

Corporation of the Village of Cumberland

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File No. 0540-20

Wastewater Advisory Committee
Agenda, Meeting #16
Thursday, May 17, 2018, 1 pm to 3:30 pm
Council Chambers

Invitees

Name	Representing	Present?
Matt Ishoy	Chair, Public member at Large	
Ken Barth	Public member at large	
Dennis Cassin	Public member at large	
Vig Schulman	Public member at large	
Mike Tymchuk	Public member at large, Alternate Chair	
Anya Macleod	Public member at large	
Sean Sullivan,	Council Representative	
Jesse Ketler	Alternate Council Representative	
Nicole Rempel	K'omoks First Nation	
Sundance Topham	Chief Administrative Officer	
Rob Crisfield	Manager of Operations	
Paul Nash	LWMP Project Coordinator	
Larry Sawchyn	TetraTech, Technical Consultant	N
Troy Vassos	Troy David Vassos Inc.	
Dave Cherry	Vancouver Island Health Authority	

Item, Time	Description	Owner
16.1 1:00 – 1:05	Call to Order, Approval of Agenda	Chair
16.2 1:05 – 1:15	Approval of Minutes, Business Arising <ul style="list-style-type: none"> • Review of Minutes • Review of Action list and Parking Lot • Business Arising 	Chair

16.3 1:15 – 1:30	Review of Council Meeting April 9 and May 14 <ul style="list-style-type: none"> • MoE enforcement Action • WAC recommendations on Treatment Options – Accepted • Approval to apply to GMF for funding of the treatment project \$5M loan and \$750k grant • Approval to apply to GMF for funding of the Biochar Reed Bed Pilot Project (\$20k for 50% portion) • Verbal update on Council direction for Elector Assent and borrowing amount 	Paul, Sean
16.4 1:30 – 1:45	Ministry of Environment Update Permit Amendment <ul style="list-style-type: none"> • MoE enforcement Action • Meeting April 3 • Permit amendments filed 	Troy
16.5 1:45 – 2:10	2018 Activities <ol style="list-style-type: none"> 1. Submission of Stage 2 Report 2. Biochar Reed Bed Pilot Project 3. Funding Applications <ol style="list-style-type: none"> a. GMF b. Fed/Provincial “Green Infrastructure Fund” 	
Break		
16.6 2:20 – 3:20	Review of draft LWMP Stage 2 report. <ul style="list-style-type: none"> • Comments/revisions/amendments from the WAC • Context for potential future Stage 3 • Areas of further study 	
16.7 3:20 – 3:30	Wrap up <ul style="list-style-type: none"> • Next Meeting – do we need one? • Round table on overall WAC process Adjournment	
3:30-4:00	Public Q&A	Chair

Attachments:

Minutes of meeting #15 – January 25, 2018

Action Items List

Parking Lot List

Draft LWMP Stage 2 Report – link on Village of Cumberland Website at

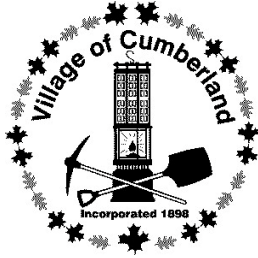
<https://cumberland.ca/meetings/meeting-16/>

Cumberland LWMP - Action List May 17 2018

Date Initiated	Agenda Item	Initiative/Issue	Action	Who	By When	Status	Update/Resolution
25 Jan 2018	15.8	Elector approval for borrowing	Staff report on options	Sundance	Mar 2018	Completed	Presented to Council on May 14

Cumberland LWMP - Parking Lot Jan 25 2017

Date Added	Initiative/Issue	Description	Action	Who	Status
28-Jul-16	Houses on Septic	Update information on where and how many houses/places are on septic. What is the future management plan for these?	Include in Stage 1 as an item to be addressed in Stage 2	Paul	Done Part of LWMP Stage 2 report
28-Jul-16	Uptake of Phosphorus by wetland plants	What sorts of plants do this best, can they be prevented from releasing P?	Include in Stage 2 if wetlands are going to be used	Paul/ Troy	2017 Field studies showed that existing wetland plants are removing 97%
28-Jul-16	How have other communities paid for their projects?	Give some examples of financing and funding strategies used	Is actually a Stage 3 item – financing plan, but may include in Stage 2 for information	Paul	Dropped. Cumberland WWTP financing plan has been prepared
28-Jul-16	What are wastewater user rates in other communities?	Comparison of rate structures, particularly metered rates for wastewater	Is actually a Stage 3 item – financing plan, but may include in Stage 2 for information	Paul	To be considered as part of 2019 budget preparations
28-Jul-16	Reclaimed water uses	Identify all the feasible consumptive uses of different qualities of reclaimed water	Part of the Integrated Resource Recovery Study to be reported in TM#11	Paul, Troy	Dropped – reclaimed water is not part of near term plans
25-Aug-16	Reclaimed water user rates	How have other towns charged for reclaimed water, what portion of treatment costs are covered?	Defer to Stage 3	Paul	Dropped – Reclaimed water is no part of near term plans
08-Sep-16	Stormwater	Status of stormwater management in Cumberland	Summary report to be included in Stage 2	Paul + Staff	Completed
06-Oct-16	Shellfish industry	What are their concerns about MLC	Fishery protection is deemed achieved by meeting Federal & Provincial effluent requirements	Paul	Dropped



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Matt Ishoy	Chair, Public member at Large	Y
Ken Barth	Public member at large	Y
Dennis Cassin	Public member at large	Y
Vig Schulman	Public member at large	Y
Mike Tymchuk	Public member at large, Alternate Chair	N
Anya Macleod	Public member at large	N
Sean Sullivan	Council Representative	Y
Jesse Ketler	Alternate Council Representative	Y
Nicole Rempel	K'omoks First Nation	N
Sundance Topham	Chief Administrative Officer	Y
Rob Crisfield	Manager of Operations	Y
Paul Nash	LWMP Project Coordinator	Y
Larry Sawchyn	TetraTech, Technical Consultant	N
Troy Vassos	Troy David Vassos Inc.	Y
Dave Cherry	Vancouver Island Health Authority	N

Item	Description	Owner
15.1	<ul style="list-style-type: none"> Call to Order, Approval of Agenda Meeting called to order at 1:03 <ul style="list-style-type: none"> Approval of Agenda Motion to approve - moved Vig, seconded Dennis, Carried	Chair

<p>15.2</p>	<p>Approval of Minutes, Business Arising</p> <ul style="list-style-type: none"> • Review of Minutes <p>Motion to Adopt – moved Dennis, seconded Vig, Carried</p> <ul style="list-style-type: none"> • Review of Action list and Parking Lot <p>Paul reviewed the shrinking action list. Some parking lot items will be held over to Stage 3 of LWMP</p> <ul style="list-style-type: none"> • Business Arising <p>Rob updated the Committee about the visit from BC MoE, following up from their non-compliance letter.</p> <p>Troy explained about the interpretation of non-compliance for flow reporting. The Permit states a maximum annual average flow of 910 cu.m/day, which can only be calculated once per year. Up until now, any individual day over 910 cu.m had been reported as non-compliant. MoE has given Cumberland until 2026 to get the stormwater flows down to the permit level. Until that is done, the calculation of annual average flow is not representative, as it is heavily influenced by stormwater flows.</p> <p>This is one of the reasons why modern regulations work in Average Dry Weather Flow, as by definition, there is no impact from wet weather flows.</p>	<p>Chair</p>
<p>15.3</p>	<p>Review of WAC Meeting #14</p> <ul style="list-style-type: none"> • Decision on Preferred Discharge Options <p>No changes were made to the decision on Discharge options</p> <ul style="list-style-type: none"> • Decision on Preferred Long Term Option – Review of evaluation results <p>No changes were made to the evaluation scoring or decision on the preferred long term treatment options, which remains as Option 1, Phase 1+2A – Upgraded Lagoon to MEP quality, with integral wetland augmentation.</p>	<p>Paul</p>
<p>15.4</p>	<ul style="list-style-type: none"> • Review of Technical Memos • TM#8 Emerging Contaminants • TM#9 Effluent Polishing by Reed Bed <p>Troy went through the TM's. While all treatment systems achieve some level of treatment for emerging contaminants, there are very few places that do specific treatment for them. The wetland augmentation will remove some, by the action of the wetland and flow through peat. The biochar reed bed will remove even more, by the adsorption action of the biochar. A decision on adding the Biochar Reed Bed is to be made using the evaluation system under Item 15.7 .</p>	<p>Troy</p>

	It was noted that while the Committee can make a decision to adopt the Reed bed, there would need to be further study, and some field pilot testing, to determine the design basis and make a cost estimate.	
15.5	<ul style="list-style-type: none"> • Review of Technical Memo 14 - Grant Funding Opportunities. <p>Paul reviewed the TM and the implications for;</p> <ul style="list-style-type: none"> • Phasing • Wetland augmentation • Biochar reed bed 	Paul
15.6	<p>Review of Committee Report – Grant Funding Strategy and Tax Implications</p> <p>With the long term option decided as Option 1, Ph1+2A, the Committee discussed the various phasing combinations as presented in the Report. It was agreed by all that regardless of what phase was to be pursued for grant funding, that if no funding was received in a reasonable time frame, then Cumberland’s only course of action (based on receiving approval for borrowing) would be to proceed just with Phase 1. Given that Cumberland is receiving non-compliance attention from MoE, the reasonable timeframe is thought to be a year.</p> <p>A phased project defers some capital cost to the future, which is modelled as five years, according to the 3% growth rate. At the five year mark, the Village has grown from 1500 to 1800 parcels, and collected DCC’s, so the tax burden is recalculated at this time.</p> <p>There is also a cost penalty for implementation and management of a second phase project. This is estimated to be \$0.8M on top of the \$3M for the deferred works.</p> <p>The five different phasing combinations were run through the Evaluation System. The initial evaluation for affordability was based on the tax burden for the first five years only, since all but Phase 1 see a decrease in the tax burden after five years.</p> <p>At the request of the Committee, the affordability was re-calculated based on the 20 year net present value of the tax burden, and this was used for the final scoring of the tax burden category.</p> <p>There was discussion about the fact that the Evaluation system was developed to compare various long term options against each other, rather than first and second phases of the same option. The scoring does not explicitly reflect the fact that a first phase (only) project does not serve the 20 year needs of the community, and needs a second phase in five years. The tax burden is the only evaluation category that captures a difference between a phased and completed project, and the Committee decided to evaluate on this basis.</p>	Paul

The evaluation assumes that each of the phase alternatives receives 2/3 grant funding, as if they don't then only phase 1 is implemented. The Evaluation Results are detailed in the attached table and are summarized below:

First Phase	Ph1	Ph 1+ Wetland	Ph 1 +Wetland +Reed Bed	Ph1 +2A (incl Wetland)	Ph1 +2A (incl Wetland) +Reed Bed
Affordability (40 %)	19.3	20.1	21.5	23.9	25.3
Economic Benefits (20%)	5.6	9.1	12.3	9.1	12.3
Environmental Benefits (20%)	6.3	10.7	13.9	10.7	13.9
Social Benefits (20%)	5.3	10.2	12.3	10.2	12.3
Total Score	36.6	50.0	59.9	53.8	63.7

There was discussion about the fact that most of the environmental and social benefits accrue due to the add-ons of the wetland and reed bed, rather than the phasing. This illustrates that these components address many of the community aspirational goals that were the basis for the environmental and social goals, and the simple Phase 1 project does not.

While the evaluation system was not designed to compare partial and full projects, it did result in a 3.8 point benefit for a single, complete project over a two-phased execution, and this was deemed sufficient difference. The advantage for the complete project results from gaining 2/3 funding for a complete project, whereas a phased project gets 2/3 funding for the first phase, but not the second phase.

It was also noted that while the use of the 20 year NPV tax burden changed the scores compared to the original use of the tax rate for the five years only, it did not change the resulting order of which phasing options scored the highest or lowest.

15.7

Decisions and Recommendations

Considering all the information presented, the Committee is requested to make recommendations to Council to

- 1. Confirm the Preferred Discharge Option and Preferred Long Term Treatment Option***

	<p>The Committee saw no reason to change the recommendations of meeting #14, that the preferred discharge option is to Maple lake Creek, via the wetlands, and the Preferred long term treatment option is the Upgraded Lagoon to “Moderate Exposure Potential” quality, Option 1, Phase 1+2A</p> <p>2. Indicate a preference for the Biochar Reed Bed – adopt, further study, or delete</p> <p>Motion: That the Committee recommend adopting the Biochar Reed Bed as part of the project, subject to further study and successful pilot testing.</p> <p>Moved Vig, Seconded Dennis. Carried, with Ken opposed.</p> <p>Ken explained that his preference is to exclude the Reed Bed from the treatment project, as it is not essential for meeting regulatory needs, and pursue this as a separate project</p> <p>3. Indicate a preferred strategy for phasing and grant funding.</p> <p>Motion: That the Committee recommend pursuing a complete project, rather than a phased one, for all grant applications, and only execute a phased project if there is insufficient grant funding obtained for a complete project.</p> <p>Moved Dennis, Seconded Vig, Carried.</p>	
<p>15.7</p>	<p>Completing Stage 2 LWMP</p> <ul style="list-style-type: none"> • Council Feb 13th – Consider Recommendation • Complete remaining Stage 2 studies <ul style="list-style-type: none"> ○ Biosolids ○ Integrated Resource Recovery ○ Water Conservation ○ Servicing Comox Lake area ○ Infiltration Reduction <p>The Committee decided there will be two more meetings – first to review the draft LWMP Stage 2 report, and the second to then make a recommendation on the final report. Probable dates are mid-March and mid-April, to be confirmed.</p>	<p>Paul</p>
<p>15.8</p>	<p>Review of Committee Report: Treatment Upgrade Implementation Pathways.</p> <p>There are two options, after completing Stage 2 in 2018;</p> <ol style="list-style-type: none"> 1. Move to implementation, using the regulatory authority of the existing Discharge Permit and seeking elector approval for borrowing, or 	<p>Paul</p>

	<p>2. Complete stage 3 LMWP in 2019-20, then implement using LWMP regulatory and borrowing authority</p> <p>There was discussion about how, if option 1 is chosen, elector approval would be gained – by a Referendum at the October municipal election, or by an Alternate Approval Process during the summer. The earlier process allows approval to be confirmed as part of any grant applications made in summer/fall of 2018. It was decided that Village staff should look into this further before Council makes a decision on which route to proceed with.</p> <p><i>Recommendation to be made to Council on Preferred Implementation Pathway</i></p> <p>Motion: That the Committee recommends moving to implementation of a project using the regulatory authority of the Discharge Permit, and seeking elector approval for any borrowing.</p> <p>Moved Ken Seconded Dennis Carried.</p>	
15.9	<p>Wrap up</p> <ul style="list-style-type: none"> • Next Meeting <p>Meeting dates for the next two meetings are to be determined.</p> <ul style="list-style-type: none"> • Adjournment <p>Motion to adjourn – moved Vig, second Dennis, Carried</p> <p>Meeting adjourned at 5pm</p>	Chair
	Public Q&A	Chair

- Attachments:
Evaluation Results
Action Items List
Parking Lot List

Chair

Corporate Officer

Phasing Evaluation Results for Option1, Phase 1+2A, 25 January 2018.

- The Tax Burden assumes 2/3 grant funding for the first phase, and no grant funding but use of DCC contributions for the second phase.
- The Tax Burden score is calculated based on 20 year NPV of estimated parcel taxes and operating costs. An ideal tax burden (score 5) was deemed to be \$200/parcel/year, and an unaffordable tax burden (score 0) was deemed to be \$600.
- The tax burden for the “last resort” of a phased implementation with no grant is \$518 for years 2019-2023, and \$559 for years 2024-2039

Tax Burden Evaluation

Project Phasing	Two Phase	Two Phase	Two Phase	Complete Project	Complete Project
First Phase Description	Phase 1 (no Wetland)	Phase 1 +Wetland	Phase 1 + Wetland + Reed Bed	Phase 1+2A (incl wetland)	Phase1+ 2A +Wetland +Reed Bed
First Phase Capital Cost	\$5.6M	\$6.6M	\$7.6M	\$8.6M	\$9.6M
Second Phase Capital Cost	\$3.8M	\$2.8M	\$2.8M	-	-
Total Capital Cost	\$9.4M	\$9.4M	\$10.4M	\$8.6M	\$9.6M
Net Cost, first phase (2/3 grant)	\$1.9M	\$2.2M	\$2.5M	\$2.9M	\$3.2M
Net Cost, Second Phase (Use \$1.9M in DCC's)	\$1.9M	\$0.9M	\$0.9M	-	-
First Phase Tax Burden (2019-2023)	\$325	\$358	\$374	\$392	\$408
Second Phase Tax Burden (2024-2039)	\$365	\$338	\$351	\$247	\$261
20Year NPV (3% discount rate)	\$5561	\$5418	\$5637	\$4573	\$4803
Affordability Score (\$200 =5, \$600 =0)	2.43	2.52	2.38	3.05	2.90

Overall Evaluation

Evaluation Category	Goal	Category Value	Phase 1 (no Wetland)	Phase 1 +Wetland	Phase 1 + Wetland + Reed Bed	Phase 1+2A (incl wetland)	Phase1+ 2A +Wetland +Reed Bed
Affordability	Sustainable Tax Burden (Incl capital and operating cost)	22.9	11.1	11.5	10.9	13.9	13.3
	Ability to Attract Grant Funding	17.1	8.2	8.6	10.6	9.9	12.0
	Subtotal Affordability	40.0	19.3	20.1	21.5	23.9	25.3
Economic Benefits	Productive use of reclaimed water	6.6	1.3	2.6	2.6	2.6	2.6
	Reduce Energy Use and GHG's	5.5	2.2	2.2	4.4	2.2	4.4
	Attract industry and tourism through innovation	5.3	1.1	3.2	4.2	3.2	4.2
	Artist based beautification	2.6	1.1	1.1	1.1	1.1	1.1
	Subtotal Economic Benefits	20.0	5.6	9.1	12.3	9.1	12.3
Environmental Benefits	Innovation/Environmental leadership	4.8	1.0	1.9	2.9	1.9	2.9
	Support health of waterways with robust treatment	4.1	1.6	2.5	3.3	2.5	3.3
	Use of existing ecosystems to control cost including low tech solution and or bio solutions plus beneficial use of produced biosolids	4.1	0.8	2.5	2.5	2.5	2.5
	Sustainability, Climate Change resilience/adaptation/robustness	3.6	1.4	2.1	2.9	2.1	2.9
	Clean air	1.8	1.1	1.1	1.1	1.1	1.1
	reduce manmade toxins	1.6	0.3	0.6	1.3	0.6	1.3
	Subtotal Environmental Benefits	20.0	6.3	10.7	13.9	10.7	13.9
Social Benefits	Inclusivity of Cumberland to create an identity and or positive legacy adding to the social license	8.3	1.7	5.0	6.7	5.0	6.7

	Inclusive costing/metered sewer	3.4	2.0	2.0	2.0	2.0	2.0
	Purple pipe ready	2.7	0.5	0.5	0.5	0.5	0.5
	Aesthetics	1.8	0.4	1.1	1.1	1.1	1.1
	Public Education	1.8	0.4	1.1	1.4	1.1	1.4
	Garden/Zen/all year green lawns	1.8	0.4	0.4	0.4	0.4	0.4
	Strengthen Comox Valley relationship	0.2	0.04	0.09	0.18	0.1	0.2
	Subtotal Social Benefits	20.0	5.3	10.2	12.3	10.2	12.3
	Total	100	36.6	50.0	59.9	53.8	63.7

Cumberland LWMP - Action List Jan 25 2018

Date Initiated	Agenda Item	Initiative/Issue	Action	Who	By When	Status	Update/Resolution
28-May-16	1.9	Document Handling	Investigate web based system (dropbox, etc)	Paul Nash	June 30, 2016	Ongoing	Most documents to be archived on LWMP website.
30-Jun-16	3.2	Updated minutes after approval by committee	Ensure updated and approved minutes are posted to website	Paul	Ongoing	Ongoing	Paul to manage
30 Nov 2017	14.8	Grant Funding	Prepare report on current and near future grant funding opportunities	Paul	Jan 25, 2018	Completed Jan 18	Completed as TM 14
25 Jan 2018	15.8	<i>Elector approval for borrowing</i>	<i>Staff report on options</i>	<i>Sundance</i>	<i>Mid March, 2018</i>		

Cumberland LWMP - Parking Lot Jan 25 2017

Date Added	Initiative/Issue	Description	Action	Who	Status
28-Jul-16	Houses on Septic	Update information on where and how many houses/places are on septic. What is the future management plan for these?	Include in Stage 1 as an item to be addressed in Stage 2	Paul	In Progress, TBC with Stage 2 in April 2018
28-Jul-16	Uptake of Phosphorus by wetland plants	What sorts of plants do this best, can they be prevented from releasing P?	Include as part of study of Biochar Reed Bed	Paul/Troy	Start in May 2018
28-Jul-16	How have other communities paid for their projects?	Give some examples of financing and funding strategies used	Is actually a Stage 3 item – financing plan, but may include in Stage 2 for information	Paul	hold
28-Jul-16	What are wastewater user rates in other communities?	Comparison of rate structures, particularly metered rates for wastewater	Is actually a Stage 3 item – financing plan, but may include in Stage 2 for information	Paul	hold
28-Jul-16	Reclaimed water uses	Identify all the feasible consumptive uses of different qualities of reclaimed water	Part of the Integrated Resource Recovery Study to be reported in TM#11	Paul, Troy	In Progress, TBC with Stage 2 in April 2018
25-Aug-16	Reclaimed water user rates	How have other towns charged for reclaimed water, what portion of treatment costs are covered?	Defer to Stage 3	Paul	hold
08-Sep-16	Stormwater	Status of stormwater management in Cumberland	Summary report to be included in Stage 2	Paul + Staff	In Progress
06-Oct-16	Shellfish industry	What are their concerns about MLC	Further study in Stage 2	Paul	Hold