

**DATE:** June 6, 2019

**FILE:** 5340-20

**TO:** Chair and Members  
Comox Valley Sewage Commission

**FROM:** Russell Dyson  
Chief Administrative Officer

Supported by Russell Dyson  
Chief Administrative Officer

*R. Dyson*

**RE: Discussion Surrounding Requests and Concerns Made by the Curtis Road Residents Association Delegation on May 14, 2019**

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### **Purpose**

To provide information and address the concerns and requests of the Curtis Road Residents Association (CRRA) as outlined by the delegation from Jenny Steel at the May 14, 2019 Comox Valley Sewage Commission (Sewage Commission).

### **Recommendation from the Chief Administrative Officer:**

THAT staff be directed to investigate and assess options for setting an odour standard for the Comox Valley Water Pollution Control Center.

### **Executive Summary**

At the April 16, 2019 Sewage Commission meeting, information was presented by the CRRA. The presentation, and accompanying report, outlined two primary areas of concern:

1. Continued concerns surrounding odour, specifically from the bioreactors.
2. Location of the equalization (EQ) basin proposed for construction at the Comox Valley Water Pollution Control Centre (CVWPCC).

At the May 14, 2019 Sewage Commission meeting, Comox Valley Regional District (CVRD) staff presented a report addressing the CRRA concerns. At that meeting the Sewage Commission passed motions directing staff to develop a landscaping plan for revegetation of the berms to be constructed around the EQ basin, consult with the CRRA on development of a communications protocol, and undertake follow up odour modelling to inform discussion of next steps for odour control at the CVWPCC.

Also at the May 14, 2019 Sewage Commission meeting the CRRA made a second delegation. The presentation outlined several areas of concern:

### ***Adoption of an Odour Standard for the CVWPCC***

The CRRA is asking that the Sewage Commission commit to satisfying the Ontario standard at the CVWPCC now, and with all future infrastructure.

- The Province of BC does not have an odour regulation or standard that applies to wastewater treatment facilities.
- The concept of an odour standard was first raised by CVRD odour consultant RWDI, in a 2016 report assessing the odour performance of the CVWPCC, which concluded that emissions from the plant were resulting in odours at nearby properties far in excess of the Ontario Odour Standard of one odour unit at the property line.

- The 2016 RWDI study also concluded that even with the predicted 80 per cent reduction in odours from the plant that would result from covering of the primary tanks and installation of a carbon polisher, now complete, the plant would be generating odour concentrations over 2.5 times higher than allowed under the Ontario standard.
- CVRD staff recommend that the Sewage Commission further direct staff to identify and assess potential odour standards in other provinces as well as voluntary commitments made by other jurisdictions in BC, to inform a recommendation back to the Sewage Commission on this matter.

### ***Lazo North (Electoral Area B) Representation on the Sewage Commission***

The CRRA feels strongly that the Electoral Area B should be represented on the Sewage Commission given the significant sewage service infrastructure present in that electoral area, and the impact that sewer infrastructure decisions have on nearby residents.

- In addition to the utility governance study process currently underway, the CVRD legislative services group is bringing forward a staff report to the June 2019 Sewage Commission meeting outlining a range of options that the Sewage Commission could implement to provide the Electoral Area B director influence on odour related discussions at the commission.

### ***Bioreactor***

The CRRA would like the Sewage Commission to direct staff to cover the bioreactors immediately, without doing further study work, based on the conclusions of the 2016 RWDI study that concluded that the bioreactors would need to be covered to achieve the Ontario Odour Standard.

- Per the May 14, 2019 Sewage Commission Motion No.3, CVRD staff are proceeding with the follow up odour study, modelling a range of scenarios to inform a future decision by the Sewage Commission.
- In parallel with the odour study, and incorporating the updated odour modelling results, an engineering study is being undertaken to develop a concept for further odour control upgrades, and an updated cost estimate to further inform a decision by the Sewage Commission.
- Both studies are being targeted for completion in late July/early August to work towards a recommendation to the Sewage Commission in September.

### ***EQ Basin***

The CRRA would like the CVRD to relocate the EQ basin back to the northwest corner of the CVWPCC property to minimize impacts to the Curtis Road properties.

- Per the May 14, 2019 staff report to the Sewage Commission responding to the April 16, 2019 CRRA delegation, staff proceeded with tendering the EQ basin project in late May, 2019.
- On May 20, 2019 a letter, attached as Appendix A, was received from the CRRA outlining outstanding concerns with the EQ basin project, largely related to risk to groundwater in the area given that properties along Curtis Road use wells for their water supply.
- On May 27, 2019 the CVRD provided a response letter, attached as Appendix B, responding to the CRRA concerns by outlining mitigating factors and measures being taken by staff.
- Staff will develop standard operating procedures for the EQ basin to formalize the measures being taken to minimize odours and mitigate risk to groundwater.

***Improved Odour Complaint Reporting and Communications***

The CRRA would like the odour tracking system developed for the CVWPCC in 2014 to be updated to make it easier for residents to lodge a complaint, increase transparency of the tracking process, and improve reporting to the Sewage Commission.

- Since the May 14, 2019 Sewage Commission motion directing staff to develop a communications protocol, staff have developed a draft protocol and met with the CRRA to review the document.
- At the May 21, 2019 meeting with the CRRA they provided generally supportive feedback which was incorporated, but after reviewing with the broader association, sent a letter summarizing a range of concerns with the draft communications protocol.
- The CRRA’s primary concerns relate to the unresolved issues summarized above. Staff plan to pause in developing the communications protocol until after these issues are resolved one way or another later this year.
- In the meantime, staff will continue to move forward with improvements to communications with the nearby residents about CVWPCC projects and operations.

Prepared by:

***K. La Rose***

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Kris La Rose, P. Eng.  
Senior Manager of Water/  
Wastewater Services

Concurrence:

***M. Rutten***

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Marc Rutten, P. Eng.  
General Manager of  
Engineering Services

**Stakeholder Distribution (Upon Agenda Publication)**

Curtis Road Residents Association	✓
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Attachments: Appendix A – “May 19, 2019 letter from CRRA regarding EQ basin”  
Appendix B – “May 27, 2019 CVRD letter responding to CRRA EQ basin letter”

## Appendix A

Director David Frisch  
Chair, Comox Valley Regional District Sewage Commission  
600 Comox Road,  
Courtenay BC  
V9N 3P6

Curtis Road Residents Association  
c/o 495 Curtis Road  
Comox, BC  
V9M 3W1

May 19, 2019

Dear Sir:

This is a formal request from Curtis Road Residents Association (CRRA) that the sewage commission directs Comox Valley Regional District (CVRD) staff to re-site the Equalization (EQ) Basin back to its originally planned location at the NW corner of the Comox Valley Water Pollution Control Centre (CVWPCC) property far from our homes on Curtis Road. This is an area unaffected by future expansion plans.

This will not delay the project because all the tender documents already exist. An RFP (Request for Proposal) had been posted in 2018 for the basin at the NW location. Staff withdrew that RFP from BCbid in July 2018 when contractors told them that they were too busy and that the schedule was too tight.<sup>i</sup>

Had contractors been available last year, the EQ basin would have been constructed far from Curtis Road at the NW corner of the CVWPCC.

The Senior Manager of Water/Wastewater Services, Mr. Larose, has told us that cost reduction was the sole reason for moving the EQ basin from the NW corner into the buffer zone behind our properties. He seeks a reduction from the \$7.2m approved for the basin by the sewage commission in September 2018 but will only know the “savings” when he receives the bids, sometime around July. CVRD’s savings come on the backs of CRRA property owners.

You should know that in 2016, CVRD selected the buffer zone site (close to our homes) for an EQ Tank, not for an open basin. The tank was to be concrete and covered and odours vented through the existing odour control system. For an estimated \$5.8m, the tank would have provided permanent buffer capacity.

At the end of 2017, staff investigated a larger open concrete repurpose-able tank -- part of which could be used to provide future bio-reactor capacity. This would have been located at the spot identified for bioreactors in the expansion plans. Staff abandoned this design in February 2018 in favour of a temporary<sup>ii</sup> membrane-lined basin because of cost (\$7.3m vs \$4.76m)<sup>iii</sup> and because of logistical difficulties in partitioning part of the tank to a bioreactor. The records we received under FOIPPA<sup>iv</sup> indicate that CVRD never reconsidered the original \$5.8m permanent tank — even after the estimate for the temporary basin jumped to \$7.2m.

The following issues remain outstanding:

Our most pressing issue is the risk that primary effluent will pollute our well water and seep into the surrounding aquifer if there are any breaches in the basin membrane. Curtis Road wells are shallow wells. The peninsula is subject to very strong winds and gales and, while not a weekly

occurrence, trees do topple over our hydro lines and the recreational paths between the ocean and the plant. Most residents do not walk there in stormy weather for fear of falling trees. Tall trees (rooted in sand) could easily topple into the basin resulting in a compromised membrane. The NW location is more sheltered. Earthquakes present another risk to membrane integrity. Several residents are concerned that the basin excavation/berm building may affect water supply — the basin will displace more than 25,000 cubic metres of earth.

Odours from a half- acre open basin containing primary effluent located less than seventy meters behind some property lines remains an issue. Records received under FOIPPA lead us to conclude that the basin might be used more than the handful of times advertised<sup>v</sup>. Further, as admitted by CVRD staff, the basin will receive more and more use as volumes increase. We have asked staff to provide a more scientific analysis than their expectation of “minimal to no odour impact”. A forecast of Odour Units (OU’s) at the property line from the EQ basin could easily be included in the upcoming Odour Modelling Study. The initial reaction to this request has been negative even though the results could allay our fears and confirm CVRD’s minimal-odour expectation.

Finally, there is concern that seismic activity could cause the basin/berms to slide down the hill into the properties below — the plant is situated about 30 metres above Curtis Road.

CRRA has written to the Ministry of Environment and Climate Change and to the Provincial Drinking Water Officer at the Ministry of Health asking them to intercede on our behalf.

To conclude, the Curtis Road Residents Association asks the Sewage Commission to direct staff to re-tender the original RFP for a basin located at the NW corner of the property.

We would appreciate your prompt attention to this matter.

Respectfully submitted

Jenny Steel, CRRA CVWPCC Liaison Committee  
On behalf of 85 members of Curtis Road Residents Association

Delivered via Email to David Frisch, Chair of Sewage Commission

With c.c. to Sewage Commissioners; Director Hamir; CVRD Regional Board Directors; AJ Downie/Bryan Vroom, Ministry of Environment and Climate Change; Joanne Edwards, Provincial Drinking Water Officer; Kris Larose, Marc Rutten and Russell Dyson, CVRD; CRRA Members and the Press.

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<sup>i</sup> Email from Charlie Gore to AE dated July 18, 2018 *“all three major contractors advise[d] they are too busy and schedule is too tight to make this happen. Proposing to withdraw off BC Bid and re-tender in spring*

<sup>ii</sup> Temporary in that it will no longer be required when there is additional primary and bioreactor capacity and a new outfall.

<sup>iii</sup> NPV Cost Analysis Re-purposable vs Temporary January 30, 2018

<sup>iv</sup> FOIPPA – Freedom of Information and Privacy Protection Act

<sup>v</sup> A fourth secondary clarifier was supposed to be added in 2019 and existing bioreactors according to ISL are at capacity: Associated Engineering last January noted that *“our analysis is showing that you will need SC (Secondary Clarifier) No 5 within a relatively short timeframe to deal with peak hydraulic loads. Construction of SC No. 4 only “replaces” the capacity that is being lost by de-rating. The EQ system may provide some relief in the short term”*<sup>v</sup>. Secondary clarifier no 4 (not 5) has been put on hold pending the LWMP.

File: 5340-20

May 27, 2019

Sent via email only: steel.jenny@me.com

Curtis Road Residents' Association  
c/o Jenny Steel

Dear Ms. Steel:

**Re: Comox Valley Water Pollution Control Center EQ Basin**

Thank you for your letter dated May 19, 2019. We understand that the plans for the EQ basin – and changes in those plans – have been a source of stress for you and other members of the Curtis Road Residents' Association. I am responding in an effort to address, and hopefully relieve, some of your concerns about this important project at the Comox Valley Water Pollution Control Center (CVWPCC).

As previously discussed, the decision to relocate the EQ basin to the original location was due to several factors, including a need to limit constraints on future expansion of the facility, and a reduction in capital and operating costs. More on these:

- **Future Expansion of Facility:** The alternate location that was considered for the EQ Basin was found to create major conflict between the required piping and an existing utility tunnel. This conflict was discovered by our engineering consultants at the end of 2018, as we reviewed the design in preparation for re-tendering in 2019. Relocating the EQ basin to the other side of the CVWPCC property would delay the project until next year, as the design previously tendered did not account for the utility tunnel conflict which would have to be addressed before tendering. Delay of the project to 2020 would result in another winter of increased potential of plant overflow, as wastewater flows continue to grow in proportion to the local population, and winter weather is increasingly extreme.
- **Capital and Operating Costs:** Although the original cost estimate for a permanent, covered, concrete EQ 'tank' was \$5.8 M, subsequent estimates prepared by Associated Engineering concluded the costs would be substantially higher, and that even a temporary lined basin (a less expensive solution) was estimated to cost \$7.2 M at the farther NW location. Further, although tender pricing is not expected back until the middle of June, the shift in location back to the original location avoids several hundred meters of large diameter pipe and requires half as many pumps, because primary effluent will flow by gravity into the basin at that location. This could make a difference of several million dollars both in capital and ongoing operations.

I understand your concern about threats to groundwater in the area. First let me reassure you that the physical presence of the EQ basin will not affect groundwater flow in the area. According to a report prepared by WSP Engineering in June 2018, the ground water level in May 2018 was measured at approximately three metres below the bottom of the EQ basin, meaning there is a wide separation between the two, and that the physical presence of the EQ is unlikely to effect the flow of groundwater in the area.

The construction of the EQ Basin is important to addressing environmental risks – including that posed to groundwater - from a potential plant overflow. This risk is increasing every winter without additional EQ capacity, but is effectively eliminated with the basin's construction. The existing effluent storage basin has been in operation since the plant was built in the early 1980s and has never been compromised.

To further address any concerns about environmental safety, the following steps are being taken to mitigate the risk of a leak from the new EQ basin:

- An arborist will be engaged annually, prior to the stormy season, to check the trees in close proximity to the EQ basin and any trees showing signs of being compromised will be removed.
- A groundwater monitoring well will be installed downslope from the EQ basin where we can quickly extract samples for testing should there be any indication of leakage from the basin.
- The EQ basin has been designed with an under-drain system that will also be used for leak detection. Perforated pipes will be installed under the basin and tied into a sump with pump and sensors – above the local high groundwater level. In the very unlikely event that a leak should occur, some of the leaking primary effluent will be captured by the perforated pipe, conveyed to the sump, trigger an alarm, and automatically prompt the EQ basin pumps to drain the basin into the bioreactors.

And finally, regarding a few of the remaining concerns:

- **Seismic Safety:** The EQ basin will be located in the ground rather than above it, offering it seismic stability. Also, construction of the EQ basin will involve excavation of approximately 7,000 m<sup>3</sup> of earth, and much of that material will be used to construct berms within two neighboring gullies to improve the visual barrier to neighboring properties, and possibly avoid concentrations of plant odour on homes downslope from the existing gullies. The berms will not be holding back the EQ basin, are being fully engineered, and the toe of the berms is at least 40 m horizontally and no more than 5 m vertically from the closest property line. Added to the fact that the EQ basin will be in use for less than 50 hours per year, or less than one per cent of the time, the risk from earthquakes is very low.
- **Odour:** The surface area of the EQ basin when full will be approximately equal to the surface area of the primary tanks. Therefore, we expect the odour emissions from the EQ basin to be similar to those experienced full-time before the primary tanks were covered in 2018. However, given the very limited amount of time the EQ basin will be in use (less than one per cent of the time, per above), and that the EQ basin will only be used in the wettest, stormiest days of the year, the very significant expense of covering the EQ basin is not seen as warranted.



I hope that this response provides more information to address the concerns raised in your letter. I would be happy to discuss further any time.

Sincerely,

***K. La Rose***

Kris La Rose  
Senior Manager of Water/Wastewater Services

cc: Director Frisch, Sewage Commission Chair  
Russell Dyson, Comox Valley Regional District, Chief Administrative Officer  
Marc Rutten, Comox Valley Regional District, General Manager Engineering Services