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

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

February 14, 2021

Re: SR1 Project General Comments

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. These latest changes are just an example of the numerous changes that have occurred to the project, which appears to be in a near-constant state of flux. 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.

General Comments

Terminology and Interpretation

The SR1 project is effectively a dike in function, focused purely on flood mitigation and not providing ancillary benefits of a conventional dam. We believe that the terms "reservoir" and "dam" have resulted in much confusion when applied to SR1. In Calgary, the Glenmore Reservoir is a permanent reservoir and legacy investment that manages water but also provides significant social and recreational benefits for a wide range of Calgarians. When the Proponent chose to name the project "Springbank Off-Stream Reservoir", we believe that the general public understood that to mean something similar to Glenmore Reservoir. Names have significance and we believe the poor choice of terminology has misled the public into believing that SR1 is a multi-use water storage site. Rather, there are really no

similarities between the two projects and the misunderstandings of the SR1 Project in the public sphere persist.

From the Province of British Columbia[1]:

"It should be noted that the term dike as used herein is defined as an embankment or structure whose primary purpose is to furnish flood protection from seasonal high water and which is therefore subject to water loading for periods of only a few days or weeks a year. Embankments that are subject to water loading for prolonged periods longer than normal flood protection requirements, or permanently, should be designed in accordance with dam criteria rather than the dike criteria given herein."

and:

"Meanwhile, a dam runs across or through a body of water. It is usually a barrier constructed to hold back water and raise its level, forming a reservoir used to generate electricity or as a water supply. This means dams have water on both sides. Reservoirs created by dams not only suppress floods, but they provide water for activities such as irrigation, human consumption, industrial use, and navigability. They tend to be massive barriers built across rivers and streams to confine and utilize the flow of water."[2]

The term reservoir when applied to the Project is misleading. Collins Dictionary defines reservoir as: "a natural or artificial lake or large tank used for collecting and storing water, esp for community water supplies or irrigation".

Difficulty in Assessing Quantity, Magnitude, Consequence and Cost of Project Changes

Stantec and other consultants continue to change the structure and the operational rules of SR1. On December 18, 2020 the Proponent submitted updated preliminary project design documents, along with a summary report memo. This late submission, after the Preliminary NRCB hearing on December 2, 2020, has caused significant incremental work and review by our volunteers and experts. Additionally, the summary memo detailing changes does not include a fulsome list of changes. We identified changes not included in the change memo, which provided a very brief and qualitative description of some changes. This is unacceptable.

We request that regulators require a summary of ALL changes to the design of the project be detailed in a clear and concise table – from the 2014 design through to the current design of December 18, 2020. The table should include date of proposed change, reason for change and cost of change (operating and capital), and document references to the appropriate pages. Not once has there been consultation or notification of proposed changes. This would be useful to all parties to understand the scope and cost escalations and their rationale.

[1] https://www2.gov.bc.ca/assets/gov/environment/air-land-water/water/integrated-flood-hazard-mgmt/dike_des_cons_guide_july-2011.pdf

[2] https://wilcomarshbuggies.com/levee-dike-dam-whats-the-difference/

Recent Changes:

Structural:

The latest project design was just released. It is difficult to ascertain what the changes have been as the Change Summary document is not exhaustive.

In July 2020, many changes were identified to the project including several major changes to the LLOW and associated engineered channels within and outside of the reservoir and new erosion protection of the unnamed creek. We ask: how will regulators consider these changes? Are these changes just to be accepted within the limited window of review that remains or do these changes by the Proponent impact the current review timeline?

We believe it is too late for substantive changes such as these to arrive at regulators' doorsteps. The lateness and significance of the changes suggest that SR1 is not ready for approval. In fact, the quantity and magnitude of changes identified in the recent submissions are cause for concern and call into question the efficacy of the entire project. How many more changes will be required? Why is it now nearly 7 years after the original 2014 NRCB Project Summary for SR1 and the SR1 structures and operations are still in a state of flux? The only possible explanation for the constant changes is that the Project was not well conceived from the beginning.

The range of changes to the Project are a symptom of the unique nature of this Project. We contend, once again, that the Project and its location was selected too quickly, using a flawed and short-sighted process. The result is that the project appears to be constantly morphing and changing, out of necessity, to accommodate limitations of the SR1 site and project design. We do not accept that the Project should be allowed to have such material changes at this late juncture and wonder, at what point, the Proponent will be asked to return with a completed project design before reviews can continue.

We must play "catch-up" to the Proponent's constant stream of adaptations and adjustments to SR1. Further, these changes take place without consultation with or notice to our community and it rather defies comprehension that we must continually comb through submissions that introduce substantive changes. It is truly difficult for us to stay up to date with the extent of structural changes, let alone the newly determined operational changes for water release.

In the July 2020 updates, the Proponent uses four short paragraphs to discuss the LLOW changes, which is woefully inadequate for the seriousness of what appears to be substantial re-engineering of the SR1 outlet works. According to the US Bureau of Reclamation (USBR), the source of the Proponent's guidelines, embankments are most vulnerable at the outlet works. The risk of failure of earthen embankments is highly related to the outlet design, including the design of conduits and spillways.

A review of the significant changes to SR1 since 2016 includes the following (not an exhaustive list):

1. Doubling of the diversion channel (2016) and, accordingly, storage volumes.
2. Changing of diversion gate configurations and operations (2018) based on the scale model.

3. Addition of massive in-river debris deflector (2018) added to address the large amount of debris expected during a flood event. Foundation 160m long, 1.5m high and 6m wide supporting 6m high structural tubing. This deflector is a major new element to the Project which was originally designed with an utter lack of appreciation for the risk introduced by debris entering the channel and impacting gate functions.
4. Shifting of dam toe by 100M (2019 - using 2016 report) due to slope stability.
5. Moving of the Low-Level Outlet (LLOW) 190 meters to the south west (2020) resulting from apparent concerns of foundation material.
6. Addition of a second, back-up gate (2020).
7. Creation of new 500M channel within reservoir from the unnamed creek to the new LLOW (2020).
8. Creation of a new 700M channel on the exterior of the reservoir back to the unnamed creek (2020).
9. Erosion protection along the complete length of the unnamed creek back to the Elbow River (2020).
10. Operational changes guiding the release of water (2020).

We ask why the Proponent has not had to provide a complete and updated EIA that accounts for the full range of changes? It is incredibly difficult to review the hundreds of documents, with significant inconsistencies and evolutions.

We request to understand whether these changes are allowed under CEAA 2012 and NRCB regulations.

1. How can and EIA be deemed complete when significant and last-minute changes are introduced? How is it possible that last minute changes to the design do not result in delays in the Regulatory process? Can the Proponent keep on changing the structure and operations of the Project without regard to the regulatory review process?
2. How was CEAA able to issue draft conditions prior to the updated Project design of December 18, 2020?
3. Does a requirement exist to notify stakeholders of changes in scope or cost?
4. Are the designs complete now or not? [3]
5. When is a change considered large enough to impact this process? Or is there nothing that the Proponent can change to impact the timelines or review process?
    - Do changes to the unnamed creek (and construction of connecting channels of 1.2Km within and external to the reservoir, and erosion protection along the length of the unnamed creek, as referred to above) fall under the SR1 application, given their significance.

[3] IR 456 and 457 https://www.nrcb.ca/download_document/2/83/9202/20190614-at-sir-to-nrcb-re-sir1-response-sec-8-damsafety

Regarding the unnamed creek and LLOW changes, we do not believe that the full implications of the changes and full details of the changes have been identified:

1. What is the distance of erosion protection along the unnamed creek? The full length?
2. What type of erosion protection will be used and why what that type of protection chosen?
3. What is involved in the construction of a channel within the reservoir? How deep is his channel? How wide? Does the channel have erosion protection?
4. What is involved in the construction of a channel on the exterior of the reservoir? How deep is this channel? How wide? What materials will be used, if any? Does the channel have erosion protection?
5. What is the foundation material of the channels?
6. How will the channel be maintained within the reservoir, given the sediment accumulation in those areas of the reservoir?
7. How much sediment is expected to accumulate in the exterior channel during reservoir draining? How will this sediment be managed post-flood?
8. Have all impacts on fish and the aquatic systems that result from these changes been adequately documented by the Proponent?
9. What, specifically, were the engineering concerns with the LLOW that caused the 190M movement in location? Given that the LLOW has been moved due to foundation material concerns, does this imply concerns regarding the stability of what will be a massive dike/ embankment in this prior location?
10. The Proponent refers to consultation with "stakeholders" in its recent submissions. We ask for a list of stakeholder consultations along with dates and topics discussed.

Flood Scenarios & Project Operations:

1. The Proponent discusses early release as the chosen approach to releasing flood waters. Is this decision definitive for all scenarios for SR1 into the future?
2. Why is there even a 1:10 scenario included for SR1 at this point? With recent improvements to the Glenmore Reservoir, the City of Calgary's can manage a flood of up to 10M m3. This implies that SR1 is not needed for these small and more frequent events. Therefore, we ask whether SR1 should be used at all for this level of flood, especially considering the early release scenario contemplated by the Proponent. The operational assumption of SR1 is to avoid activating Glenmore Reservoir's 10M of flood storage. Why is this? What is the logic behind not using that 10M when it would avoid SR1 use and avoid environmental degradation in the reservoir and outlet? Is SR1 use during these small events driven by the lack of certainty on flood forecasting?

Table 3-2 Reservoir Volumes and Areas for Selected Elbow River Floods

Flood Magnitude	Volume Used (dam^3)	Area of Reservoir Flooded (ha)
1:10 year	500	60
1:100 year	30,100	500
2013 Design Hydrograph	77,800	730

Source: https://www.nrcb.ca/download_document/2/83/8772/20180326-at-eia-to-nrcb-re-vol-1-project-description

3. The Proponent appears unable to estimate drying times within the Reservoir. Do these drying times differ across scenarios and if so, how?

Rocky View & Municipal Responsibility

Rocky View County, following an agreement with Alberta Transportation, agreed to withdraw opposition from SR1. In the July 2020 edition of local paper *High Country News* Mark Kamachi, Rocky View Councillor for Bragg Creek, states: "Last month's article, if you recall, I could not explain my rationale to vote against Rocky View County's (RVC) opposition to the Springbank Off Stream Reservoir proposal (SR1) due to confidentiality. That decision was intended to relinquish opposition but not to support SR1. I want to be clear that I do not support SR1 and am in support of the MacLean Creek design. I have left it up to the proper authorities to decide whether SR1 moves forward or dies…In the end, for me, it was a decision that allowed RVC to not walk away empty handed and provide some measures to ensure the safety of our residents and all those who visit. A few weeks prior, Tsuut'ina Nation accepted a $32M grant to end their opposition. And on the day of the vote, the GoA allocated an additional $196M towards the project. To me and most of my colleagues, the writing was on the wall."

RVC is now unable to fully represent its citizens in the SR1 regulatory process. We are astounded that the Proponent is so concerned about SR1 opposition that it would effectively enter into pay for silence agreements. What does this say about the SR1 project? If this project were the best one, it would rise to the top on its merits. One only has to review the "expert" report by Martin Ingasiuk[4], which we submit to regulators, to see the poor quality of project management. We submit this report to regulators as evidence of the complexity of the Project and the accelerated timelines for its development. From the report:

> However, two events have occurred that have resulted in longer regulatory timelines thus far than were originally anticipated:
>
> 1. The finding by the Canadian Environmental Assessment Agency that the originally filed Environmental Impact Statement was deficient. This resulted in a delay of approximately 6 months.
>
> 2. The issuance of 593 first round information requests, with several sub-questions, by provincial regulators. This number of information requests is unprecedented for a major project.

[4] https://www.alberta.ca/assets/documents/trans-sr1-independent-expert-report.pdf

We ask Regulators to consider the impact of the withdrawal of Rocky View County on the regulatory process. Will Rocky View County's withdrawal of participation result in worse outcomes or lack of constructive feedback to improve project design or operations?

Comments on Conditions

Consultation:

CEAA Draft Conditions: Change to the Designated Project 2.16

The Proponent shall consult with Indigenous groups and relevant authorities prior to notifying the Agency, pursuant to condition 2.17, of any potential change to the Designated Project.

In the entirety of the CEAA report, the local community and residents barely rate a mention. We ask CEAA to specifically state how many letters opposed to the Project it received along with examples of the concerns raised by local residents by topic.

"Relevant Authorities": Is Rocky View County a relevant authority? If so, **we request that Rocky View County be specifically mentioned as such.** For what items do regulators foresee consultation or participation by residents and Rocky View County? For what items should the Proponent be required to consult with "relevant authorities" and the community?

Reporting

Overall, we ask Regulators to apply reporting requirements very conservatively. There is not enough information about the future states of the project to warrant "cost-cutting" on reporting. At this point in time, the more information reported, the better. We must be able to have full and complete transparency on this experimental project. There is no doubt that much uncertainty remains about the flood and post-flood operations that necessitate a tendency to "more information" rather than less. If this project is here for hundreds of years, there are many opportunities to scale back reporting if it is not required. Substantial oversight is required to begin with.

Construction Phase:

1. The Project Proponent shall work with local residents and Rocky View County to identify locations of water and air quality monitoring technology, along with identifying the schedule for reporting. Any monitoring that identifies an issue with water quality or quantity or air quality should generate immediate action by the Proponent / Operator and the mechanisms for this and actions to be taken by the Operator must be clearly outlined. The Proponent (construction phase) shall provide a mechanism to inform area residents of construction-related updates and receive feedback from area residents regarding construction concerns. A point of contact and method of contact shall be established on the Proponent's staff for all construction-related questions and inquiries from the public.
2. The Proponent must provide notice to area residents and Rocky View County of any change to the Project design or proposed operations before and during construction.
3. The Project Proponent shall work with local residents and Rocky View County to identify locations of water and air quality monitoring technology, along with creating schedule for reporting. Any monitoring that identifies an issue with water quality or quantity or air quality (diesel fumes, construction-related dust, etc.) should generate immediate action by the Proponent / Operator and the mechanisms for this and actions to be taken must be clearly outlined.

Operating Phase

The Proponent states the following in their response to CEAA draft conditions while pushing back on reporting requirements. The Proponent is concerned about the onerous nature of annual reporting. We contend that now that the horse is out of the barn, so to speak. Let's get the reporting right. These outcomes of the Project are too uncertain at this point to limit the reporting. Perhaps over the long-run, reporting requirements can be adapted, following engagement with First Nations, Rocky View County and area residents.

In those intervening periods, Alberta Transportation will share relevant updates as required.

Our view is that the following is more suitable:

1. The Project operator shall ensure that all SR1 operating and technical documents and reports are provided in a timely manner on a public website.
2. The Project operator shall provide an operating report, at a minimum on an annual basis) to area residents and Rocky View County that includes:
    a. A summary of the technical reports stemming from monitoring (wildlife, air, water).
    b. A section on the general management of the SR1 structures (including mowing schedule, dust suppression applications, safety inspection type, date and findings, etc.).
    c. Summary of any changes to the operations or management of the Project area and rational for the change.
    d. Summary of the status of the Sibbald Elk herd (size, behaviour)
    e. Post-flood, the report should also include:
        i. A section on sediment deposits, along with a map of sediment deposition (including thickness of sediment) and observed changes in sediment depositions.
        ii. A map of pools of stranded pools of water (if any)
        iii. Mosquito activity and mitigations
        iv. Elbow River water quality reporting
        v. Drawdown rate and timeline (hourly report)
        vi. Visual drawdown of reservoir (video) to show drawdown patterns in the reservoir and highlight pools, if any and sediment patterns
        vii. Mitigations required (if any) for air, water, risk, etc.
        viii. Sediment analysis: the chemical composition of the sediment / toxins present, diameter of the sediment particles in various locations of the reservoir (in order to determine air quality risk and mitigations)
        ix. Methylmercury reporting
        x. Water quality reporting (reservoir waters, at various locations in the reservoir, not just at its deepest location)
    f. Capital and operating expenditures (actual vs forecast) and reason for expenditure
    g. Summary of rescue operations (number of rescues by species, mortality rates, relocation success, etc.)

h. Detailed operating cost budget vs actual operating costs and explanation for differences

3. The Project operator shall provide a mechanism to communicate with residents and Rocky View County on a regular basis post-flood until such time as remediation is complete. Regarding air quality, residents request that the Proponent and Operator create a website that provides real-time monitoring for air quality. During construction, this website could also include real-time monitoring for sound. Limits must be clearly identified and any exceedance must be documented and communicated to Rocky View County and area residents.
4. The Proponent shall include a flood event communications plan that includes methods of notifying residents of reservoir use and potential closures of Springbank Road. We assume that the Operator will be responsible for all flood-event communications and not Rocky View County.
5. The Project operator shall set a goal for the re-opening of Springbank Road post-flood for various flood scenarios.
6. The Land Use Advisory Committee shall include members of the Springbank community.
7. The Project Operator shall work with local residents and Rocky View County to identify locations of water and air quality monitoring technology, along with identifying the schedule for reporting. Any monitoring that identifies an issue with water quality or quantity or air quality should generate immediate action by the Proponent / Operator and the mechanisms for this and actions to be taken by the Operator must be clearly outlined.

The Proponent also recommends in its comments to CEAA:
As referenced above Alberta Transportation proposes that reporting and monitoring programs would be executed in a comprehensive manner with participating Indigenous groups to achieve timely and meaningful engagement.

Our view: The community strongly suggests that reporting and monitoring programs development include Rocky View County and the Springbank community, **which is directly and adversely impacted by the Project.**

From the Proponent:
The Proponent shall prepare annual reports, commencing in the reporting year during which the Minister issues the Decision Statement for the Designated Project, prepare an annual report that and report in years of construction, flood operation, and post-flood operation and for two years post-flood event during dry operations. For extended years of dry operations, the Proponent shall report every 5 years.

2.11 Our View: The Proponent suggests changing post-flood reporting to 2 years post-flood. We contend that the regulators err on the side of conservatism at this point and require post-flood monitoring for at least 3 years post-flood. We need to understand how long it takes for the reservoir and components to recover from the sedimentation and the regrowth patterns and impacts on wildlife.

2.16: Our View: The Proponent recommends adding the qualifying word “major” to project changes required for notification. We do not know that term means this means and believe it will result in no communication regarding changes, as evidenced to date.

Experimental Design:

Baseline Data Collection:

Matt Wood from Stantec told Springbank residents in September 2020 that SR1 is the first of its kind in the world. It this is to be a new approach to flood mitigation we challenge Regulators to identify the comprehensive data set required to inform future projects like SR1. For instance, we do not see a requirement for a baseline bird, wildlife, plant, soil surveys, inventories and analysis. The Proponent likes to say that SR1 is better than an on-stream dam for many reasons, yet how will anyone ever be able to evaluate that assertion unless baseline data collected is fulsome and rigorous? To date, very little data has been collected regarding the biodiversity of the SR1 project area. Pre-construction, this must be a top priority. As much baseline data on the natural environment as possible must be collected. For expropriated land, we request that a full photo archive be compiled of the "before state" of the SR1 project.

Proposed condition: The Proponent shall perform biodiversity surveys, inventories and analysis of the SR1 lands on the wildlife, plants, water bodies (springs, wetlands) and soil. The Proponent shall identify changes from the baseline in its annual reporting.

In general, regarding the CEAA proposed conditions, it appears that the various Federal 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, grading the reservoir for fish drainage may be at odds with preserving traditional uses such as plant harvesting.

Decommissioning / End of Life

We do not see a mention of the end-of-life process for SR1. We know that these structures do not last forever and we strongly urge regulators to include conditions for end-of-life. We do not want this structure to be abandoned as a terrible blight in the community.

- There must be standards and timelines for reclamation and remediation. There must be consideration for the sediment depositions – will the sediment be removed at end of life?
- Once it is safely reclaimed, we request that the land be converted to a Provincial Park.
- Reclamation of the SR1 lands have a cost that must be included in the SR1 cost model.
- Similarly, we expect that future droughts will necessitate additional water storage projects on the Elbow River. If there is a corresponding change in SR1 operations (frequency or purpose), we request immediate consultation with area residents and Rocky View County.

Proposed Condition: The Proponent shall identify future reclamation activities and their cost for the SR1 project along with proposed future land uses.

Uncertainty of Future States:

The conditions remain focused on the construction phase of the Project over the operations phase. We request that an equivalent focus be placed on operations, for which there is much uncertainty and

consequence. Post-flood operations discussed by the Proponent are incredibly vague. We can assume that this is due to uncertainty regarding the post-flood landscape, sediment deposition, draining profile, Given this project is experimental in nature and has outcomes that are atypical,

It is critical to impart to regulators that the success or failure of this project is highly dependent upon its operations over the long-term. Rather than being certain, these operating conditions are highly uncertain and dependent on future conditions, including flood size, retention duration, ambient temperatures, long-term climate patterns, wind conditions, draining rate and efficacy, sediment deposition and debris, to name a few. We acknowledge that it will be difficult to identify all potential post-flood operating conditions. However, it is necessary to determine a variety of expected conditions so that we have a good understanding of what work will be required post-flood. The general set of conditions set out by CEAA for the Proponent include statements such as "provide an operating plan" and "provide fish rescue plans". Given the range of potential operating conditions, this is insufficient for this project, which by Alberta Transportation's own admission to Springbank residents is the first of its kind in the world. The Proponent should have to determine a finite set of flood and drought conditions and provide the matching operating and restoration conditions.

Proposed Condition: The proponent shall provide operating, reclamation, maintenance and related forecasts for various flood conditions (1:10, 1:50, 1:100, Design and PMF) as well as prolonged drought conditions. These projections shall include projected operating, reclamation and maintenance activities for Redwood Meadows and Bragg Creek berms, both of which are required because of the SR1 site selection.

"No Project" Comparisons

In the July 2020 IRs, the Proponent discusses various release scenarios[5]. In this discussion, we again see a comparison of SR1 to "no project". *We reiterate: there is a valid alternative at MC1 that should be the point of comparison.* The "no project" alternative never existed and it is damaging to the discussion to compare SR1 to "no project". MC1 is the rightful comparison, as it is the most advanced in study, and would be a much more useful comparison from which to evaluate SR1. For the duration of 2020, SR1 project incurred hundreds of thousands of dollars monthly in costs to taxpayers each month to answer IRs and reconfigure the design as its shortcomings are brought to light. These IRs are necessary, valid and borne out of an attempt to study this new approach to flood mitigation but the comparison used by the Proponent, a most fundamental element with which to judge this project, is wrong. Why on earth are regulators allowing the Proponent to compare SR1 to the a "no project" alternative? That is not a legitimate comparison and appears to reflect an intent to avoid comparison to MC1. Is the Proponent concerned that comparisons to MC1 would be unfavorable to SR1?

[5] https://www.nrcb.ca/download_document/2/83/10293/20200716-at-sir-to-agency-re-ir-response-package-4-round-2-unsecured

Regulators have the authority to request this comparison of SR1 against MC1 and we encourage regulators to require this comparison on key items prior to the final report judgement on SR1. For example, if the Proponent was willing to discuss how other instream dams west of Calgary impact TSS and nutrient concentrations and manage post-flood sediment, we all would be better equipped to evaluate this project's impact and determine whether it is in the public interest. Specifically, sediment in SR1 is left exposed to the air while in-stream dams contain sediment under water. Surely this is an important point that has a range of environmental implications. Yet, there has never – not once – been a full discussion of the sediment in SR1 vs MC1, aside from the Deltares report that stated SR1 was "less sensitive to sediment". What does this even mean? How was this conclusion arrived at and by whom? Given that many objections of SR1 centre on the sediment deposited and left to dry following a flood, we deserve a fair discussion of this topic and its impacts on fish, air quality, biodiversity, carbon storage, land use and water quality relative to a comparable instream dam. We ask regulators to demand that the Proponent provide a discussion of this pivotal – and unforeseen -outcome of the off-stream storage structure.

Proposed Condition: The Proponent shall provide updated discussion of SR1 vs MC1 in the following categories:

- Sediment – Transport, Storage, Accumulation
- Biodiversity – Species at Risk and their habitats
- Human Health –Air Quality, Methymercury

Climate Change:

Carbon Storage

The SR1 grasslands in their current state (largely natural) are a tremendous carbon sink "Grasslands also have a major role to play in sequestering carbon, storing as much as 180 tonnes of carbon per hectare, equivalent to the annual emissions of 39 cars." [6] The carbon storage of grasslands has value. According to carbon pricing standards outlined in the Narwhal article, SR1 lands could generate an annual value of "$7.50 and $30 per acre" of carbon credits, or $50,000 to $200,000 per year in carbon tax credits at $30/ton over 6800 acres.

Once again, the limited planning process for SR1 has overlooked the significant value of these lands. In fact, in the Narwhal article referenced above "Carolyn Callaghan, a senior conservation biologist at the Canadian Wildlife Federation, told The Narwhal that Canada has a poor inventory of its grasslands because there hasn't been enough focus on them. "They've kind of been forgotten about," Callaghan said. "But it's the most threatened ecosystem terrestrially in Canada." The philosophy of the Proponent and the regulators appears to be that more of this ecosystem exists, so the loss of the SR1 lands is not "significant". Is there an end to this reasoning? What is the test for "not significant"? Only when the

[6] https://thenarwhal.ca/carbon-cache-grasslands/?fbclid=IwAR2bxsQp-ihjpfKTX7ZLfxImU0QOQukXbAvmRIePekD9iVok3Syg6u7nzz4

last shred of grasslands exists in the area, the region, the Province? SR1 lands are a Key Wildlife Biodiversity Zone and the lands account for approximately 20% of West Rocky View's land base. Is 20% of the region's land base significant? Would 21% be significant? 33%? NO grasslands / native prairie was lost in MC1.

Proposed Condition: The Proponent shall estimate the change in carbon capture capability of the SR1 lands in a design flood. Further, the Proponent shall estimate the change in carbon capture capability of the SR1 footprint that will result from the entirety of the SR1 lands that are disturbed or will be flooded.

Climate Change: Drought

There has been a shocking lack of consideration for climate change in the SR1 decision and regulatory review. In the 2014 AMEC report, the following statement is made:

"Martz et al. (2007) assessed the impact of climate change on surface water supply in the SSRB. Their study indicated that temperatures could increase between 1.5°C and 2.8°C in this region by 2050, which would increase evaporation and evapotranspiration levels. This would lead to potential changes in annual flow of the rivers, with potentially significant declines in flow during the summer season. This is important as the large majority of water demand occurs during this season. The study showed that in-stream flows could decrease by an average of 8.4% across all basins (Figure 4.5):

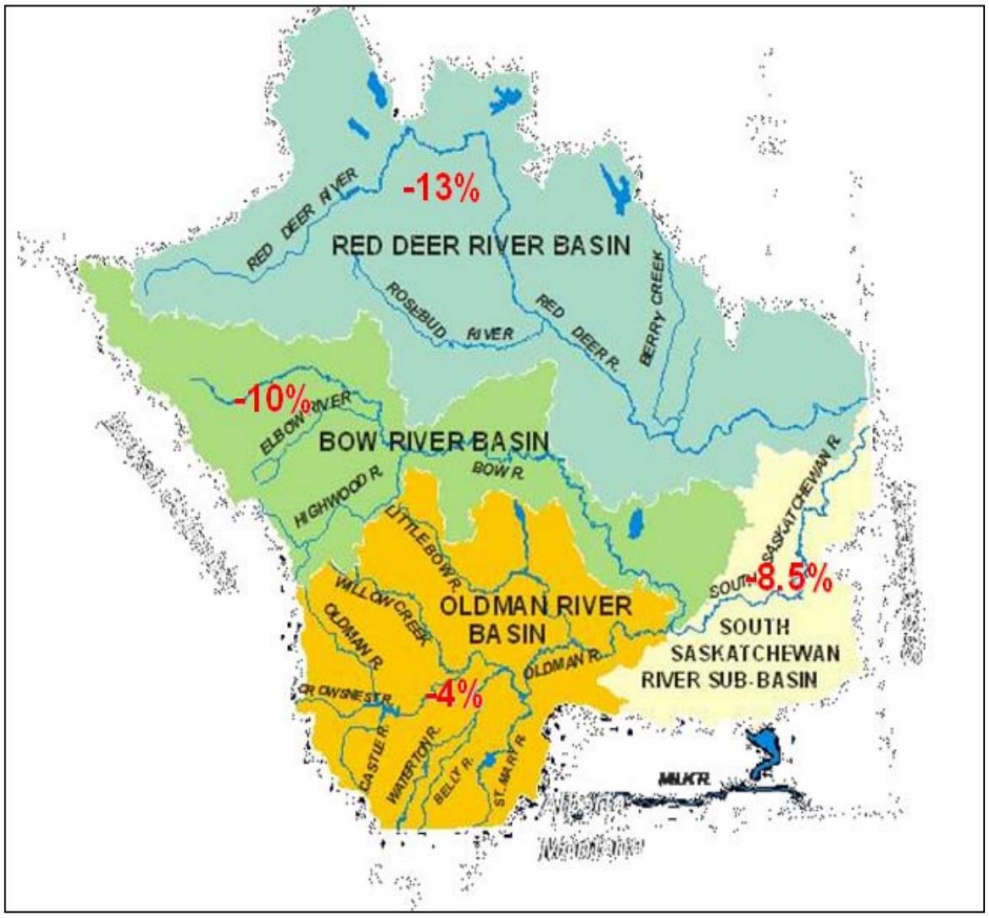

Figure 4.5: Projected Flow Reductions in the SSRB with Climate Change

The report goes on to say:

"Southern Alberta has insufficient water storage capacity to weather successfully a multi-year drought. Total storage capacity (on-stream and off-stream reservoirs) within the SSRB could sustain water demand for less than 2 hot, dry years, such as was experienced in 2000 and 2001. This time-frame may even be optimistic since no one can predict whether a single hot, dry summer will be followed by good winter precipitation, or if it signals the beginning of a drought. It is also not known how long the drought will last.
To address this issue, a study was carried out in the Bow River basin to assess Adaptation Strategies for Current and Future Climates in the Bow Basin (Alberta Innovates – Energy and Environment Solutions; and WaterSMART Solutions Ltd. 2013). The project assessed a large number of options that could be applied in the basin to meet existing and future water demands under projected climate change scenarios and recommended a suite of practices that could be implemented.

The study generated 50 annual flow projections for the 2025 to 2054 period. From these flows, three annual low-flow scenarios were chosen to reflect dry conditions in the basin. The low flows showed significant impacts on water supply in the basin, including much lower storage levels (and at times, no storage) for reservoirs and Calgary's Glenmore Reservoir, reduced flows through Calgary, adverse impacts for

downstream aquatic health, and water shortages for the Western, Bow River, and EIDs. There were also shortages to non-municipal users throughout the Highwood River basin."

According to AMEC's 2014 Report: "Climate change studies suggest that the SSRB will see a warmer climate with more potential for multi-year droughts. On-stream and off-stream reservoir capacity within the SSRB is not sufficient to weather a multi-year drought event. There is sufficient surplus water flow in the SSRB rivers to support additional storage of more than 1.0 million dam3 (AMEC, 2009). Essentially all of the additional water for storage would result from mountain runoff, and on-stream storage is considered to be more effective than off-stream storage in capturing mountain snowmelt events. On-stream storage reservoirs have the ability to capture the water whenever runoff occurs and off-stream reservoirs do not. Climate change research suggests that mountain runoff in the future may occur during winter and early-spring seasons because of climate warming. With current technologies, off-stream diversion canals that transport water to the off-stream reservoirs cannot safely operate during the winter months.

This region comprises only 12.6% of Alberta's total land area, but about 45% of Alberta's population are located here, including the City of Calgary. This region could see its population increase by 2 million people in the next 50 years. Water management in the South Saskatchewan Region is and will continue to be a significant concern in the future. Water supplies are limited in this region, and may be a constraint to economic growth as water demand continues to increase. Currently the sub-basins within this region are closed to new water allocations because of concerns with over-allocation. Droughts are not uncommon in this region, and climate change may bring more intense and longer lasting droughts in the future."

What is the impact on the SR1 lands in a drought scenario? Will a prolonged drought impact the integrity of the SR1 foundation? Will there be cracking or other opportunities for water to travel vertically?

Proposed Condition: The Proponent shall identify the impacts and risks of extended drought conditions on the SR1 site. In particular, how will a prolonged drought impact the reservoir foundation (cracking) and also the sediment (air impacts). Alternatively, we request that Regulators explicitly mention that this was not contemplated by the Proponent.

Climate Change & Flood:

The past is no longer a good predictor of the future when it comes to weather events. Extreme weather events, such as those experienced in Texas this month, cannot be anticipated within the bounds of historical events. Yet, the Proponent has used 2013 as its design basis for SR1. This reliance on historical events is NOT acceptable for the planning of new and significant water infrastructure. Climate change introduces a level of forecasting risk that the Proponent has not addressed and this risk is exacerbated due to the long-term nature of the structure.

How does climate change impact the range of outcomes for fire? Elbow River floods begin in the headwaters, a forested area that retains significant moisture. This area has the ability to retain moisture, both snow and rain, which is released gradually into the river systems. If the headwater area experiences forest fire (as in 2018), the ability of that region to retain moisture will be impaired, thereby impacting flood behaviour – velocity, volumes. How will this risk impact flood volumes and flow rates over the long-run?

Proposed Condition: Regulators should identify that this risk of fire in the headwater region was not considered, or require the Proponent to discuss this risk.

Proposed Condition: Regulators should require the Proponent to identify confidence intervals and ranges for flood predictions for SR1.

Comments on CEAA Report:

Project Purpose

Project Description:

The diversion channel is designed to convey a peak diversion flow of approximately 600 metres cubed per second during extreme flood events towards a natural floodplain that will act as a storage reservoir."

The storage reservoir is not a "natural floodplain". The reservoir is located on productive ranch land and native grasslands with small wetlands. There is no scenario in the natural world that would cause the Elbow River to flood the Project area.

"The Project is subject to CEAA 2012 because it would involve activities described in the schedule to the Regulations Designating Physical Activities as follows:

- *item 6: The construction, operation, decommissioning and abandonment of a new structure for the diversion of 10 000 000 m3 per year or more of water from a natural water body into another natural water body."*

The SR1 project is not to "another natural water body", it is diverted to flood thousands of acres of productive ranch land including native grassland and homes.

"The diversion channel is designed to convey a peak diversion flow of approximately 600 metres cubed per second during extreme flood events towards a natural floodplain that will act as a storage reservoir."

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The SR1 project is not to "another natural water body", it is diverted to flood thousands of acres of productive ranch land including native grassland and homes.

Page 11:

" As proposed, the Springbank Off-Stream Reservoir Project (the Project) will be located in a floodplain drainage area of the Elbow River and its tributaries to divert floodwater during extreme flood events from the Elbow River to a temporary reservoir constructed in an adjacent wetland."

The temporary reservoir is now being described as covering an "adjacent wetland". The area is not a floodplain and it is not a wetland. These statements by the IAAC, or the Proponent, are misleading and erroneous. The area should be described as an area of productive agricultural land, including native

grasslands. The area has sustained five generations of ranching families, so to describe it as “floodplain” or “wetlands” is erroneous

SR1 Capacity

”*… would store up to 77,771,000 cubic metres of diverted water at maximum capacity, which constitutes 25 percent more capacity than the 2013 design flood.”*

The map that follows on page 16, indicates that the project is designed for the 2013 flood level and does not include reference to 25% more volume. Will the project be able to safely handle 25% more volume than 2013 and does the map on page 16 accurately reflect the area impacted by this additional volume? Where is the reference to this 25%? What is the impact of sedimentation accumulation on the capacity? The Proponent has stated that SR1 can hold up to 10% of its capacity in sedimentation, so is the 25% over and above the 10% sedimentation projection. Recall, this project may last hundreds of years and numerous flood events are anticipated.

Given the extreme weather events impacting dams in the US and China, what is the justification for using 2013 as the reference point? Extreme consequences dams are usually built to Probable Maximum Flood. The technical response by the Proponent is that SR1 can “pass” a PMF. This is splitting hairs and will effectively result in misplaced confidence that the City of Calgary will escape another terrible flood. Dams / embankments must be built to conservative estimates for flood volumes and yet, SR1 capacity appears to be constrained by the site selection. This results in a capacity that is too small in volume and in diversion volume. Downstream communities will not be fully protected by SR1, of that there is no doubt. Historic records on the Bow River indicate there have been at least two Elbow River floods that were bigger than 2013. These both occurred in the late 1800s, less than 130 years ago. Add in climate change, deforestation and forest fire impacting the ability of the headwater-area to retain moisture and you have a recipe for disaster. It is not a stretch to conclude that 2013 may not be the best sizing precedent for an extreme consequence dam.

Yet, the Proponent claims that significant economic damage in the City of Calgary will be avoided by SR1. This is utterly false. When a big flood comes down the river, the water not retained by SR1 will go to Calgary and wreak havoc along the way. SR1 is too small to mitigate the damages. Further, SR1 design completely ignores a flood flow peak that could be damaging, even if total volumes can be managed. High flow rates can cause overland flooding and only 600m/s3 can be taken by SR1. If SR1 is full because of diversions at lower flow rates (but over 160m/s3) or the flow rate is so far in excess of 600m/s3, then damage will ensue. There has been little thought by the Proponent and regulators about the flow rates and the limitations of SR1. MC1 could have absorbed the higher flow rates more effectively than SR1, which is limited to diversion channel sizing.

Is there current best research regarding floods and climate change that could better inform the planning for SR1 regarding flood size – volumes and flow rates? It appears that the Project itself has morphed and changed for the better part of 6 years but the underlying flood scenarios have not changed, despite much evidence of increasing frequency of extreme weather events. Is this Project set up for failure because its design flood scenario is undersized?

Suboptimal Flood Mitigation Outcomes:

CEAA is highly focused on total flood volume, as is the Proponent, rather than flow rates. We contend that this is a material oversight in the analysis to date.

One piece of analysis completely missed by regulators and the Proponent is unequal level of flood protection caused by SR1. In theory, Bragg Creek and Redwood Meadows receive 1:200 level protection, as does the City of Calgary. We can argue that berms are NOT the same level of protection as a dam, as Bragg Creek and Redwood will expect groundwater flooding at these levels, while downtown Calgary should not have groundwater flooding at 160m/s3. The gap is clearly the area between SR1 and the Glenmore Reservoir. What do these people get? If 1230m/s3 come down the river, SR1 takes 600m/s3. The other 600m/s3 goes to the Glenmore where it is contained and downriver flows are restricted to 160m/s3. What is the result? Flooding along the Elbow River between SR1 and Glenmore. What is being done for these areas? SR1 causes HARM and unequal outcomes to different residents along the Elbow River. MC1 would have resulted in EQUAL protection for all communities. What a travesty. This terrible oversight has lasting, negative consequences for Springbank and Elbow Valley, relative to an instream dam at MC1.

We request that CEAA comment on the impact of communities west of Calgary. SR1 does not provide equal protection for communities along the Elbow River, while MC1 would have.

We request that CEAA comment on the requirement for ongoing remediation and reconstruction of berms at Bragg Creek and Redwood Meadows damaged in future floods along the Elbow River as the flow rates to these communities is UNMITIGATED relative to the alternative at MC1.

Proposed Condition: The Proponent must evaluate and report on the cost of flood mitigation measures between the SR1 Project and the Glenmore Reservoir to ensure all residents and communities receive 1:200 flood protection. This cost shall be included as a cost of the SR1 project and Elbow River flood mitigation.

Proposed Condition: The Proponent must include, as annual operating costs of SR1, expected berm maintenance and reconstruction of the Bragg Creek and Redwood Meadows berms as this is a DIRECT RESULT of choosing SR1. Rocky View County and Tsuut'ina Nation should not be responsible for these costs, when they were not responsible for the decision to choose a downriver flood mitigation project.

Alternative Means

Decision Process

Page 32, re: MC1 alternative,

IAAC concludes *"Also, the McLean Creek option would have cost more and taken longer to construct than the other option."*

On what basis is this statement justified? CEAA appears to take the Proponent's word for this conclusion, yet there is no basis in fact for this.

- The only reason SR1 was originally assumed to be quicker than MC1 (by one year in the Deltares report) was because SR1 was not anticipated to require federal regulatory approval, an assumption which was disabused in 2016, prior to the submission of the EIA. Yet, "speed" was used again and again by the Proponent – even as recently as Q4 2020 by the Proponent at public information sessions hosted in Springbank and Bragg Creek.
- SR1 costs have continued to escalate and have surpassed the estimated costs of MC1. *CEAA should update this statement to say that the latest estimates place the cost of MC1 below SR1.*

Speed of Decision

SR1 did not appear in ANY report of the various reports commissioned in 2013. In fact, in Stantec's 2013 report, it was concluded that "Additional storage is required to further mitigate the 2013 flood level; preferably downstream of Bragg Creek. *However additional suitable sites were not found between Bragg Creek and the City of Calgary."*

The Project appears to have been chosen by AMEC in a matter of months between January 2014 and June 2014[7]. See Appendix C for details. The SR1 project summary was submitted to the NRCB in early July 2014. The speed of the SR1 decision alone should raise red flags.

We request that CEAA acknowledge that SR1 was chosen after less than 6 months of analysis.

Once SR1 was announced, it enjoyed the full support of the powerful Calgary River Communities Action Group lobby, who were intimately involved with the early-stage flood planning processes.

I*t was a matter of months to choose, endorse and move forward on a project that will impact the Calgary region for generations.* Additive to that, the Project is an experimental design. Nothing the Proponent submitted for evidence contradicts that. A rushed, original and experimental design approved within 12 months of the 2013 flood does not speak to a rigorous decision process and review of alternatives. As evidenced by this prolonged regulatory process, the implications of choosing an unproven Project were not well understood. One issue after another has been raised through the IR process. The most glaring oversight in the decision process for SR1 is the sedimentation of the reservoir, which the NRCB picked up on in 2018 and was discussed by the Proponent in 2019 responses. This sedimentation, which will be deposited in the reservoir and subsequently exposed to air – unique to SR1 - cause permanent impairment in biodiversity. This massive oversight in the original decision speaks to a flawed process that skipped over a diligent feasibility study. As a comparison, the Bow River flood mitigation project is underway, and two years into the process, three alternatives are in the feasibility analysis stage. Public consultation has occurred – yes, PRIOR to a recommendation! This has allowed groups and individuals impacted by all alternatives to

[7] SR1 was identified in early 2014 (no public documents exist, to our knowledge that discuss how SR1 was identified and recommended by AMEC, we can discern this timeline by Calgary River Community Action Group updates – see Appendix C). In a Calgary Herald article in June 2014, the following was stated "***The Alberta government has announced plans to proceed with the dam, and a water storage site near Springbank Road"***

speak and raise issues that were perhaps overlooked by AEP. Large-scale water projects cannot be chosen in a rush. The process must be methodical, independent and incorporate public opinion. Against these tests of good decision-making, SR1 fails.

Decision Methodology

As we have highlighted previously, the SR1 decision process was deeply flawed and included the following shortfalls:

1. There was NO feasibility analysis comparing the two projects on a technical basis before SR1 was chosen. To our knowledge, there was NO geotechnical work completed on SR1 prior to its selection in 2014 and no geotechnical reports were discussed in the Deltares Report.
2. There was NO evidence to support that MC1 was preferable from a wildlife standpoint, only JUDGEMENTS.
3. JUDGEMENTS were used to determine that MC1 was of a higher "recreational utility" when MC1 reports state that new recreational capacity could be created.
4. BENEFITS of MC1 were ignored, including better flood mitigation for Bragg Creek and Redwood Meadows and potential new recreation capacity – from CEAA report, pg 32

   > In undertaking an assessment of the potential effects of the McLean Creek option on Indigenous health and socio-economic conditions, physical and cultural heritage, current use of lands and resources for traditional purposes, and any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, the Proponent concluded that the option may result in positive, substantive, residual effects on non-traditional land and resource use and on Indigenous health and safety and emergency response, positive non-substantive residual effects on socio-economic conditions and services, and generally adverse changes in residual effects. There were no recorded historical values or notable architectural values present in the McLean Creek option area.

5. There was NO discussion of the "recreational utility" of a Camp Kiwanis, or the "economic" and "social utility" for the many ranches in the area. The SR1 lands were "ranchlands, whose use will not change". THIS WAS NEVER TRUE. It is never just farmland; it is a key BIODIVERSITY ZONE whose use will be forever changed and impaired as written in the Proponents submissions to regulators.
6. There was NO public consultation on the MC1 or SR1 prior to SR1 selection.
7. There was NO discussion of how SR1 and MC1 would manage water (drought, fire suppression, water security); only flood.
8. There was NO discussion of SR1's negative impacts on the local community – lost environment, dust, water concerns, ongoing flood risk downstream of SR1.
9. There was NO evidence used to support the assertion that First Nations would oppose MC1. In fact, as above, NO recorded historical values exist at MC1 yet dozens exist at SR1.
10. There was NO evidence that MC1 was worse for fish. This is a hypothesis posed by the Proponent with NO FACTUAL BASIS to back it up. Fish ladder technology is constantly improving. Meanwhile, AEP has identified that SR1 may cause bull trout may be extirpated from the Elbow River! [8]

[8] https://www.nrcb.ca/download_document/2/83/10713/20210203-aep-eia-to-nrcb-re-eia-complete-letter

> Given the above noted items, AEP- FM is of the opinion that this project, as proposed, will present a high risk to fish populations in this reach of the Elbow River. Additionally, it is also of the opinion that Bull Trout may eventually become extirpated from this stream reach given the unique life history characteristics of Bull Trout in the Elbow River (i.e. documented use from Elbow Falls to Glenmore Reservoir and their late age to maturity) given the frequency of operation.
>
> This project may put the local population of Bull Trout at high risk and may lead to extirpation in this reach of the Elbow River. If this population declines as a result of this project, this would represent a trade-off for fish populations in this reach. It should be further noted that fluvial life history strategies of large Bull Trout only reside in 2 reaches of the Elbow River; upstream of Elbow Falls, and downstream of Elbow Falls. Any plans to offset these losses should be carefully considered as it is unclear whether Bull Trout could persist sustainably in this reach of the Elbow River with the flood diversion operational over the long term. If deemed as an acceptable trade-off by regulatory agencies, alternative offsets should be pursued in consultation with Fisheries and Oceans Canada and other regulatory agencies in alignment with AEP-FM fisheries management objectives (FMOs).

11. As for sediment, there was NO consideration that leaving sediment exposed to the elements at SR1 could be an environmental and societal risk. Not to mention, the sediment transport argument is nonsensical. Sediment is TRAPPED in SR1, just as it would have been at MC1 so the outcome is effectively the same, just at a different location. In fact, at SR1 it is trapped, exposed to wind, smothers plants and soils and must be constantly managed. At MC1, it would have been under water, just as at the Glenmore Reservoir in Calgary. From CEAA report:

> The earth fill dam in this option would have created a permanent barrier to fish movement on the Elbow River, including Bull Trout, which is a federally-listed species at risk. The dam would have created a permanent upstream pond and changed the habitat from riverine to lake habitat. The dam would have blocked river sediment transport, thereby changing erosion and reshaping the downstream river habitat. Due to the in-stream nature of the McLean Creek option, it would have posed a greater risk of failure during construction and would require more complex engineering to construct. Also, the McLean Creek option would have cost more and taken longer to construct than the other option.

Thus, we strongly disagree with CEAA's conclusion that MC1 was fairly reviewed as an alternative and we ask CEAA to reconsider this statement.

Cost of SR1:

Direct Costs of SR1:

The costs of SR1 now surpass those of MC1. This is significant. These increased costs exclude the following costs incurred DIRECTLY BECAUSE OF SR1:

- NO upgrades to RR40 for the detour route, originally projected at $3.75M
- NEW Bragg Creek Berms required because of SR1 ($42M), plus future replacement of these berms due to UNMITIGATED flooding in future floods (Additionally, it has been clear for some time now that the Bragg Creek berms will allow basement flooding.[9] If Bragg Creek and Redwood Meadows residents ultimately end up with uninsurable losses from groundwater flooding while

[9] https://www.countynewsonline.ca/county-presents-bragg-creek-flood-mitigation-design-project/

homes in the floodplain along the Elbow River in Calgary receive different treatment as a result of SR1, the government has failed its citizens.)

- REPLACEMENT OF Redwood Meadows Berms ($4M), plus future replacement of these berms due to UNMITIGATED flooding because of SR1's location downstream
- PAYMENTS to Rocky View County for "Withdrawal of Opposition ($10M cash plus $20M +or so of infrastructure commitments) (Appendix B)
- PAYMENT to Tsuut'ina Nation for "Withdrawal of Opposition" to SR1 ($32M)
- MISSING costs of flood-repair to areas between SR1 and Glenmore reservoir, which will still flood in a design flood scenario. There has been NO discussion of this flooding, which will result in inundated land in Rocky View County.
- Missing costs for creation of First Nations staging areas (parking lots, road access, etc.)
- The hidden cost of the future twinning of Highway 22, which is effectively a cost of choosing SR1 over MC1 (this could be estimated as the cost of elevating Highway 22)
- MISSING emergency planning investments required by Rocky View County, AEP and others to plan and respond to an SR1 emergency.
- MISSING wetlands replacement costs for the permanent loss of wetlands from SR1. [10]

Future Costs that Result from SR1:

- MISSING infrastructure replacement costs at the Provincial Recreation Area near McLean Creek (which were rebuilt post-2013 and will be rebuilt again due to future UNMITIGATED flooding)
- MISSING full costs of replacement of Kamp Kiwanis
- MISSING compensation for water rights to Calaway Park for future foregone revenues, as identified through the NRCB process

Unverified Costs by the Proponent:

Further, SR1 costs appear to be artificially low for the following reasons and we ask CEAA to consider that an independent cost estimator be retained prior to the final report:

- MISSING independent estimate of pipeline infrastructure changes (we estimate these to be $20M too low)
- MISSING independent costing of road and bridges, for which designs do not appear to be complete

The conditions proposed by CEAA should be costed as well, as the riprap will have a significant cost. We view that this is necessary for erosion protection, slope stability and overall project safety and support these conditions but they will add to the cost of SR1.

[10] The MC1 cost estimate 708,000 for wetland replacement (with 23ha permanently impacted = $30,783/ha). In IR421, the Proponent states that SR1 construction will permanently impact 15.3 ha and another 11.7 post flood. This is total 27 ha costs approximately $833,000, using the MC1 cost/ha).

Low Level Outlet

CEAA states, pg 34:

> Delaying the reshaping and armouring of the low-level outlet channel was chosen as the preferred alternative as disturbance would be less extensive. Root mass from the vegetation in the existing channel may provide erosion protection within the floodplain area. Additionally, maintenance can be performed using smaller equipment that can access the stream banks without wide-scale vegetation removal, which would reduce potential effects on the unnamed creek.

We know now that this is NOT WHAT IS HAPPENING. The Proponent announced in July 2020 that the unnamed creek requires erosion protection. Further, it will be funnelled to and from new channels in the reservoir. Our understanding follows from these changes that the unnamed creek will be blocked from its natural course and redirected inside and outside of the reservoir because of the requirement to move the conduit as result of poor foundation at the unnamed creek. [11] Is CEAA even reading the Proponent's documents? This is what happens when the project continues to change and morph while regulators have a timeline. Is this departure from the planned approach to the unnamed creek not substantial? From the Proponents July 2020 submissions:

[11] https://www.nrcb.ca/download_document/2/83/10293/20200716-at-sir-to-agency-re-ir-response-package-4-round-2-unsecured

ADDITIONAL DISTURBANCE FROM CHANGE IN LOCATION OF THE LLOW

The revised LLOW is approximately 190 m southwest from the original design location. The LLOW was moved based on further engineering review of the foundation soils. The revised location provides better foundation conditions (e.g., glacial till versus fine-grained soils and granular deposits) with reduced risks for additional settling during construction. In addition, a mid-slope gate tower was added to provide for a second (back-up) gate to improve operations reliability

The previous location was aligned with the unnamed creek and required limited intake and exit channels to connect with the existing unnamed creek stream channel. The revised location is located upland from the unnamed creek and requires the construction of channels from the unnamed creek (in the reservoir) to the LLOW and from the LLOW back to the unnamed creek (outside the reservoir).

The unnamed creek will be diverted through the channel to the LLOW from a point approximately 500 m upstream of the low-level outlet to allow for better drainage and flow out of the reservoir. To reduce erosion, water released through the low-level outlet will follow a constructed channel which will convey flows back to the unnamed creek approximately 700 m downstream from where it was located in the original design (i.e., now closer to Elbow River).

UNNAMED CREEK EROSION PROTECTION

The original design did not include any alterations to the existing unnamed creek beyond the immediate dam and low-level outlet. Since filing the EIA, Alberta Transportation, as a result of feedback from regulators, Indigenous groups and stakeholders, has revised the design to include measures to reduce erosion along the full length of the unnamed creek and to further mitigate sediment mobilization in the unnamed creek and reduce sediment input into Elbow River (see Figure 1).

Thirdly, we would point out that the plan to reduce erosion in the unnamed creek to mitigate sediment mobilization is the exact opposite of the sediment transport “benefit” of SR1 that was used to justify the SR1 decision. MC1 would mitigate sediment transport, and that was bad. But here it is good? This contradiction is glaring. What is the truth and who is accountable for this contradiction in outcomes?

Lastly, have regulators considered that the unnamed creek is a low-flood waterbody? Elbow River flows in the summer are <3m/s3. The unnamed creek must surely be less. What is the impact of releasing 27m/s3 into the unnamed creek? How will this volume be accommodated? This doesn’t appear to be well thought out.

Roads Planning (p35)

Road Infrastructure

Highway 22

"A new bridge would be constructed on the existing Highway 22 alignment where Highway 22 crosses the diversion channel. The Proponent has not completed the detailed design for the planned diversion structure and the Highway 22 bridge, but stated that the bridge will be constructed above the highwater mark."

It does not appear that the Proponent is ready to discuss road impacts in detail. How is the detailed design not ready? We do not see detailed designs for Highway 22 at all, even at the elevated intersection of Springbank Road and Highway 22. When can we expect these plans and are they not germane to this decision by regulators? Does this not impact the Project cost?

Springbank Road

CEAA states:

> Highway 22 is a two-lane undivided rural highway. Three design options were considered for protecting Highway 22. The selected option proposed that Highway 22 would be raised to provide 0.5 metre freeboard and 1.0 metre for the pavement structure depth above 2013 design flood level. The length of the raised roadway would be approximately 1,800 metres. Culverts in the raised road embankment would be sized at 3.67 metres to facilitate filling and draining of the reservoir during a flood event. A

Interesting that 3.67m culverts are planned for Highway 22, but nothing for Springbank Road, which water will surpass in some instances. Does this not seem at odds? Should not Sprigbank Road have these large culverts, when Springbank Road will be inundated more frequently than Highway 22?

Will Springbank Road be classified as a dam? When will this determination be made? It clearly is a dam, but no cost has been identified for upgrading the road to dam specifications.

1. What is the cost and consequence of this classification?
2. What is the cost of dam classification compared to raising Springbank Road about the water level?

Highway 8:

There are no flood maps for SR1 at the diversion inlet in floods larger than 2013 and design flood. Is there a scenario where Highway 22 near Highway 8 is inundated near the diversion channel or due to a breach of the floodplain berm? What is the emergency plan for this?

Proposed Condition: The Proponent shall develop inundation maps for the diversion inlet region to determine if any flood levels above design flood impact area roads (Highway 8, Highway 22).

Proposed Condition: The Proponent shall develop inundation maps for a failure of the floodplain berm.

Detour Route (Township Road 250 and Highway 22):

We remind regulators and the Proponent that Highway 250 intersection at Highway 22 is in the lee of a large hill and is a high-risk intersection. There is a significant concern about the safety of needing to use unsafe alternative road options for the numerous school buses in June that daily travel back and forth from

Redwood Meadows and Bragg Creek area using the Springbank Road to drop children off and pick-up children to the High School, Middle School and Elementary schools. First Nations users will take this detour as well.

Rocky View County's silence on this appalling. This detour is UNACCEPTABLE to the community. This is an example of the consequences of cash for silence deals. Rocky View County residents will have higher risk during detours directly because of SR1 and yet, Rocky View County is silent. Further, as discussed above, the 1:50 year road closure is naïve. That is unrealistic, as the road cannot be in operation as water approaches the road in the gates open scenario.

The Proponent has still not included upgrades to Township Road 250 intersection, as mentioned in our prior submission, nor RR40 upgrades, which is currently a gravel road with low clearance under Highway 1. Both these roads are activated during Springbank Road closures. We again request that these changes and their costs are included and documented separately in the SR1 Project. The original cost of RR40 was estimated at 3.75 million. Why is this money no longer in the cost model?

Proposed Condition: The Proponent shall undertake upgrades to the intersection at Township Road 250 and Highway 22 to ensure safe detour route for commuters OR the Proponent shall raise Springbank Road to avoid use of detour routes.

Springbank Road Operations

We don't think that the operations of SR1 with regard to Springbank Road have been considered adequately. The Proponent is dismissive of our concerns on this important community issue.

1. Will Springbank Road be closed each time the diversion gates are open?
    - What are the specific parameters for this? AT tells us that the road will be closed for a 1:50 flood. That is naive. Springbank Road cannot possibly be open when the reservoir is in operation / gates are open. There is too much uncertainty about flood size and water behaviour, is there not?
    - Is the RCMP closing the roads? Rocky View County? AEP? When and who will make this decision? Water volumes? Flow rates? Location in the reservoir? At the 1:50 flood, water is expected to be up to Springbank Road.
2. What is the length of time that Springbank Road is under water in the design flood and 1:100-year flood under early and late release scenarios?
    - What is the recovery time for Springbank Road for each scenario, including remediation, before it is again open to the public (worst case, best case)? We need to understand how long the Township Road 250 detour will exist.
    - Considering that the ditches on either side of Springbank Road are lower than the road and the surrounding land, what is the risk of water held within the ditches impacting the road foundation? How will safety inspections of Springbank Road be conducted if water is held in the ditches post-flood?
3. Will Springbank Road have engineering assessments following each flood prior to re-opening? If not, why not?

- Will engineering assessments be conducted on Springbank Road if all or part of the road is under water or when water abuts the road?

Proposed Condition: The Proponent shall undertake an emergency response assessment for the SR1 project to ensure that Rocky View County, AEP, the RCMP and other emergency operations organizations have the appropriate capability to respond to an emergency in the event of malfunction or disaster. Any new costs associated with emergency planning shall be borne by the Government of Alberta and NOT Rocky View County or other local authorities.

Consultation and Public Participation

Regarding Public Participation, we ask CEAA to be more specific with regard to community participation in the process. The public comments from residents from the Springbank area have been extensive and barely rate a mention.

IAAC notes that *"over 40"* meetings were held with stakeholder groups. Could the Agency please provide details of how many meetings were held with each stakeholder, and when? How many of these meetings were with Springbank area residents and groups? Landowners have been effectively ignored until late last year and we can assume this is a late attempt to remedy the lack of earlier consultations.

A full listing of ALL meeting and consultations (location, group, purpose) performed by the Proponent between 2013 and today should be provided as a requirement of the final CEAA report.

Human Environment

The CEAA report states (pg 44):

The Project would be located in a rural environment, with combination of natural environment and human activities including traffic (i.e. existing highways) and an active agricultural industry. The Elbow River serves as a direct drinking water source to approximately one in six Albertans and supports recreational, agricultural, urban and rural developments.

The majority of the PDA is currently privately owned land, which lies within Rocky View County and is mainly used for ranching and farming. There are six farmsteads, eight residential areas, and four agricultural areas. There are also three regions within the PDA that are owned by local organizations that operate summer camps at these properties.

Our community has been marginalized by regulators and the Proponent for years. The Proponent did not do their research to start with. They focused on their perspective of lost recreational capacity at the Provincial Recreation area near MC1 and did not consider the lost capacity caused by SR1. We would like CEAA to state in its report that:

- SR1 is approximately 3km east of Springbank's main street which consists of three area schools (1700 children), the recreation centre, the seniors centre, outdoor sports fields and Calaway Park, western Canada's largest permanent outdoor amusement park.
- To the east of the reservoir, Springbank is a growing community with thousands of people. Springbank is a desirable area, as illustrated by high average selling price of homes relative to

Calgary. There is a development of 49 homes proposed within approximately 1km of the eastern border of the SR1 project.

- Most Springbank residents draws water from the Elbow River via water co-ops. The balance of homes use wells.
- SR1 will cause permanent impairment of valuable land and associated development. Rocky View County accepted $10M for the lost taxes on the SR1 lands. The water-rights to supply the land are held by Calaway Park and this is a tangible economic loss that the Proponent will have to provide compensation for.
- Near the diversion channel and intake, there are several horse barns that operate a variety of recreational programs. Moose Hill Ranch will likely be unable to operate with SR1.
- Ranches on the SR1 lands have been operated since the 1880s. These ranches have provided environmental stewardship of these lands for generations. This removal of this land from its natural and productive state should be recognized.
- Loss of Kamp Kiwanis will forever change Springbank. We do not see how Kamp Kiwanis can survive construction and operation of SR1. A main attraction of children and adults alike to Kamp Kiwanis is their location on the river and close proximity to Calgary (<30minutes).
- Springbank is a popular cycling area with thousands of cyclists that pass through on the way the Bragg Creek and the Provincial Recreation Area in Kananaskis.

Proposed Condition: The Proponent shall identify the future accommodation for Kamp Kiwanis.

CEAA refers to “summer camps” that operate in the SR1 footprint. This is misleading and we would like that corrected. In 2018, Kamp Kiwanis hosted over 11,000 visitors from 150 user groups! They operate summer camps, band camps, school trips, festivals, corporate events, and more. See below from 2018 Kamp Kiwanis report:

Summer Kamp is the program that started it all in 1951. It is a program designed for children who would not normally have an opportunity to attend a summer camp (usually for financial or social reasons). 546 campers were subsidized 100% to attend Summer Kamp (and winter reunion) in 2018.

Outdoor School is another long standing program at Kamp Kiwanis that started in the late 1960's. Students from in and around Calgary attend a 1-4 day program learning about the natural environment. The program focuses on increasing student's environmental literacy, awareness, and action.

The program offers students a unique opportunity to learn in a different setting. During the 2017-2018 school year 3,035 students attended from 53 different schools.

The **Kiwanis Apple Festival** reached its 4th birthday this year. The Kiwanis Apple Festival is a free family fun weekend held at Kamp Kiwanis. There are crafts, face painting, live music, farmers' market, and much more. There were 1,054 people who attended the festival over September 22 & 23, 2018.

In addition to running and subsidizing the previously mentioned programs, Kamp Kiwanis also rents its facilities to other community groups to run their programs. In 2018 our **rental program** saw 5,722 participants from 150 community groups run their programs out of Kamp Kiwanis.

PROGRAMS

Missing from the EIA:

Insects:

There is no consideration for the effect of insects, a concern raised by area residents. The engineering drawing for the project do not show the specific operations and dimensions of the intake for the conduit. It appears to be above grade, implying that it cannot fully drain the water. Alberta Transportation has responded to our inquiry on increased insect activity by claiming insects are out of scope for the EIA.

Proposed Condition: We request that CEAA acknowledge that the EIA scope was created prior to an understanding that standing pools of water may exist post-flood.

Proposed Condition: We request that a condition on insects be applied to the post-flood operations. We request a baseline monitoring to measure increases in insect activity and ask IAAC and NRCB to consider this request. We also request that regulators direct the Proponent to develop mitigation plans for increased insect activity.

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

Regards,
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Karin Hunter

President, Springbank Community Association

Attachment A: Independent Expert FOIP Response:

July 30, 2019

Mr. Morten Paulsen
244259 RR3
Calgary, AB
T3Z 2E8
E-mail: karin.hunter@shaw.ca

Dear Mr. Paulsen:

Subject: Freedom of Information and Protection of Privacy (FOIP) – 2019-G-0094

This is in response to your access to information request for a copy of the first unedited draft of the report on the regulatory state of the proposed Springbank dam (SR1) written by Martin Ignasiak, as well as all correspondence between officials at Alberta Transportation and Martin Ignasiak from the time of his appointment to review SR1 to the submission of this report. Time period of records requested: April 17, 2019 to June 28, 2019.

Alberta Transportation located 210 pages of records in response to your request. Unfortunately, access to all of the information that you requested is denied under Section 27(1)(a)(b)(c) – Privileged information – of the *FOIP Act.*

As well, Alberta Transportation claims some records contain information subject to:

- Section 24(1)(a) – Advice from officials; and
- Section 25(1)(b) and (c)(i)(iii) – Disclosure harmful to economic and other interests of a public body.

The attached Exception Sheet is provided which indicates the application of the Act to the records.

1) https://www.alberta.ca/assets/documents/trans-sr1-independent-expert-report.pdf

Appendix B: Rocky View County Agreement

Rocky View County Motion:

All Divisions – Confidential Closed Session Item – SR-1

File: RVC2020-19

MOVED by Councillor Henn that Council authorizes Administration to prepare and sign the Agreement with the Province of Alberta, and authorizes the signing of the Statements of Non-Objection.

Carried 6-3

Rocky View County Press Release:

County Comments on Springbank Off-Stream Reservoir Update

Friday, June 14, 2019

Following today's Provincial government update on the Springbank Off-Stream Reservoir project (SR-1), Rocky View County is praising the Alberta government for opening the lines of communication, but continues to call for a full analysis of potentially superior options.

"I want to sincerely thank Alberta Transportation Minister Ric McIvor and Premier Jason Kenney. For the first time in this project's long history, the Government of Alberta actually updated Rocky View County on what was happening before we found out through the media," said County Reeve Greg Boehlke.

"It is astounding that the municipality most impacted by the construction phase of the proposed SR-1 project has been shut out of information until now. I am very encouraged that this might represent a new day in our joint efforts to find the very best project for protecting Calgary from future flooding. We may also have the opportunity to explore other benefits that can be tied to flood mitigation, such as regional drought protection and water supply issues."

Reeve Boehlke says today's Provincial announcement was essentially a process step on SR-1 that did not change the County's opposition to the project.

“We’re pleased that SR-1 is undergoing the kind of thorough review that Minister McIvor outlined today. Our position is that the other flood mitigation options should see the same level of attention so that we can make the best possible choices.”

In December of 2018, Rocky View County Council voted to oppose the Springbank Dry Reservoir project until the Province conducts a full and comprehensive analysis of all available options for flood mitigation.

The County strongly supports the need for flood mitigation in the Calgary region, but believes other options to SR-1 have not been properly considered. Rocky View County is calling for four other options to be examined by the Province before final decisions are made and construction begins. Each of the other options protects Calgary from flooding, and each offers unique additional benefits in cost, drought mitigation, water supply management, or protection for more communities.

Alternate projects include initiatives at McLean Creek, Priddis, and the Tsuut'ina Nation, plus a comprehensive Room for the River approach that would spread flood mitigation among several projects and approaches throughout the region. A Rocky View County report indicates these alternate projects did not undergo a thorough cost-benefit analysis, which skews comparisons to SR-1, particularly as the price tag for that option continues to grow.

Details on Rocky View County’s concerns, including the technical report that guided Council’s decisions can be found by clicking here.

Press Coverage:

Press Coverage of the RVC deal indicates that there was much more than the $10M cash payment on the table for Rocky View County.

Sources:

1. Announcement: https://www.airdrietoday.com/rocky-view-news/rvc-withdraws-opposition-to-sr1-2348794
2. Compensation: https://www.airdrietoday.com/rocky-view-news/rocky-view-county-signs-sr-1-compensation-agreement-2394967?fbclid=IwAR2BOAnXQnrIJpsLaq3kwMFUOCgmfcePmy3kZJizoco0MElG6dsloYO3reE

a. $2.5 million for upgrading the intersection at Highway 560 and Garden Road
b. $8 million for a new roundabout at Highway 566 and Range Road 11 in east Balzac
c. $9.4 million in additional funds for Bragg Creek flood mitigation (originally $9M in 2015, now $43M)
d. undisclosed money for improvements on Hwy 22 at Bragg Creek...to implement safety and congestion solutions

3. Highway 22 Roundabout: Funding and a timeline for needed interchange at Bragg Creek https://cochranenow.com/articles/flood-mitigation-funding-interchange-promise-win-over-kamachi : Quote from article below:

> Rocky View County councillor Mark Kamachi is relieved to be able to talk about why he switched his vote on the Springbank Off-Stream Reservoir (SR1).
>
> Kamachi was branded a traitor and turncoat by some after supporting the council's decision to pull its objection of the proposed flood mitigation mega-project.
>
> Kamachi says what the province put on the table holds huge benefits the Bragg Creek area, Springbank, and the whole of the county.
>
> He decided it was better to get something, rather than nothing.
>
> The province has promised the long-desired traffic circle on Hwy. 22 at the entrance to the community will be completed no later than 2025, says Kamachi.

Appendix C: Project History:

Date	Event	Comment
July 2013	Flood Advisory Panel appointed by Premier Redford[12].	Flood Advisory Panel did not include any representation from the hard-hit communities of Bragg Creek or Redwood Meadows.
August 2013	Stantec Report[13] identified 2 dry dams upstream of Bragg Creek and "Additional storage is required to further mitigate the 2013 flood level; preferably downstream of Bragg Creek. *However additional suitable sites were not found between Bragg Creek and the City of Calgary.* As an alternative, it is proposed to divert flood flows from Glenmore Reservoir to bypass the Elbow River through the City of Calgary."	No reference to SR1 as an option in these reports.
October 2013	AMEC was contracted to conduct a flood mitigation feasibility study[14]. The Flood Recovery Task Force report prepared by Stantec is released: This report included MC1 (as EQ1)[15] but did not mention SR1 at all, although there was a general reference to mitigation downstream of Bragg Creek without specific location.	Why was AMEC hired? How did AMEC arrive at SR1 by January 2014, given "additional suitable sites were not found between Bragg Creek and Calgary" in the Stantec report from August 2013?
November 2013	CRCAG was invited to be a member of the Water Collaborative. "The GOA has invited CRCAG to become a member of the Water Collaborative. The Water Collaborative is a collection of stakeholder organizations coming together to discuss and review mitigation plans of action. Other members of the Collaborative include WaterSmart, the Bow River Basin Council, Trouts	Water Collaborative did not include any representation from the hard-hit communities of Bragg Creek or Redwood Meadows.

[12] https://calgary.ctvnews.ca/redford-government-appoints-advisory-panel-to-prevent-future-flooding-1.1376842
[13] https://open.alberta.ca/dataset/53e46d5b-9e38-4ed2-a6b2-8b2c327835c4/resource/c9704eba-80b5-461a-aeab-c1fdb1545d42/download/trans-flood-mitigation-measures-elbow-sheep-and-highwood-river-basins.pdf
[14] https://open.alberta.ca/dataset/8106746d-34af-4f2a-b104-3ff4cbfc65ab/resource/f0f11687-9f0e-43df-865a-48343e5ece1a/download/2014-cw2174-volume-1-summary-recommendations-report-3-june-2014-final.pdf
[15] " Two sites on the Elbow River will reduce the estimated 2013 flows at Bragg Creek by nearly 60%. " Figure 2.6 https://open.alberta.ca/dataset/53e46d5b-9e38-4ed2-a6b2-8b2c327835c4/resource/c9704eba-80b5-461a-aeab-c1fdb1545d42/download/trans-flood-mitigation-measures-elbow-sheep-and-highwood-river-basins.pdf

	Unlimited, Ducks Unlimited, various Irrigation Districts, TransAlta, The City of Calgary's Flood Panel, Mr. Allan Markin, the Town of High River, Amec and AECOM. We are pleased to be at the table representing homeowners interests. The first meeting of the Water Collaborative was held on Thursday November 14."	
March 2014	From CRCAG Updates: "On Thursday, March 6th [2014], members of the Flood Advisory Panel (Allan Markin, Robert Samaska and Richard Lindseth), Amec (Ken Kress) and CRCAG (Emma May and Jack Davis) met at the offices of AMEC. Ken Kress of AMEC has 40 years experience in dam building and the South Saskatchewan Basin. He notes that the Elbow River flood potential and risks were studied and reported on in significant detail nearly 30 years ago. Works such as a dry dam were recommended at the time. Mr. Kress presented us with maps of the possible detention dam sites and a solid review of the engineering behind the chosen locations. Mr. Kress' experience in this very area and depth of knowledge was very impressive. On March 17th further geological testing of the sites will be initiated. Mr. Kress will be presenting a comprehensive formal report to the Alberta Government at the end of the month. The group then took a helicopter tour up the Elbow River watershed to see firsthand the chosen sites. Mr. Kress explained his proposals throughout the flight and gave us rough estimations of the potential of these sites to mitigate flooding in Calgary and in other vulnerable communities. We look forward to the release of the detailed engineering plan that Mr. Kress is preparing. As these plans to mitigate become ever more detailed they also become more actionable. Proposals to build dams have been recommended in the past but have never enjoyed the sustained political support that is required to get a project."	**Why is AMEC hosting a helicopter tour of potential detention sites to a special interest group?** **When is Rocky View County notified of AMEC's interest in its land for a detention site?** **What is the "solid engineering" Mr Kress referred to.** **Where is the map of detention sites Mr Kress refers to?**
April 2014	WaterSmart report[16] identifies priorities: ● **"Develop a better understanding of the relationship between flooding and groundwater.** This is of particular importance in the western half of Alberta	None of these recommendations seem to have been pursued once SR1 was selected.

[16] https://watersmartsolutions.ca/wp-content/uploads/2018/08/White-Paper-Progress-Report_Final-Version.pdf

	where most river flows are on and through highly porous alluvial aquifers. ● **Re-evaluate the potential for slumps and mudslides during flood events to determine their impact on communities downstream.** This area has received little attention yet has significant implications if not fully understood. Studies should be conducted that evaluate the entire watershed and how instability upstream can heighten risks and flood impacts downstream. This includes sediment loading that can severely harm flood mitigation infrastructure. ● **Engage public health professionals in assessing mitigation measures.** ...An assessment of the effectiveness of boil water advisories and water restrictions placed on communities during the 2013 flood could provide lessons-learned that apply to future floods or droughts. Furthermore, issues of mental health recovery and resiliency are important and should be addressed. ● **Improve watershed management, especially headwater areas so that natural wetlands and riparian zones continue to act as a buffer for heavy rainfall.** Efforts in this area have been addressed by the Alberta WaterSMART and AI-EES Bow River Basin Flood Mitigation and Watershed Management Project; however, more analysis is needed to fully understand options for natural flood mitigation. *Both public and water expert feedback to this Progress Report amplified the need for more natural flood mitigation options to be studied rather than focusing solely on hard infrastructure.*" WaterSmart recommended a Headwaters Management Agency (not done).	

June 2014	AMEC worked between October 2013 and March 2014 with a report prepared June 3, 2014.[17] In the June 2014 article in the Calgary Herald discussing Markin's floodwall, the following statement is made: "Last summer, then-premier Alison Redford named Markin to lead the flood mitigation advisory panel. Last fall, the group recommended $830 million worth of measures to protect flood-zone Albertans, including a dry dam near Bragg Creek and an underground diversion channel out of Glenmore Reservoir to protect residents in the Elbow River valley. ***The Alberta government has announced plans to proceed with the dam, and a water storage site near Springbank Road,*** while the feasibility Glenmore tunnel is still being studied by engineers."	**What science went in to the Springbank recommendation?** **What was the decision process? The project was chosen at this point.**
July 2014	Water Collaborative Update: Update on the Springbank Diversion (SR1) *The RFP for SR1 has been issued. The request for a consultancy firm to handle the final engineering and Environmental Impact Assessment (EIA) has gone out and will close early August. To date, there has been significant work done on the environmental impact study and the next step will be determining the final design of the project. There is also a priority to continue engagement with The City of Calgary, Rockyview County, and landowners. It was also expressed that there is the intent to have an Elbow River Basin specific engagement so that all interested parties can attend.* ESRD [Environmental Sustainable Resource Development] visit to the Netherlands The trip to the Netherlands was to determine how the Government of Alberta and the Netherlands can partner together to adopt some of the current technologies and innovations in place in the Netherlands for flood control. Members of the ESRD learned that the Netherlands has 23 Water Boards that drive water policies in the country. There is a sophisticated system involved in the regulation of water in the	SR1 Terms pf Reference https://www.nrcb.ca/download_document/2/83/8570/20140717-at-eia-to-nrcb-re-proposed-terms-of-reference SR1 Project Summary https://www.nrcb.ca/download_document/2/83/8566/20140711-at-eia-to-nrcb-project-summary-table

[17] https://open.alberta.ca/dataset/8106746d-34af-4f2a-b104-3ff4cbfc65ab/resource/05b643dc-5d8b-42a3-9a16-01ed10709531/download/2014-volume-2-general-information.pdf

	Netherlands, where all 23 boards work collaboratively and seamlessly. ESRD visit to the Netherlands The trip to the Netherlands was to determine how the Government of Alberta and the Netherlands can partner together to adopt some of the current technologies and innovations in place in the Netherlands for flood control.	

July 2014	Water Collaborative Update: Update on the Springbank Diversion (SR1) The RFP for SR1 has been issued. The request for a consultancy firm to handle the final engineering and Environmental Impact Assessment (EIA) has gone out and will close early August. To date, there has been significant work done on the environmental impact study and the next step will be determining the final design of the project. There is also a priority to continue engagement with The City of Calgary, Rockyview County, and landowners. It was also expressed that there is the intent to have an Elbow River Basin specific engagement so that all interested parties can attend. ESRD [Environmental Sustainable Resource Development] visit to the Netherlands The trip to the Netherlands was to determine how the Government of Alberta and the Netherlands can partner together to adopt some of the current technologies and innovations in place in the Netherlands for flood control. Members of the ESRD learned that the Netherlands has 23 Water Boards that drive water policies in the country. There is a sophisticated system involved in the regulation of water in the Netherlands, where all 23 boards work collaboratively and seamlessly. ESRD visit to the Netherlands The trip to the Netherlands was to determine how the Government of Alberta and the Netherlands can partner together to adopt some of the current technologies and innovations in place in the Netherlands for flood control.	SR1 Terms pf Reference https://www.nrcb.ca/download_document/2/83/8570/20140717-at-eia-to-nrcb-re-proposed-terms-of-reference SR1 Project Summary https://www.nrcb.ca/download_document/2/83/8566/20140711-at-eia-to-nrcb-project-summary-table