



November 4, 2020

Matthew Hebert, Executive Director, Springbank  
Alberta Transportation  
Twin Atria Building  
4999-98 Avenue  
Edmonton, AB T6B 2X3

Dear Mr. Hebert:

**Re: Alberta Transportation Proposed Springbank Off-Stream Reservoir Project  
NRCB Application No. 1701  
Water Act No. 00387101**

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In support of the *Water Act* (WA) Application No. 00387101 and the Natural Resources Conservation Board (NRCB) Application No. 1701 Alberta Environment and Parks and associated government agencies have reviewed the Environmental Impact Assessment (EIA) report received on October 2017 and March 2018 and Supplemental Information Request Responses received on June 14, 2019, April 2020, May 2020 and June 2020.

The attached Supplemental Information Request represents a combined list of deficiencies, including those identified in the EIA review led by AEP and those advanced by the NRCB. A response to the Supplemental Information Request is required to complete the evaluation of the EIA report and to provide the NRCB with information necessary to evaluate your application.

Sincerely,

Heather Dent  
Acting Approvals Manager  
Regulatory Programs

cc: Laura Friend (NRCB)                      Laurie Cheperdak (Health)  
Jennifer Howe (IA)                          Darren Bourget (AEP)  
Wendy Unfreed (Culture and Tourism)    Melanie Daneluk (AEP)

Water Act File No. 387101  
NRCB Application No. 1701

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# 1 Acronyms

The following acronyms are used in this Supplemental Information Request.

AEP	Alberta Environment and Parks
LAA	local assessment area
NRCB	Natural Resources Conservation Board
SIR	supplemental information request
TDR	technical data report

# 2 General

## 2.1 Hydrogeology

### 1. Supplemental Information Request 2, SIR 55, Page 268 - 270

Alberta Transportation states:

*c. As stated in the response to a., there is confidence in the conductivity values used for the initial conditions in the numerical model and the calibrated hydraulic conductivity values. However, the model sensitivity analysis presented in the TDR Update, Attachment E does examine the hypothetical effect of increasing the permeability of both the till and bedrock layers within the model. The hydraulic conductivity values for these units were increased by a factor of 1,000 (well beyond the expected range of natural variability of these geologic materials). The sensitivity analysis results suggest that the model simulations are most affected by parameterization of hydraulic conductivity values, and the higher conductivity values lead to further propagation of effects and, in turn, a larger area of effects. However, even when increasing the hydraulic conductivity values of the low conductivity units, the modelled effects remain within the LAA and north of Elbow River.*

The above sensitivity analysis used different boundary conditions compared with the Supplemental Information Request 2, SIR 47 and 48. In the TDR Update, Attachment E - the boundary conditions along the diversion channel were wrong according to the statements in Supplemental Information Request 2, SIR 48; and the boundary conditions on top of the reservoir area didn't apply the loading head. As a result the sensitivity analysis results need to be updated.

- a. Using the models explained in Figure 47-2, 47-3 and 48-1, update the conductivities so they are similar to those in the TDR Update, Attachment E. Complete the sensitivity analysis.

- b. Provide maps similar Figure 47-2, 47-3 and 48-1 for a hydraulic conductivity of  $10^{-5}$ .
- c. Analyze the difference of the drawdown cone along the diversion channel. Explain the findings.
- d. What percentage of the seepage has changed to the diversion channel?
- e. Analyze the difference of the potential artesian area to the east and south-east of the off-stream dam. Explain the results.
- f. Does the potential impacted area remain within the LAA? Explain.
- g. What is the contingency monitoring and mitigation plan for a hydraulic conductivity of  $10^{-5}$  should it occur? Explain.

## 2.2 Aquatics

### 2. Supplemental Information Request 2, SIR 68 and SIR 75, Page 329 and 363

Alberta Transportation states in SIR 68 and SIR 75 that field work will to be conducted from July to September 15, 2020 to obtain fish population data. Alberta Transportation also states that the population assessment will be provided to the NRCB and AEP once complete.

- a. As required provide the fish population assessment and update SIR 68 and SIR 75 as required to reflect the new information.

## 2.3 Vegetation

### 3. Supplemental Information Request 2, Question 87, Response b. Page 398 Appendix 87-1 Draft guiding principles and direction for future land use

Alberta Transportation states *Some grazing through permit is being considered for the reservoir and, based on input from Indigenous groups, Alberta Transportation is evaluating opportunities for short-term use of culturally important grazing species such as bison and elk.*

- a. If the proposed project is approved and administration of the lands as stated in Appendix 87-1 falls under the responsibility of Alberta Environment and Parks, is Alberta Transportation aware section 1 (l) of the Public Lands Act makes no provision for the placement of elk on grazing dispositions as this section of the legislation states “livestock” means horses, sheep, cattle and, to the extent permitted by the regulations, bison? If Alberta Transportation is aware of this clause what plan is in place to address placement of elk on grazing dispositions which complies with applicable legislation? If Alberta Transportation was not aware of this legislation how does this knowledge change the plan for the placement of elk on grazing dispositions?
- b. Other than the naturally occurring elk resident within the area has Alberta Transportation made any other commitments related to the short-term use of the subject lands by elk? Explain.
- c. Is Alberta Transportation aware grazing of bison on lands administered under the Public Lands Act requires special permission under the terms outlined in Sections 72 through 76 of the Public Land Administration Regulation? Explain.

- d. Is Alberta Transportation aware bison typically require a more restrictive degree of fencing when compared to other classes of livestock? In addition, is Alberta Transportation aware such fencing may also require periodic placement of wildlife friendly crossing structures to permit the movement of wildlife across the landscape? Explain.
- e. If bison grazing is carried out on the site has Alberta Transportation developed a fencing plan for the subject area which adequately contains this species, while at the same time permitting movement of wildlife across the landscape? Explain.
- f. Has Alberta Transportation made any commitments related to the short-term use of the subject lands by bison which will be the responsibility of Alberta Environment and Parks if the proposed project receives approval? Explain all commitments which have been made.