



Impact Assessment Agency of Canada (IAAC/CEAA)  
National Resources Conservation Board (NRCB)

Delivered by email

Attention: Laura Friend (NRCB)  
Jennifer Howe (IAAC / CEAA)

February 13, 2021

Re: Air and Human Health (CEAA Sections 6 and 7)

Our comments address CEAA's draft conditions of January 4, 2021 along with Package 4-Technical Review Round 2, March 23, 2020 and July 2020, and the Proponent's land-use plan from October 2020 (Question 4-05) among other items from the Proponent's prior submissions. We have not had the opportunity to adequately review the most recent December 18, 2020 Project Design given the holidays and requirement to comment on CEAA draft conditions by February 3, 2021. We remind regulators that we are community volunteers who spend inordinate amounts of time keeping up to date with submissions. We also express dismay that the NRCB Pre-hearing took place before the latest design was released. We did not have any indication that this updated design was imminent and it has created additional work for our volunteers. Additionally, the February 3, 2021 deadline for CEAA comments on conditions proposed on January 4, 2021 does not allow adequate time for robust review and comment. The CEAA deadline should at least include the expert evidence that arises at the NRCB hearing. To omit this evidence may result in missed-opportunities to improve Project outcomes.

### "No Project" Comparisons

The baseline comparison for the Proponent is the "no project" or "without the project" scenario, which was never contemplated. MC1 would have retained sediment, just as SR1 does. However, SR1 leaves this sediment expose to air whereas it would have been retained under a pool of dead storage at MC1. From a human health perspective, this is an important distinction and requires discussion by the Proponent. There are no residences near MC1. There are thousands of homes downwind of SR1. The exposure of the sediment to air will create is a unique and ongoing risk to the Springbank community that was not contemplated by the Proponent. This outcome would not have existed at MC1. The management of the sedimentation required for dust and biodiversity (reseeding, etc.) will become a burden on taxpayers and residents of the area surrounding SR1.

Further, there is little risk to drinking water in the MC1 area, while Springbank residents are very concerned about their water quality and quantity with SR1.

Regarding the CEAA proposed conditions, it appears that the various agencies have commented on their particular areas of expertise. In some cases, it appears that these conditions are at odds with one another. For instance, it is unclear how sediment management post-flood (for fish draining, migratory birds) impacts air quality in the community. Any sediment management requires heavy machinery and dust generation.

## Section 6: Atmospheric Environment

### *Air Quality*

#### **On Page 50, CEAA Report:**

IAAC notes, briefly, the public's concerns regarding air quality. This warrants more than a passing comment! The Springbank community is highly concerned about air quality post-flood during the sediment management phase of the Project and generally during the regrowth period. This is a dry, windy community in which plants need sufficient water to establish. The Proponent has not identified watering of the reservoir post-flood during the regrowth phase and we fully expect airborne particulates from the SR1 lands.

With the emergence of a global respiratory pandemic, research is demonstrating that there are environmental factors that can exacerbate risk and severity of the illness. SR1 would appear to exacerbate two specific risks and we ask regulators to consider this new information regarding risk of respiratory illness in SR1 relative to the alternative at MC1.

1. PM2.5 airborne particulates that result from mobilization of silt: Research from Harvard shows that “an increase of only 1 µg/m<sup>3</sup> in PM2.5 is associated with a 15% increase in the COVID-19 death rate, 95% confidence interval (CI) (5%, 25%). Results are statistically significant and robust to secondary and sensitivity analyses.” We believe that the mobilization of fine airborne particulates from the reservoir has been under-studied and we beg regulators to consider the long-term health implications of this new information.<sup>1</sup>
2. Wildfire air pollution in the Kananaskis region: SR1 was chosen despite its inability to manage wildfire risk in the Bragg Creek region despite the long-term risk to the region. While we know that wildfire can pollute the water, we now see that air pollution from wildfire can increase risk of respiratory illness. Although the Alberta government has not addressed the ability of SR1 relative to MC1 to manage wildfire risk, residents see that the global coronavirus pandemic has highlighted further a serious consequence and shortfall of the original decision.

According to BC dike construction and management guidelines, no trees or bushes can be planted along the dike due to root systems and possible dike stability concerns. It appears that our communities'

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<sup>1</sup> <https://www.hsph.harvard.edu/biostatistics/2020/04/linking-air-pollution-to-higher-coronavirus-death-rates/>

concerns about air quality are justified and therefore, we ask: how is erosion of sediment managed following floods?

The Proponent states: "In the short term, when natural revegetation could be ineffective, a tackifier would be applied where required. Tackifiers are a sprayable erosion control product that bonds with the soil surface and creates a porous and absorbent erosion resistant blanket that can last for up to 12 months.

Reapplication of the chemical stabilizer at defined periods is necessary to maintain high control efficiency. The dilution ratio, chemical application rate and time between reapplications of a chemical stabilizer can be adjusted to achieve and maintain high levels of fugitive dust control. Frequent reapplication of a chemical stabilizer can maintain a control efficiency of 90%, even over a three-month summer period, with one initial application and one reapplication of typical latex based chemical stabilizers."

Where is the cost of all these interventions to manage dust?

What are the repercussions of using these tackifiers for First Nations and Traditional Uses? Farmers in the area? Cattle? Wildlife?

Further, the Proponent states:

"The Application Case (post-flood operations) has the highest concentrations of TSP and PM2.5 associated with windblown silt occurring on and near the east PDA boundary. If a flood occurs that results in substantial deposition of sediment within the reservoir, once water is released and sediment begins to dry, ambient monitoring may be deployed to monitor potential effects associated with windblown sediment. Whether it is necessary to employ monitoring will be determined in consultation with stakeholders and regulatory agencies and will depend on the quantity, location and moisture of deposited sediment, time of year and whether mitigation to limit erosion has been applied."

Is the Proponent aware that a new housing development is underway just east of the Project, west of Range Road 34 on the Elbow River (<1km from SR1 eastern border)?<sup>2</sup> 49 lots are for sale. Will the SR1 project ultimately deter new development east of the Project because of air and water concerns?

6.4.3 monitor total suspended particulate (TSP), coarse particulate matter (PM10) and fine particulate matter (PM2.5) continuously during construction, flood operation and postflood operation. Monitoring of total suspended particulate and fine particulate matter shall be done at one location between the permanent access road and the diversion channel excavation work, one location at the dam construction site and one location at any borrow source site used, and shall include: 6.4.3.1 visual observation during construction; and 6.4.3.2 monitoring, other than through visual observation, during construction, flood operation and post-flood operation. 6.4.4 monitor meteorological factors, including wind speed, wind direction and temperature during all phases of the Designated Project;

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<sup>2</sup> <https://www.river-edge.com/> A development in Springbank of 49 new homes just east of SR1.

Proposed Condition: Once again, there is much consideration of construction, but little for post-flood operations. We request continuous monitoring of air quality in the vicinity of the reservoir in all directed to understand air quality impacts on area residents. Post-flood reporting should be continuous as the reservoir drains and for a specific period of time afterwards and we need to understand how air quality is affected during windy conditions - school, soccer parks? The Proponent should work with the community and RVC to determine monitoring locations. Any exceedance of air quality standards should result in immediate action – but by whom, when and to what end? How will area residents be notified? How soon can mitigations be implemented and how long will it take these mitigations to take effect?

## Section 7: Human health

### *Air Quality Conditions*

*7.3 The Proponent shall develop, prior to construction and in consultation with Indigenous groups, a protocol for receiving complaints related to exposure to noise attributable to the Designated Project. The Proponent shall provide the protocol to the Agency prior to construction and shall implement it during construction. As part of the implementation of the protocol, the Proponent shall respond to any noise complaint attributed to any component of the Designated Project within 48 hours of the complaint being received and shall implement any corrective action, if required to reduce exposure to noise, in a timely manner.*

Comment: There are no indigenous communities impacted by the construction noise of SR1. We request that CEAA The Springbank community and its residents are impacted by the construction noise of SR1 along with the thousands of cyclists who traverse this area on the way to and from the Bragg Creek area. No cycling studies were performed to our knowledge and this is an oversight.

*7.4 The Proponent shall develop a communication plan in consultation with Indigenous groups. The Proponent shall develop the communication plan prior to construction and shall implement and keep it up to date during all phases of the Designated Project. The plan shall include procedures, including timing and methods, for sharing information on the following: 7.4.1 the schedule and location of construction activities that have the potential to exceed the noise limits set out in the U.S. Environmental Protection Agency Office of Noise Abatement and Control document Information on levels of environmental noise requisite to protect public health and welfare with an adequate margin of safety, and any update to that schedule; 7.4.2 the details of the protocol for receiving complaints related to exposure to noise attributable to the Designated Project implemented pursuant to condition 7.3, including how to record a complaint; and 7.4.3 the time periods identified pursuant to condition 8.7.*

Comment: In consultation with indigenous groups? What indigenous groups will be impacted by construction air quality? The brunt of the construction-related air quality risk is to area residents who live next to and downwind this project? We request that you add “impacted area residents” to your condition along with Rocky View County. We again mention the significant quantity of cyclists that use Springbank Road and Highway 22.

*7.5 The Proponent shall implement, during all phases of the Project, measures to mitigate fugitive dust emissions attributable to the Designated Project. As part of the measures, the Proponent shall: 7.5.1 establish speed limits on Designated Project roads during all phases of the Designated Project and require that all persons abide by these speed limits; and 7.5.2 apply dust suppressant on the project permanent access roads during all phases of the Designated Project. The Proponent shall select, in consultation with relevant authorities, dust suppressants with the least potential effects on human health and the environment*

Proposed Condition: The expected cost of dust suppression should be identified under various flood scenarios. The specific dust suppression mitigations should be identified along with the conditions for activating that mitigation. For Instance, when will water be applied vs tackifier? Of course, we – area residents - are concerned with construction dust, but we have urgent concerns about the lack of foresight for sediment management and its relationship to air quality.

### *Water Quality*

Most Springbank residents receive their water from the Elbow River. The balance have wells. We are concerned about the impacts of the SR1 project on our drinking water, both quality and quantity of our water. We demand CLEAR accountability on this matter. If there are impacts to water quality and quantity to users of the Elbow River in Rocky View County, the mitigation must be provided by the Proponent – not residents, water co-ops, water treatment operators such as CalAlta or Glencoe, or Rocky View County. The Proponent should also be responsible for monitoring water quality and quantity according to a specific schedule and standard such that impacts to water quality and quantity can be measured. There is much uncertainty regarding the relationship between SR1, the aquifer, the springs and wells. If there is ANY negative outcome to water quality or quantity, the responsibility should be solely the Proponents to correct. This must be made clear.

Comments on CEAA Report:

**Page 53:**

*“Groundwater quality is not anticipated to exceed the Guidelines for Canadian Drinking Water Quality for a consecutive period exceeding 30 days for parameters that do not already exceed the guidelines under existing conditions.”*

We are appalled that OUR COMMUNITY would be worse off because of this project, but that it is fine to regulators. 30 days for without drinking water for humans and livestock? This is not acceptable in the least. This risk is a DIRECT RESULT OF SR1 and it is not acceptable. MC1 would not have caused this risk.

**Page 54:**

*“Prior to construction, the Proponent will finalize a Groundwater Monitoring Plan in consultation with appropriate regulators.”*

This Plan must be developed so that the Project can be evaluated. We note that this is missing the term “mitigation”. It should read: The Proponent will finalize a “Groundwater Monitoring and Mitigation Plan”. We are concerned about the unnamed creek and its water quality and how this riparian area will be impacted by the SR1 project post-flood.

**Page 61:**

It is asserted that the water in the reservoir would be cooler than water in the river. *“water levels in the reservoir are sufficiently deep that reservoir water temperatures would not increase at the same rate as in the Elbow River, thus once water is released it will have a slight cooling effect on the river.”*

We are not convinced this is true. The depths of the SR1 waters vary and it is possible that a large portion of the reservoir is shallow water, which will heat up more than deep water. This seems like another optimistic assessment by the Proponent and we challenge the regulators to request a “worst case” scenario for water temperature (prolonged retention, interrupted draining, etc.). It seems illogical that this reservoir would be cooler than a mountain fed river. What air temperatures would lead to the conclusion that a stagnant, shallow pool of water would remain cooler than a mountain fed river?

**On Page 62**

*“Sediment laden dewatering discharge will be pumped into a vegetated area or settling basin to allow sediment to settle out before returning it to the water body.”*

Wow. We do not know what to say about this statement. This seems environmentally irresponsible. What is the basis for this decision? Where is the water going to be pumped, exactly? Is this sludge? What does this mean “vegetated area”? This requires justification and further explanation by the Proponent.

**On Page 63**

*“Where negative effects to the usability of the Elbow River water are detected, Alberta Environment and Parks will provide information and advisories to local and downstream users, including the City of Calgary, so water use can be modified to mitigate negative consequences (e.g., avoid using water or increase treatment options).”*

How real is this risk? What percentage of the time will SR1 impact water treatment costs? Is there any forecast of this? How about the cost of addressing water quality issues related to SR1? This is a big issue. Who is responsible for any costs of treatment for SR1 waters? It should be the Proponent exclusively.

**Water Quality Conditions:**

*7.7 The Proponent shall monitor, at a minimum twice prior to construction and weekly during flood operation, total mercury and methylmercury levels in the Elbow River upstream of the intake structure, in the off-stream reservoir, and in the low-level outlet downstream of the off-stream reservoir outlet gate. The Proponent shall measure total mercury and methylmercury levels in accordance with the Response to the IAAC Information Request Technical Review Round 2 16 Package 4 - 01 to 04, IR4-02 (Canadian Impact Assessment Registry Reference Number 80123, Document Number 1311) and shall determine, in consultation with Environment and Climate Change Canada, if modified or additional mitigation measures are required based on the results of the monitoring.*

Proposed Condition: What if there is a problem? What are they going to do about it? There is much talk of monitoring, but will specificity regarding mitigation. Once again, the acceptable approach to operating the Project seems to be “figure it out when it happens.” Is this common? How many projects have such an uncertain operating environment that mitigations cannot be fully identified and costed?

*7.9 The Proponent shall develop and implement, in consultation with Indigenous groups and relevant authorities, a follow-up program to verify the accuracy of the environmental assessment and the effectiveness of the mitigation measures as it pertains to drinking water quality. As part of the follow-up program, the Proponent shall: 7.9.1 monitor groundwater level, major ions, dissolved metals, nutrients, benzene, toluene, ethylbenzene, xylenes (BTEX), F1 to F2 fraction hydrocarbons, and bacteriological parameters at locations selected from existing domestic wells and locations identified in Figure 7-1 of Appendix IR15-1 submitted in the Response to Information Request Round 1 package 3 (Canadian Impact Assessment Registry Reference Number 80123, Document Number 1260) between the project development area and Tsuut'ina Nation 145 Reserve during dry operation and at the start of post-flood operation; 7.9.2 report the results of monitoring referred to in condition 7.9.1 to Tsuut'ina Nation 145 Reserve; 7.9.3 if the results of the monitoring referred to in condition 7.9.1 demonstrate any exceedance of thresholds for parameters identified in Health Canada Guidelines for Canadian Drinking Water Quality, the Proponent shall determine, in consultation with the parties involved in the development of the follow-up program, if the source of exceedance is attributable to the Designated Project and develop and implement modified or additional mitigation measures for any such exceedance.*

Proposed Conditions: There is no mention of the impact of the Project on the springs in the project. How will water quality and quantity be monitored on these springs? These springs are the water source for cattle and also some area residents.

We strongly urge regulators to require a baseline water quality and quantity assessment of area wells, springs, water co-ops and water system operators prior to construction. This must be conducted by an independent third party with results publicly available to the community and landowners. It is important to specific ACCOUNTABILITY for this important item. Will this fall to Rocky View County or is the responsibility the Proponent?

Proposed Conditions: There is no mention of area well water quality or quantity in the conditions. Who is responsible for measuring and monitoring this? We strongly urge regulators to require a baseline water quality and quantity assessment of area wells prior to construction. This must be conducted by an independent third party with results publicly available to the community and landowners. It is important to specific ACCOUNTABILITY for this important item. Will this fall to Rocky View County or is the responsibility the Proponent? What if there are impacts to the water quality of the Elbow River downstream of SR1 that impacts water cooperatives in any way post-flood or post-construction (water quality or quantity)?

We request:

1. That regulators specify that the Proponent is responsible for the costs of testing, monitoring and any remediation required for impacts to water quality and quantity in the Springbank area (wells, springs and water co-ops or treatment facilities that draw from the Elbow River downstream of SR1).
2. All wells in the area within the Project footprint and within a 3km (or other as appropriate, but to be conservative) range of the Project be tested for water quality and quantity prior to construction, when SR1 is in use and also post-flood for an appropriate period of time and again the following year post flood.

3. All springs in the Project area and within a 3km range 3km (or other as appropriate, but to be conservative) of the Project be tested for water quality and quantity prior to construction, when SR1 is in use and also post-flood for an appropriate period of time and again the following year post flood.
4. That mitigations for water quality and quantity and the timelines of these mitigations be identified.
  - For instance, the City of Calgary (the main beneficiary of SR1) can run water to this area thus guaranteeing water quality and quantity for impacted landowners. Perhaps the cost of this infrastructure should be estimated and accountability for the investment assigned to the Proponent.

Once again, thank you for your consideration of our concerns.

Regards,

Karin Hunter

President, Springbank Community Association