

Cowichan Watershed Board Draft Staff Report Prepared for Municipality of North Cowichan For discussion at CWB Meeting – Monday September 30

Regarding:

Municipality of North Cowichan Zoning Amendment Application No.28000064 (Vancouver Island Motorsport Circuit)

1. Who we are

The Cowichan Watershed Board (CWB) is a local governance entity created in 2010 to promote water and watershed sustainability in the Cowichan/Koksilah watersheds, ancestral home of the Quw'utsun First Nation. Cochaired by Cowichan Tribes and the Cowichan Valley Regional District, the CWB represents a unique partnership between First Nations and local government. Through this model, Cowichan Tribes and the CVRD work together to advance whole-of-watershed health, demonstrating a commitment to moving down the path of reconciliation.

2. Our Mandate

The CWB's mandate is to provide leadership for sustainable water management to protect and enhance environmental quality in the Cowichan watershed and adjoining areas.

3. Limitations of this response

No field work or data collection has been carried out to support this document. A limited literature review has been undertaken including the supporting documents provided with this referral. This information has been supplemented by the expert opinion of Cowichan Watershed Board Technical Advisory Committee and Target Working Group members. Cowichan Tribes staff and members have also been contacted. Rather than attempt to add to the considerable amount of detailed information already available, the intent of this submission is to flag specific areas of interest to decision makers when considering watershed impacts of this application – and to provide a brief rationale for bringing these items to their attention.

Although the level of detail in this document has been limited by staff availability and a short timeline, the information that is included is, to the best of our knowledge, factual and accurate.

Our comments have been limited to the environmental values associated with the property in question and the potential impacts and benefits of the proposed zoning amendment with a focus on water supply (hydrological impacts), water quality and impacts to habitats and ecosystems. Although we understand there are concerns regarding noise management associated with the operation of the facility we do not feel we are qualified to comment on them other than with regards to ecosystem impacts. Similarly, we will not be commenting on economic or social impacts of the proposed rezoning.

It is hoped that the information provided in this brief note will help to inform the decision on this rezoning application by the Municipality of North Cowichan.

4. Comments and Observations

4.1 Overview

The subject property is situated in the upper Menzies and Bings creek watersheds. The majority of the property is second growth timber or regenerating (12 years) clear cut. Menzies creek joins Bings creek downstream of the subject property. Bings Creek flows into Somenos Lake which drains into the Cowichan River. Bings creek supports anadromous salmonids (Coho, steelhead and chum) and both Bings and Menzies are home to resident Cutthroat trout. There are reports of resident cutthroat trout in the reaches of Menzies creek in the subject property. There have been sightings or evidence of a wide variety of avian and terrestrial species including deer and elk. Suitable habitat exists for reptile, amphibian and invertebrate species. These observations are supported by Traditional Ecological Knowledge (TEK).

4.2 Water Supply (Hydrological function)

4.2.1 Background

- Taking into account recent climate trends and PCIC (UVIC) generated downscaled climate modeling, expectations are for warmer wetter winters and hotter drier summers. Managing the land base to buffer winter freshet flows and augment low flows in summer can help to mitigate climate change impacts to watercourses and ecosystems. Intact forests provide measurable benefits to hydrological function and environmental health
- Forest cover can stabilize surface water flows, reducing freshet flows in winter and retaining moisture and providing shade in summer
 - Winter freshet and summer low flows can be limiting to resident and anadromous salmonids that are present in the watershed.
 - Menzies creek in the subject property is often reduced to isolated pools in the summer
- Impervious surfaces increase rapid runoff and reduce groundwater infiltration
- Linear development (roads and ditches) alters surface water flows and can result in changes to groundwater infiltration patterns.

4.2.2 Comments - Points for Consideration

- Aquaparian Environmental assessment report states: *Vegetation removal is estimated be 14.3 ha of 40 yr old forest and 5.29 ha of 14 yr early seral vegetation totalling 19.59 ha or 45.6% of the parcel area.*
- The proponent has stated that "VIMC has designed the Phase 2 expansion to ensure that the post development rainwater runoff will be the same as it is pre-development, through strategic use of swales, retention and detention spaces, and percolation fields."
 - Achieving "no net hydrological impact" would be challenging and costly to monitor. There is currently no mechanism to ensure compliance with this goal. Consideration should be given to resourcing how to monitor and evaluate the proponent's ability to meet this goal over the long term and the consequences and outcomes of failing to do so.
- Water Storage
 - The proponent has indicated a willingness to transfer the land required for the construction of a 500,000 gallon reservoir for water storage.
 - It should be pointed out that it is our understanding that this will be retained for fire readiness and not dedicated to augmenting summer flows.

- If this water were allocated to summer flows, based on a 100 day release period, 500,000 gallons would yield approximately 0.26 litres/second, which is approximately 1/3 the flow of a garden hose. This would not be enough to provide significant environmental benefits.
- As this reservoir seems to be situated on Menzies creek, downstream impacts of storing this water should be evaluated. Consideration should also be given to who would hold the license (and be responsible for operations/maintenance and any liability associated with the structure) for any storage created.
- The JE Anderson and Associates "Storm Water and Rain Water management Plan" referenced the possibility of a conservation water storage initiative":
 - During previous public meetings, there was some discussions about global warming and a reduction in rainfall during the summers. To maintain water flows in the creeks during the summer, a large reservoir could be created. At 5 L/s for 2 months, 26,000 cubic metres of storage plus an allowance for evaporation would be required
 - While creating adequate storage to maintain summer conservation flows would be a benefit, there was no follow up to this in the "VIMC Environmental Initiatives Summary" so we are assuming no action will be taken on this. However we note that the 2 months release time referenced is not adequate. 100 days is the standard metric for conservation releases and this is proving insufficient in the Cowichan Watershed. In order to meet the 100 day target, over 43,000 cubic meters would be required approximately 9.5 million gallons, requiring a reservoir almost 20 times the size of the one proposed for fire readiness

4.2.3 Hydrological Function Summary:

- Impacts to hydrology should be verified and monitored
- Water storage for conservation purposes as part of this initiative seems unlikely

4.3 Water Quality

4.3.1 Background

- Salmonids are generally intolerant of compromised water quality and subject to sub-lethal stress at temperatures above 17C. This includes the resident cutthroat trout found in Menzies creek and the anadromous salmonids in Bings creek downstream.
- Intact riparian vegetation helps to moderate summer high temperatures
- In partnership with Somenos Marsh Wildlife Society, Cowichan Land Trust and others, CWB carried out water quality sampling in Menzies creek downstream of the subject property in summer (low flow) and fall (first flush) of 2018
- Some of the relevant results include:
 - Aluminum concentrations in Menzies creek greatly exceeded short and long term water quality standards and are much higher (10x) than samples from lower Cowichan and considerably higher (3-4x) than samples taken lower down in Bings creek suggesting a source in the Menzies watershed
 - In Lower Cowichan watershed sampling, the highest concentrations for reactive metals and salt ions were consistently in Bings and Menzies creeks
 - Menzies and Bings exceed provincial aquatic habitat guidelines for iron, Manganese and aluminum. The Chromium number is also close to the threshold. The highest values for 6 out of 10 metals were found in Menzies Creek
 - It is impossible at this time to ascertain whether these results are associated with point or nonpoint source inputs or naturally high levels in the Menzies sub-watershed.

4.3.2 Comments - Points for Consideration

- It has been demonstrated and documented in the literature that roadway storm water runoff may be a potential threat to receiving waters (surface and groundwater) and that these concerns may be accentuated with high performance motorsports
- There are currently documented water quality concerns in Menzies creek with no indications of the source of the problems.
- JE Anderson and Assoc. has completed a Storm water and Rain water management plan that states:
 - Details (of site development plans to meet MNC drainage guidelines) will be provided (later) at detailed design stage

4.3.3 Water Quality Summary

- A water quality monitoring design should be created and implemented to indentify the source of elevated levels of metals and salt ions in Menzies creek.
- There are risks to water quality associated with the proposed land use.
- An ongoing water quality monitoring program should be implemented to track point and non-point source inputs into Menzies creek particularly if new development is supported.
- Impacts to riparian vegetation should be avoided

4.4 Habitat and Ecosystem Values

4.4.1 Background

- Cowichan Watershed Board supports "whole of watershed" thinking. *Mukw' stem 'o' slhilhukw'tul* Everything is interconnected.
 - Impacts to groundwater, surface water, water quality or any of the wildlife species that utilize the subject property have the potential to affect a broad array of natural processes.
- The Aquaparian Environmental Consulting Environmental Impact Assessment report states: *The permanent impacts of the proposed project to the 43 ha parcel include approximately 1.5 ha of riparian habitat within the SPEA for the stream crossings, and a loss of 11.3 ha upland forest habitat, or approximately 26% of the parcel.*
- The Aquaparian Environmental Consulting Environmental Impact Assessment report lists observations of "blue listed" species – or suitable habitats for these species, on the subject property.
- *Quw'utsun* Traditional Ecological Knowledge indicates that this area is a travel corridor for elk specifically, and other species in general, and that, for elk in particular, it is an area of significant importance.

4.4.2 Comments - Points for Consideration

- Any concerns expressed by Cowichan Tribes pertaining to elk, salmonid species or other wildlife and ecosystems values should be fully considered when evaluating this application.
- While the proposed exclusion fences will limit elk/deer interactions with cars on the track, they will exclude these animals from areas they currently use. From the Golder report: *the fence will... effectively remove a large portion (-43 ha) of Roosevelt elk habitat from the landscape.* In addition to the loss of available habitat this could increase elk/human interactions in other areas
- The effects of noise levels on elk specifically and other wildlife in general, are not well documented in western scientific literature. Here in the Cowichan Valley, local indigenous traditional ecological knowledge does speak to concerns regarding disruptive impacts of noise on elk behaviour. As well, the Golder report states: *lt should also be noted that loud noise emissions, especially when above ambient in natural areas or greater than about 50 dB has also been shown to cause birds rearing young on a nest to abandon the nest resulting in hatchling mortality.*

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- Although not our area of expertise, it is our understanding that protecting "wildlife corridors" is important to maintaining ecosystem integrity and maintaining a habitat connectivity "greenway" for ungulates and other species through this area should be carefully considered. As per the Golder report: Additional assessment should identify if established corridors can be maintained by reducing the fence footprint to prevent fragmentation of patches of Roosevelt elk habitat outside the fence.
- We note that the Cowichan Valley is almost entirely privately controlled and lacks a landscape level understanding of cumulative land use impacts on wildlife. The impact on elk and other species should be assessed in relation to the overall reduction in habitat.

5. Other Considerations

5.1 Archaeological and Cultural Considerations

- Cowichan Tribes should be directly approached for input and guidance regarding any concerns they might have with respect to disturbance of culturally significant sites
- Trained Cowichan Tribes archaeological monitoring staff should be onsite for all onsite works involving site disturbance

5.2 Precautionary Principle

• The Cowichan Watershed Board supports utilization of the precautionary principle when making land and resource use decisions and acknowledges the importance of having detailed and complete information to inform important decisions. Addressing data gaps and pre and post monitoring are seen as essential components of informed water/shed stewardship.

5.3 CWB Climate Change Emergency Declaration

- The Cowichan Watershed Board has endorsed a Climate Change Emergency Declaration which includes the following: The Cowichan Watershed Board, recognizing that Mukw' stem 'o' slhilhukw'tul everything is interconnected are committed to ensuring water and watershed sustainability in the face of climate change and to engage in these efforts in a manner that does not contribute to further disruption of our climate
- We are working to reduce climate impacts of our own operations, recognize the challenge of doing so, and are encouraging others to do the same. Accordingly, we cannot avoid commenting on concerns we have with the Vancouver Island Motorsports Circuit attracting patrons who travel great distances by air to drive high performance cars around a track. The Cowichan Watershed Board recognizes the urgent need to rethink societal priorities in order to address the climate crisis and provide hope for future generations.

Please contact our Executive Director, Tom Rutherford, should you have any questions or concerns about this document.