afternoon is being held in the Tseshaht First Nation and the Hupacasath First Nation Territories.

2. APPROVAL OF AGENDA

MOVED: Director Craig
SECONDED: Director Blakey

THAT the agenda be approved as circulated.

CARRIED

3. MINUTES

a. **Beaver Creek Water Advisory Committee Meeting held July 16, 2019**

MOVED: Director Carlson
SECONDED: Director Craig

THAT the minutes of the Beaver Creek Water Advisory Committee Meeting held on July 16, 2019 be recieved.

CARRIED

4. REPORTS

a. Beaver Creek Water System 2019 Annual Report
b. Beaver Creek Water Advisory Committee – Water Emergency Response Plan

MOVED: Director Craig
SECONDED: Director Carlson

THAT the Beaver Creek Water Advisory Committee receive reports a-b for information.

CARRIED

MOVED: Director Craig
SECONDED: Director Blakey

THAT the Beaver Creek Water Advisory Committee direct staff to investigate the options for removing or adjusting the Development Cost Charge requirements for renovations.

CARRIED

5. REQUEST FOR DECISIONS & BYLAWS

a. Request for Decision regarding Investing in Canadian Infrastructure Grant Opportunity

MOVED: Director Craig
SECONDED: Director Carlson

THAT the Beaver Creek Water Advisory Committee recommend to the ACRD Board of Directors to approve submission of a grant application to the Investing in Canadian Infrastructure Program (ICIP) Green Infrastructure for design and construction of the Falls/Georgia Watermain Project.

CARRIED

MOVED: Director Craig
SECONDED: Director Blakey

THAT the Beaver Creek Water Advisory Committee recommend to the ACRD Board of Directors to allocate $500,000 of Community Works funding for the Fayette and Lamarque watermain renewal projects in 2020.

CARRIED

b. Request for Decision regarding Beaver Creek Water Conservation Plan

MOVED: Director Blakey
SECONDED: Director Craig

THAT the Beaver Creek Water Advisory Committee recommend that the ACRD Board of Directors endorse the 2020 Beaver Creek Water Conservation Plan.

CARRIED

c. **Request for Decision regarding Beaver Creek Water System Rates and Regulation Bylaw**

MOVED: Director Craig
SECONDED: Director Blakey

THAT the Beaver Creek Water Advisory Committee recommend that the Alberni-Clayoquot Regional District Board of Directors approve a reduction in the allowable water consumption for basic water charge from 108 cubic meters per quarter to 90 cubic meters per quarter, effective July 1, 2020.

CARRIED

MOVED: Director Craig
SECONDED: Director Blakey

THAT the Beaver Creek Water Advisory Committee recommend that the Alberni-Clayoquot Regional District Board of Directors give three readings and adopt Bylaw No. F1146, 2020 – Beaver Creek Water Local Service Area Rates and Regulations.

CARRIED

6. LATE BUSINESS

7. ADJOURN

MOVED: Director Craig
SECONDED: Director Blakey

THAT this meeting be adjourned at 3:03pm.

CARRIED

Certified Correct:

John McNabb,
Chairperson

Rob Williams,
General Manager of Environmental Services

ALBERNI-CLAYOQUOT
REGIONAL DISTRICT

3008 Fifth Avenue, Port Alberni, B.C. CANADA V9Y 2E3 Telephone (250) 720-2700 FAX: (250) 723-1327

REQUEST FOR DECISION

To: Beaver Creek Water Advisory Committee

From: Jenny Brunn, Interim GM of Community Services

Meeting Date: November 18, 2020

Subject: Local Service Area Boundary Amendment

Recommendation:

THAT the Beaver Creek Water Advisory Committee recommend that the Alberni-Clayoquot Regional District Board of Directors amend the boundaries of the Beaver Creek Water System Local Service area to include District Lot 30, Alberni Land District, Except Plan 9787, THAT PT LYING E OF BEAVER CRK RD & S OF BAINBRIDGE Road, 7685 and 7620 Bainbridge Road.

Background:

In 2015, the property owners of 7620 Bainbridge Road applied for a water service connection which was paid for and installed. As this property was outside of the service area, it is understood that staff intended to amend the boundaries to bring this property into the service area at that time but this amendment never occurred. In November of 2019, an additional water connection application was made for this property and installed. It was assumed at the time that the property was within the boundaries as it already had a water service. In early 2020, staff realized that this recently serviced property was outside of the service area. Staff contacted the property owners to explain the options available to them; request to be included in the service area or choose to have their water services disconnected from the system. The property owners made a formal request to be included in the service area in late August.

If the above recommendation is passed by the Committee, Regional District staff will prepare an amendment to Bylaw E1054, Beaver Creek Water System Local Service Area, 2012 to include this property within the service area for consideration of three readings and adoption by the ACRD Board of Directors.

Financial:

The water services for these properties have received and paid for water service since the installation of services. However, they have not been billed for parcel taxes. Once the service area boundaries are amended and the property is brought into the local service area, parcel taxes can be applied for future years.

Time Requirements – Staff & Elected Officials:

Staff time will be required to draft an amendment to Bylaw E1054, Beaver Creek Water System Local Service Area.

Submitted by: _____
Jenny Brunn, Interim GM of Community Services

Reviewed by: _____
Wendy Thomson, GM of Administrative Services

Approved by: _____
Douglas Holmes, BBA, CPA, CA, Chief Administrative Officer

ALBERNI-CLAYOQUOT
REGIONAL DISTRICT

3008 Fifth Avenue, Port Alberni, B.C. CANADA V9Y 2E3 Telephone (250) 720-2700 FAX: (250) 723-1327

REQUEST FOR DECISION

To: Beaver Creek Water Advisory Committee

From: Jenny Brunn, Interim GM of Community Services

Meeting Date: November 18, 2020

Subject: McKenzie Road Pump Station

Recommendation:

THAT the Beaver Creek Water Advisory Committee recommend to the ACRD Board of Directors that the McKenzie Road Pump Station be decommissioned.

Background:

The McKenzie Road Pump Station operated as the supply and treatment facility for the Beaver Creek Water System (BCWS) until 2014 when the supply was switched over to the City of Port Alberni (CPA). The pump station has not been decommissioned as it was thought that it could be available as an emergency source of water if the CPA supply was compromised. However, the station is not currently being maintained and would not able to be put into operation in an emergency. The station is currently a liability for the system that must be addressed.

Summary:

Koers Engineering was engaged to complete an assessment of the pump station in July and provide cost estimates to reactivate or decommission the facility. The resulting attached report has identified that the facility needs significant improvements to become operational for emergency purposes including installation of a liquid chlorine treatment system, replacement of the emergency generator and infiltration gallery improvements. There will also be significant costs required in 3 to 5 years to address the near end-of-life building, pumps and piping infrastructure.

Options:

Reactivate the Facility to Establish an Emergency Water Supply

This will require an investment of $294,000 immediately and an additional $567,000 in 2 to 3 years for a total cost of $861,000. The annual capital replacement costs will be $40,580 and annual maintenance costs will be $10,000. This will not provide potable water and a boil water advisory would be required if this station was brought online.

Decommission the Facility

This will remove the building and infrastructure for proper disposal and remediate the site. The infiltration gallery will be abandoned and infilled. The estimated cost for completing this work is $200,000. There are no additional annual costs associated with this option.

Discussion:

The CPA primary source of water is from China Creek with back-up from Bainbridge Lake and an emergency untreated supply available from the Somass River (near the Paper Mill Dam). The failure of the CPA to supply the BCWS would be caused by a significant event such as an earthquake or tsunami. However, all 3 water supplies and/or the breakdown of the water transmission lines in the CPA would need to occur for a loss of water supply to the BCWS. If this level of catastrophic emergency occurred, it is very likely that damage would also occur to the McKenzie Road Pump Station and transmission system.

Decommissioning the Pump station is the more cost-effective option for addressing this facility. The major decommissioning work can be delayed for a number of years (demolition of the building and site remediation) but a number of risk reduction measures should be done immediately if this option is chosen. This includes removal of the seacan and old generator, disconnection of power and locking out valves to ensure that raw water can't enter the system, signage and removal of instrumentation and equipment. There will be some annual costs for insurance, lease fees and electricity until the full decommissioning is completed.

Financial:

The cost to reactivate and maintain the pump station would result in an additional cost to each customer of approximately $150 per year for 10 years. The on-going maintenance costs after that time would be $50/year.

The cost to decommission the pump station would result in an additional cost to each customer of approximately $20 for 10 years after which there would be no additional costs.

Time Requirements – Staff & Elected Officials:

Staff time will be required for either option chosen for project planning, design, construction, contract administration and the tendering and procurement work associated throughout. If the committee chooses not to decommission the facility additional on-going staff time will be required to do facility checks and preventative maintenance at the facility.

Submitted by: _____
Jenny Brunn, Interim GM of Community Services

Approved by: _____
Douglas Holmes, BBA, CPA, CA, Chief Administrative Officer

KOERS
& ASSOCIATES
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Consulting Engineers

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www.koers-eng.com

November 5, 2020
1245-201-01 R1

Alberni-Clayoquot Regional District
3008 5th Ave
Port Alberni, BC V9Y 2E3

Attention: **Ms. Jenny Brunn**
Interim General Manager of Community Services

Re: Beaver Creek Water Service
McKenzie Road Water Supply Pump Station
Reactivation vs Decommissioning Cost Review

Further to your request, we are pleased to present our review of the McKenzie Road water supply pump station. Our review considers the following options and prepare Class "D" cost estimates for each:

- Short-term Emergency Use
- Permanent Emergency Use
- Decommissioning/Removal

PUMP STATION OVERVIEW

Location

The pump station is located on the east bank of the Stamp River on 7690 Sportsman Road within a Statutory Right-of-Way on the property. Access to the pump station is via a shared driveway on an easement of Sportsman Road.

Description

The pumphouse building was constructed in ±1959 when the Beaver Creek Improvement District was incorporated. The pumphouse building area is 30 m^2 and is approximately 6m wide by 5m long.

Raw water is withdrawn from the Stamp River by an infiltration pipe which is buried approximately ±0.5m beneath the riverbed. The pipe is a 23m long, 450mm diameter asbestos bonded corrugated steel pipe of which 15m under the riverbed is perforated. The pipe discharges into a wet well located beneath the pump station floor. There are three vertical turbine pumps that pump water from the wet well into the distribution system.

There is a separate room within the pump room that housed a chlorine gas system which was used to disinfect the raw water. The chlorination system was removed from the pump station in 2014 when the pump station stopped providing potable water to the Beaver Creek Water System.

….2

The pump room and the chlorination room are located below ground and are accessed by a sloped concrete ramp. The electrical service and controls are in a separate room with ground level access which was updated between 2010 and 2014. An emergency power generator is located within a metal shipping container in front of the building. The shipping container is approximately 3m wide by 6m long (18 m^2).

The walls and floor of the below ground portion of the pump station/wet well are reinforced concrete which transitions to a wood frame structure at ground level. The building roof is sheet metal.

Current Status
The operation of the pump station ceased in April 2014 when the Beaver Creek Water Service water supply source was switched to the City of Port Alberni upon commissioning of the Strick Road water booster station.

Attached are photographs of the McKenzie Road water supply pump station taken during our July 2, 2020 site inspection.

COST ESTIMATES

Basis for Cost Estimates

The estimated project costs are **Class C** (±25-40%) as defined by EGBC "Engineers & Geoscientists BC":

> "An estimate prepared with limited site information and based on probable conditions affecting the project. It represents the summation of all identifiable elemental costs and is used for program planning, to establish a more specific definition of client needs and to obtain preliminary project approval."

Below is a brief overview of the basis of the cost estimates:

Water Treatment
Allowances have been made for reinstatement of the water disinfection (chlorination) however this will not meet the Island Health requirements for potable water. This review has not reviewed the treatment methods required to bring should the water facility be required to make potable water. The intent of this review is for emergency water supply only were **non potable** water would be provided to the system.

emergency use, short-term (2 to 3 years)
Estimated cost for installation/replacement/servicing of equipment to make the station operational in the event of a loss of water from the City of Port Alberni.

Annual estimated cost to maintain/service the equipment to ensure it is ready for immediate use.

emergency use, permanent (50 years)
Estimated cost for installation/replacement/servicing of equipment to make the station operational in the event of a loss of water from the City of Port Alberni.

Annual estimated cost to maintain/service the equipment to ensure it is ready for immediate use.

Estimate of the funds to be contributed annually as part of an asset management plan for the replacement/renewal of the pump station building and equipment (mechanical, electrical and controls).

decommissioning/removal

Estimated cost to decommission and remove the pump station building.

Summary of Cost Estimates

A summary of the cost estimate for each condition is presented in **Table 1**.

Table 1 – Summary of Cost Estimates

	Description	Cost Estimates, Class C (excluding GST)			
		One Time Capital Cost $	Asset Management, Annual Cost		
			O&M $	Replacement Fund $	Total $
1	Short Term Emergency Use	$294,000 [1]	$10,000 [2]	n/a	$10,000
2	Permanent Emergency Use	$861,000 [2]	$10,000 [3]	$40,580 [4]	$50,580
3	Decommissioning/Removal	$200,000 [5]	n/a	n/a	n/a

Notes:

1 Capital cost estimate (Short Term):
- installation of 12% (liquid) sodium hypochlorite system
- replacement infiltration gallery pipe 300 mm dia gate valve and assembly
- replacement of 200 mm dia. flow meter
- replacement of the emergency generator
- updating the SCADA/Controls
- servicing of the three water pumps
- 40% contingency allowance

2 Capital cost estimate (Permanent):
- Building Improvements
- installation of 12% (liquid) sodium hypochlorite system
- replacement infiltration gallery pipe 300 mm dia gate valve and assembly
- replacement of 200 mm dia. flow meter, piping and three pumps
- replacement of the emergency generator
- 40% contingency allowance

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Alberni-Clayoquot Regional District
Ms. Jenny Brunn

3 Annual O&M cost estimate allowance:
- Electrical costs
- Monthly testing and operation of the generator and pumps
- Annual servicing of generator and pumps

The estimate does not include ACRD administrative costs (office and maintenance staff time, vehicles, etc.)

4 Annual replacement fund contribution amount based on:
- Life span of 50 years
- Present day replacement cost of $1,218,000 inclusive of 40% contingency allowance
- Annual inflation rate of 2%
- Accumulated funds annual interest rate of 1%

5 Decommissioning cost estimate:
- Removal of all mechanical and electrical equipment
- Removal of generator and shipping container
- Demolition of the building and foundation above the wet well
- In-place abandonment of the infiltration gallery pipe (450 mm dia.)
- Filling of infiltration gallery wet well with drain rock
- Backfilling of site
- Removal of asphalt and concrete at the building site
- Site restoration (topsoil and hydroseeding)
- 40% contingency allowance

We trust this information is sufficient for your needs at this time. Do not hesitate to contact us to discuss this information in greater detail or if we can be of further assistance.

Yours truly,

KOERS & ASSOCIATES ENGINEERING LTD.

Chris Downey, P.Eng.
Project Manager

Attachments
July 2, 2020 Photographs

ALBERNI-CLAYOQUOT
REGIONAL DISTRICT

3008 Fifth Avenue, Port Alberni, B.C. CANADA V9Y 2E3 Telephone (250) 720-2700 FAX: (250) 723-1327

REQUEST FOR DECISION

To: Beaver Creek Water Advisory Committee

From: Jenny Brunn, Interim GM of Community Services

Meeting Date: November 18, 2020

Subject: Unidirectional Flushing Program

Recommendation:

THAT the Beaver Creek Water Advisory Committee support the development and implementation of a unidirectional flushing program.

Summary:

Unidirectional Flushing (UDF) is an excellent, water-efficient method of cleaning water distribution pipes to improve water quality, reduce the demand for chlorine and restore capacity of the watermains. The intent is to achieve high velocity flow in the pipes which acts to scour the inside of the pipes, removing build-up.

Background:

Over time, the interior of watermains naturally build-up sediment deposits and biofilm (non-pathogenic microorganisms and organic matter). These build-ups will use up available chlorine residuals and may cause odour and taste complaints. The traditional flushing program that is currently used in the Beaver Creek Water System (BCWS) consists of opening hydrants and standpipes in dead-end areas on a regular basis to regain chlorine residuals and reduce complaints. This takes over 225 hours and uses approximately 10,000 m3 over the course of a year. This program does not dislodge and remove the mineral deposits, sediments and biological deposits that accumulate in the water mains, it simply brings fresh water into the dead-ends of the system.

UDF is a network of flushing sequences involving the closing of valves in a specific sequence to create water movement in one direction while opening specific hydrants at the end of that sequence. Maintaining the flushing sequence is important so that the water used in the flushing sequence remains clean and the desired velocity is achieved. This high water velocity allows for better scouring of pipes and will use 40% less water in the flushing process than traditional flushing. The first step for implementing a UDF program is the development of a step-by-step flushing plan by an experienced UDF planner.

Financial:

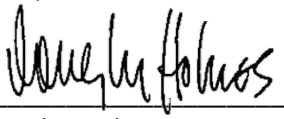
Staff have received a quote of $17,000 to create a unidirectional flushing program for the BCWS. This is a one-time expense that will result in a section by section flushing plan (with detailed sequence of which valves and hydrant to open/close) overlaid on maps for staff to use in the field.

Time Requirements – Staff & Elected Officials:

It is estimated that the complete UDF program will require 2 staff approximately 2 to 3 week to undertake the entire program. The frequency can be set at annual, biannual or up to once per 3 years. Some time for dead-end flushing may be saved once the program has been implemented. In order to accommodate this work, the laborer position would be extended for 3 weeks to assist one of the waterworks crew in the early spring or fall which will increase wage costs by approximately $8,500.

Submitted by: 

Jenny Brunn, Interim GM of Community Services

Approved by: 

Douglas Holmes, BBA, CPA, CA, Chief Administrative Officer

ALBERNI-CLAYOQUOT
REGIONAL DISTRICT
3008 Fifth Avenue, Port Alberni, B.C. CANADA V9Y 2E3 Telephone (250) 720-2700 FAX: (250) 723-1327

REQUEST FOR DECISION

To: Beaver Creek Water Advisory Committee

From: Tricia Bryant, CPA, CGA, Asset Management Coordinator

Meeting Date: November 18, 2020

Subject: Beaver Creek Water –Capital Replacement Plan

Recommendation:

THAT the Beaver Creek Water Advisory Committee recommend to the ACRD Board of Directors that the Beaver Creek Water System proposed capital plan be included in the 2021-2025 Alberni-Clayoquot Regional District Financial Plan.

Capital Plan Highlights:

The 2017 Infrastructure Assessment of the Beaver Creek Water System (BCWS) completed by Koers Engineering provided a priority replacement list used to develop previous capital plans and the BCWS Asset Management Plan Version 1. This priority list was based on cumulative scores from age, material type, condition and fire flow capacity ratings. Condition assessments and break/repair data collected since this time has been incorporated to the ratings and the priority list adjusted accordingly. As a result, an updated Capital Plan with cost estimates has been created, as detailed in the attached report and summarized here:

Project	Estimated Start Date	Current Cost	Future Cost: 2% Annual Inflation from Est. Start Date
Karen Place (Withers to 6303 Karen Place)	2022	$610,000	$622,000
Falls Street, Georgia Road & Saunders Road	2024	$1,335,000	$1,417,000
Kitsuksis Road (Short to Spruce)	2026	$660,000	$729,000
Smith Road (Beaver Creek Road to Lamarque Road)	2028	$1,185,000	$1,361,000
Grandview Road (5626 Grandview to Fraser Ave)	2030	$710,000	$849,000

An annual inflationary rate of 2% is added to the cost of each project beyond 2021. These cost estimates are based on recent successful tenders for watermain replacements within BC.

It is important to note that these estimated project costs have increased beyond the 2% inflation projection included in the BCWS Asset Management Plan Version 1 due to unexpected economic factors. As a result, capital replacement projects have been spread out to accommodate the current financial resources in BCWS.

Time Requirements – Staff & Elected Officials:

There will be some time required of staff and elected officials to review the draft financial plan.

Financial:

It is likely that staff will be recommending an increase in water rates or parcel tax after the current figures and market price for labour and materials are updated and the Asset Management Plan Version 2 is adopted. It is expected that with the updated cost estimates provided by Koers, the funding gap within BCWS will increase significantly. Staff are hopeful to identify and access grant funding for capital projects within BCWS, where possible.

The identified projects in this report total a current cost of $4.50 million, or a future cost of $5.09 million; these projects alone would require an annual contribution of $509,000. The residents within BCWS contributed approximately $246,000 towards parcel tax in 2020.

Options:

If any amendments are required, they will be made before the draft budget is presented for first reading.

Prepared by: _____
Tricia Bryant, CPA, CGA, Asset Management Coordinator

Reviewed by: _____
Jenny Brunn, Interim GM of Community Services

Approved by: _____
Douglas Holmes, BBA, CPA, CA, Chief Administrative Officer

KOERS & ASSOCIATES ENGINEERING LTD.
Consulting Engineers

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November 5, 2020
2050-01 Rev 2

Alberni-Clayoquot Regional District
3008 5th Ave
Port Alberni, BC V9Y 2E3

Attention: **Ms. Jenny Brunn**
Interim General Manager of Community Services

Re: **Beaver Creek Water Service**
Capital Plan, Project Cost Estimates

We are pleased to present estimated costs for the capital projects identified by ACRD staff that are proposed to be carried out within the Beaver Creek Water Service. (BCWS). The location of each project is shown on the attached **Figure 1** and the estimated cost is presented in **Table 1**.

COST ESTIMATES

Basis

The estimated project costs are **Class D** (±50%) as defined by the Association of Professional Engineers of BC as:

> "An estimate which, due to little or no site information, indicates the approximate magnitude of cost of the proposed project, based on the client's broad requirements. This overall cost estimate may be derived from lump sum or unit costs for a similar project. It may be used in developing long term capital plans and for preliminary discussion of proposed capital projects."

Time Frame

Construction cost estimates have a limited life span and are subject to inflation and market conditions. The estimates in this report are as of June 2020 when the Engineering News Record Construction Cost Index (ENR CCI) was 11,436 and the local (Vancouver Island) construction market was considered to be active.

Source

The cost estimates have been derived from our in-house construction cost data of watermain construction projects in the mid-Vancouver Island area and incorporate two recent BCWS watermain replacement projects:

- Walker Rd Watermain Replacement, August 2019
- Lamarque Rd & Lafayette Rod Watermain Replacement, March 2020

…/2

Alberni-Clayoquot Regional District
Ms. Jenny Brunn

Assumptions

The cost estimates are based on the following infrastructure replacement assumptions:

- AC watermain pipe to be abandoned in place,
- water service connection piping, meter setter and meter to be replaced,
- appurtenances (hydrants, blow-offs, drains, air release valves, line valves, bends, tees, etc.) to be replaced,
- in travelled areas, trench to be backfilled with imported 75 mm minus pitrun gravel,
- in untravelled areas, trench to be backfill with in-situ soils, and

Allowances

The cost estimates include:

- a 30% general contingency allowance,
- a 20% allowance for construction, engineering, financing, legal and administrative costs.

We trust this information is sufficient for your needs at this time. Do not hesitate to contact us to discuss this information in greater detail or if we assist the ACRD in carrying out the construction of these projects.

Yours truly,

KOERS & ASSOCIATES ENGINEERING LTD.

Chris Downey, P.Eng.
Project Manager

Attachments

Figure 1 –Capital Plan Project Locations
Table 1 –Capital Plan Project Cost Estimates (Class D)

Table 1
Beaver Creek Water Service
Proposed Capital Projects Cost Estimate in 2020 Dollars

Priority	Location / Description		Diameter mm	Length m	Class D Cost Estimate (excluding GST)
1	Beaver Creek Rd & Compton Rd, from Strick Rd to end of main		150	300	$270,000
2	Karen Place, Withers Rd to #6303 Karen Pl	AC watermain replacement	150	680	$610,000
3	Falls St & Georgia Rd & Saunders Rd	AC watermain replacement	150/200	1,370	$1,335,000
4	Kitsuksis Rd, Short to Spruce	AC watermain replacement	150	730	$660,000
5	Smith Rd, Beaver Creek Rd to Lamarque Rd	AC watermain replacement	150	1,320	$1,185,000
6	Grandview Rd, 5626 Grandview to Fraser Ave	AC watermain replacement	150	790	$710,000

Notes:

1 The cost estimates include:
- a 30% general contingency allowance.
- a 20% allowance for construction, engineering, financing, legal and administrative costs.

2 The cost estimates are as of June 2020 when the Engineering News Record Construction Cost Index (ENR CCI) was 11,436 and the local (Vancouver Island) construction market was considered to be active.

3 The estimated project costs are **Class D** (±50%) as defined by the Association of Professional Engineers of BC as:

> "An estimate which, due to little or no site information, indicates the approximate magnitude of cost of the proposed project, based on the client's broad requirements. This overall cost estimate may be derived from lump sum or unit costs for a similar project. It may be used in developing long term capital plans and for preliminary discussion of proposed capital projects."

LEGEND

- BCWS SERVICE AREA BOUNDARY
- PRESSURE ZONE BOUNDARY
- (R) EXISTING RESERVOIR
- (P) EXISTING PUMP STATION

PZ130

CAMERON RD

BEAVER CREEK RD

NORTH RESERVOIR & PUMP STATION

OLD RIVER INTAKE AND PUMP STATION

PLYMOUTH ROAD

SMITH RD

Priority 5

LAMARQUE RD.

PZ106

WALKER RD.

FAYETTE RD.

WADENA RD.

BEAVER CREEK RD.

KAREN PLACE

Priority 2

DARNLEY ROAD PRESSURE ZONE

KISTSUKSIS RESERVOIRS

GRANDVIEW RD

Priority 6

DARNLEY ROAD PUMP STATION

CITY OF PORT ALBERNI

HOLLY AVE

WILLOW RD

MAPLE ST

COMPTON RD

Priority 4

GORDON AVE.

STRICK RD

Priority 1

STRICK ROAD PUMP STATION

MALABAR RD.

PIERCE RD

LUGRIN RD

FALLS ST

GEORGIA RD

Priority 3

KOERS & ASSOCIATES ENGINEERING LTD.
Consulting Engineers
P.O. Box 790, 194-[illegible] Ave.
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CLIENT ALBERNI CLAYOQUOT REGIONAL DISTRICT

PROJECT BEAVER CREEK WATER SERVICE CAPITAL PLAN

TITLE PROJECT LOCATIONS

APPROVED	
DATE	September 2020
PROJECT No.	2050
SCALE	1: 25,000 ON 11x17
DWG No.	FIGURE 1

ALBERNI-CLAYOQUOT
REGIONAL DISTRICT

3008 Fifth Avenue, Port Alberni, B.C. CANADA V9Y 2E3 Telephone (250) 720-2700 FAX: (250) 723-1327

REPORT FOR INFORMATION

To: Beaver Creek Water Advisory Committee

From: Jenny Brunn, Interim GM of Community Services

Meeting Date: November 18, 2020

Subject: Fayette and Lamarque Watermain Project Update

The Fayette/Lamarque watermain project was awarded on April 4th to Lueco construction for $755,698.17 with a completion deadline of October 5th, 2020. The project was substantially complete at the end of September. The remaining work and deficiencies have been agreed upon, with a hold-back amount retained. The contractor has a one year period to complete this work and provide any repairs or required maintenance for the new infrastructure.

During the project there has been a few small challenges with one considerable issue of note when 2 services were left off overnight following the switch-over of the Fayette watermain. The contractor has since implemented a new process for double checking service connection switchovers. Throughout the project, the contractor has been prompt and professional in their response to all concerns raised. There has been challenges with communications going through the correct channels. The project has been completed under budget and ahead of schedule.

Staff had a wrap-up meeting with Koers and Lueco on October 13th, 2020. One of the areas for improvement identified was a need for improved communications. The contractor noted that there was limited communication and involvement from ACRD staff, especially in the latter half of the project. For future projects, a biweekly site meeting with ACRD staff will be a requirement. Staff also believe that an ACRD sandwich board on the construction site with numbers for the Beavercreek after hours phone line and contacts for the ACRD Manager might direct public concerns and issues to the correct person so the problems can be addressed as soon as possible.

Submitted by: _____
Jenny Brunn, Interim GM of Community Services

Approved by: _____
Douglas Holmes, BBA, CPA, CA, Chief Administrative Officer

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REPORT FOR INFORMATION

To: Beaver Creek Water Advisory Committee

From: Jenny Brunn, Manager of Operations

Meeting Date: November 18, 2020

Subject: Development Cost Charges for Renovations

Background:

At the January 28th, 2020 Beaver Creek Committee Meeting staff were directed to investigate the options for removing or adjusting the Development Cost Charge (DCC) requirements for renovations. This report is a result of the follow-up research and legal consultation completed by staff.

Summary:

In 2018, the ACRD Board adopted the Beaver Creek Water System Service Area Development Cost Charge Bylaw No. F1133, 2017 (DCC Bylaw). This DCC Bylaw was developed in accordance with the Province's DCC Best Practices Guide, with public consultation and approved by the Ministry of Municipal Affairs and Housing. The DCC Bylaw, in accordance with the *Local Government Act* (LGA), defines how DCCs will be collected for subdivision and building permits for construction, alteration or extensions valued over $50,000.

There are allowable exemptions from DCCs in the LGA including s. 561(3) that states that a development cost charge is not payable if the development does not impose new capital cost burdens on the municipality, even if they meet the dollar threshold in the bylaw. Many municipalities apply DCCs for renovations without special review and it is the onus of the of the property owner/applicant to dispute the fees and demonstrate that they are not putting additional burden on the system.

Community services and planning staff met to discuss how each renovation building permit could be reviewed to determine if a renovation was creating additional water demand and putting new capital cost burdens on the system. It was decided that the simplest method would be to review the occupancy changes as a result of the renovation. If the occupancy was unchanged then s. 561(3) would apply and it would not be required to pay DCCs.

For future renovation building permits, the value will need to be over $50,000 and the work must result in an increase in occupancy for DCCs to be applied.

Financial:

The total revenues for DCCs in 2019 was $25,115 (5 charges) and so far in 2020 it has been $30,138 (6 charges).

Time Requirements – Staff & Elected Officials:

There will not be any measurable increase in staff time required to review for occupancy changes when determining the application of DCCs for building permits.

Policy or Legislation:

Local Government Act – Division 19 – Development Cost Recovery.

Options:

1. Continue to collect DCCs for renovations over $50,000 without consideration of the burden on the system as a result of the changes. The onus would be on the property owner/applicant to dispute the fees and demonstrate

that they are not putting additional burden on the system. This will result in additional staff time to address each dispute and may result in legal fees.

2. Update the bylaw to remove renovations as a category for applicable DCCs. All amendments to DCC bylaws require provincial review and approval and may require additional public consultation. This is a costly and time consuming process. DCC bylaws should be updated every 5 years. If this option is preferred, it is recommended that this change be incorporated in the scheduled update for this bylaw in 2023 or that additional staff resources and budget be allocated to complete this task.

Submitted by: _____
Jenny Brunn, Manager of Operations

Reviewed by: _____
Mike Irg, GM of Planning

Approved by: _____
Douglas Holmes, BBA, CPA, CA, Chief Administrative Officer