

NATURAL RESOURCES CONSERVATION BOARD

IN THE MATTER OF the *Natural Resources Conservation Board Act*, RSA 2000, c. N-3;

IN THE MATTER OF the Natural Resources Conservation Board Application No. 1701;

and

IN THE MATTER OF Alberta Transportation Springbank Off-Stream Reservoir Project

Submissions of the SR1 Concerned Landowners Group (“SCLG”)

February 26, 2021

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I. INTRODUCTION

1. These are the written submissions filed on behalf of the SR1 Concerned Landowners Group (“SCLG”) with respect to the Natural Resources Conservation Board’s (“Board”) consideration of Alberta Transportation’s (“AT”) application for approval to construct the Springbank Off-Stream Reservoir Project (the “Project”) located 15km west of Calgary in Rocky View County.
2. The Project involves a diversion structure located on the main channel and floodplain of the Elbow River, a diversion channel to transport diverted floodwater into the reservoir, a dam to temporarily contain the diverted floodwater and a low-level outlet in the dam to return the stored water back to the river after the flood subsides through an existing unnamed creek channel.¹ While the application is submitted by AT, AT will hold the approval until construction is complete and then, the approval will transfer to Alberta Environment and Parks for the operation and maintenance of the Project.²

II. DESCRIPTION OF INTERVENERS

3. The SCLG is comprised of individuals and families who own and occupy lands within, adjacent to or in close proximity to the Project. The SCLG members elected to coordinate their interventions, shared interests and concerns as a group in this proceeding before the Board in order to create efficiencies and reduce overlap in their individual interventions. The SCLG members are concerned about the adverse impacts of the proposed Project. They are opposed to the potential approval of the Project as has been applied for by AT.
4. The SCLG was granted standing and full participation rights in this matter by the Board in the Pre-hearing Decision Report dated December 10, 2020.³

¹ Ex. 18, pdf 22.

² Ex. 18, pdf. 11.

³ Pre-Hearing Decision Report, pdf 5.

5. The members of the SCLG and the descriptions of their lands or municipal addresses are contained in **Appendix “A”** to these submissions.
6. A map showing the locations of SCLG members lands that are within the Project area or directly adjacent to Project’s structures is attached as **Appendix “B”** to these submissions.

III. NATURE AND SCOPE OF INTENDED PARTICIPATION

7. The SCLG will participate fully in the hearing process and at the hearing before the Board. Members of the SCLG will attend the hearing and testify and present evidence at the hearing. They intend on calling their expert witnesses, who will also testify and provide evidence to the Panel at the hearing.
8. The SCLG will cross-examine witnesses put forward by AT, and other parties who are adverse in interest, through their counsel. The SCLG will also present oral argument after the close of the evidence portion of the Hearing.

IV. REASONS FOR OBJECTION

9. The members of the SCLG will be directly and adversely affected by the outcome of AT’s application for the proposed Project. The SCLG submits that the approval and development of the Project will have significant adverse social, economic and environmental effects.
10. The SCLG further submits that approval of the proposed Project is not in the public interest and ought to be denied.

V. REQUESTED DISPOSITION

11. The SCLG respectfully requests that the Board deny AT’s applications for approval of the Project.

12. Alternatively, should the Board decide to approve the Project, the SCLG requests that the approval be subject to conditions as listed in the SCLG's individual submissions, in the reports of the SCLG's experts, and as may be presented during oral argument.

VI. ISSUES

13. In its pre-hearing submissions, the SCLG identified the issues that are concerning to the members.⁴ These issues are captured in the Hearing Topic List.⁵

14. The SCLG will address the following topics in its submissions and at the hearing:

a. Topic 1: Project Need and Justification

- i. Project purpose and need
- ii. Social and economic project costs and benefits
- iii. Alternatives considered
- iv. Crown engagement with the public

b. Topic 2: Crown Consultation and Land Use, specifically:

- i. Future land use and land use plan for the Project development area
- ii. Historical resources

c. Topic 3: SR1 Design, Safety and Risk

- i. Project description (including operating plan, flood water management and reservoir capacity)
- ii. Dam safety

⁴ Ex. PHC-14, pdf 7-8.

⁵ Ex. 166.

- iii. Risk management
 - iv. Public safety, including emergency response
 - v. Sensitivity of project design, operation and safety elements to changes or variability in climate parameters
 - vi. Reservoir capacity
- d. Topic 4: Water
- i. Hydrology
 - ii. Surface Water quality
 - iii. Aquatics
 - iv. Hydrogeology
 - v. Sensitivity of project water elements to changes or variability in climate parameters; and
- e. Topic 5: Air Quality, Human Health, and Terrestrial, specifically:
- i. Air quality (including dust)
 - ii. Human Health risk assessment (including effects on country foods)
 - iii. Vegetation (including noxious weeds and invasive species)
 - iv. Wildlife and biodiversity
 - v. Terrain and Soils.

VII. FACTS TO BE SHOWN IN EVIDENCE

A. Overview

15. The SCLG intends to rely on the facts set out in this submission, as well as other materials they have filed or will file with the Board. These include, but are not limited to the statements of the SCLG members, attached as **Appendices “C” and “C1”**, as well as other information that the SCLG members, the Springbank Community Association, and the Elbow River Sustainability Alliance, have filed with the Board and which has already been marked as Exhibits in this proceeding. The group also intends to rely on the oral evidence of its members and the oral evidence of their expert witnesses.
16. The SCLG may also rely on the written and oral evidence of other interveners’ experts whose evidence may address the SCLG’s concerns in this proceeding before the Board.
17. The SCLG may also rely on some of the assertions contained in AT’s application materials for the Project, AT’s responses to Information Requests, AT’s submissions, and any facts, information, and materials that have been filed by or brought forward by any participant in this proceeding.

B. Topic 1 - Project Need and Justification

i. Project purpose and need and consideration of alternatives

18. Many members of the SCLG have raised concerns about the need for this Project and whether reasonable alternatives were fully considered before being discounted. Members of SCLG expressed concerns that the Project was selected quickly without fulsome considerations and comparisons of all the factors with the alternatives.
19. As pointed out in the SCLG’s members submissions, (for instance, the submissions of Mary Ellen Robinson in Appendix C), there are greater benefits arising from the alternate options than the Project. For instance, there is minimal potential for water wells to be contaminated if the alternative MC1 was used than the water well contamination risk

posed by the Project. Further details of members' concerns in this regard are contained in Appendices C and C1.

20. Ms. Karin Hunter, president of Springbank Community Association (SCA) and a member of the SCLG, provided submissions regarding the need, purpose and alternatives to this Project. Previously filed submissions of Ms. Hunter (including Exhibits 132, 133, 134 and others) in her capacity as the President of the SCA and as a member of the Elbow River Sustainability Alliance (ERSA) detail the SCLG's concerns in this regard.
 21. The SCLG questions the research and considerations that resulted in the selection of SR1 as the optimal Project as detailed in the October 2015 Alberta Environment and Parks' Recommendations on the Elbow River Major Infrastructure Decisions. A copy of the October 2015 AEP's Recommendations on the Elbow River Major Infrastructure Decisions, is attached at **Appendix "D"** to these submissions.
 22. The SCLG notes that the December 11, 2018 letter from the Rocky View County, supports the SCLG's position that by selecting the Project as the primary flood protection mitigation, AT fails to fully evaluate other options and regional needs. A copy of Rocky View County's letter dated December 11, 2018 is attached to these submissions as **Appendix "E"**.
- ii. Social and economic project costs and benefits*
23. Members have also expressed concerns about the social and economic costs and benefits of this Project. They question the adequacy and completeness of AT's assessment of the benefits and costs of this Project. In their view, the Project's costs are understated and cannot be relied upon in determining whether this Project is in the public interest. The members of SCLG also expressed concerns about the mounting costs of this Project vis-à-vis the reasonableness of selecting this Project as the optimal project for future flood control for the City of Calgary. The members individual statements in Appendix C provide further details of these concerns.

24. Ms. Hunter provides in her submissions, attached as **Appendix D1**, further information regarding the SCLG's concerns about the economic assessment of this Project. The SCLG advise that at the oral hearing, Ms. Hunter will speak to previously filed documents that she authored by herself or in collaboration with other groups. These documents include but are not limited to Exhibits 132 to 135, 193 to 199, and 215.

iii. Crown engagement with the public

25. Members of the SCLG have expressed concerns about the consultation that was undertaken for this Project. Many members advised that minimal consultation was undertaken. They were either not personally consulted about the Project even though the Project would directly affect them, or they heard about the Project through the media or neighbours rather than through direct contact by AT. Many members indicate that better consultation efforts should have been undertaken by AT. Members who attended open houses held by AT indicated that their concerns were not taken seriously by AT and its representatives; questions asked were either not answered at all or not answered in a fulsome manner.

26. The SCLG will rely on its members' submissions as shown in Appendix C and in previously filed materials with the Board in support of its concerns covered by this Topic block.

C. Topic 2 – Future Land Use and Land Use Plan for the Project Area and Historical Resources

27. The SCLG members have expressed concerns about the adverse residential and social impacts including land use and access restrictions that will be experienced during construction and on an ongoing basis should the proposed Project be approved and developed.

28. The members have expressed concerns about the diminution in their use and enjoyment of their lands as a result of the Project being approved. Some members have lived on or operated a farm or ranch in the area for many years. Some members, such as Mary Ellen

Robinson and her family homesteaded in the area including on lands that will be directly affected by the Project.⁶

29. SCLG members such as Brian and Susan Copithorne are 4th generation ranchers on their lands; their lands having been settled by Brian Copithorne's great-grandparents in the late 1880's.⁷ The Copithornes and other members of SCLG have expressed concerns that the approval of the Project will make it impossible for their properties to continue to be used as multigenerational property in ranching, farming or other activities that they are currently used for. Similar concerns have been expressed by Mary Ellen Robinson whose family homesteaded on SW¼ 3-24-4-W5 in 1888 and have been residing on the land ever since. Details of Ms. Robinson's concerns in this regard are in Appendix "C".
30. Members have also expressed concerns about the inability to continue using their properties for agriculture, ranching, or equestrian centres if the Project is approved. The silt that will be deposited from the Project will not only be an eyesore but may impact the health of the residents and their livestock. They have also expressed concerns about the reduction in their use and enjoyment of their lands as a result of the noise, dust and air pollution that the Project will bring.
31. Some members of the SCLG use their lands for recreational activities. Some members of the SCLG have commented specifically on the beauty and wildness of the area and the destruction that will result if the Project is approved.
32. See Appendix C and Appendix D1 for more information regarding the SCLG members' concerns.

D. Topic 3 – SR1 Design, Safety and Risk

33. The SCLG members have expressed concerns about the design, risks and safety implications of the Project. In their view, the Project as designed lacks sufficient safety features that will protect the SCLG members, their families, and the residents of Bragg

⁶ Appendix C, Submissions of Mary Ellen Robinson

⁷ Appendix C, Submissions of Brian and Susan Copithorne.

Creek, Redwood Meadows and Springbank communities in the event of a flood event. Further safeguards are needed to protect the communities.

34. The SCLG has retained Austin Engineering Ltd. (AEL) to review the design of the Project, identify risks with the engineered design and operation of the Project and to provide recommendations to improve the dam safety aspects of the Project. AEL's report and the curriculum vitae of AEL's personnel are attached respectively as **Appendices "F"** and **"G"** to these submissions.
35. The SCLG notes that the Alberta Environment and Parks (AEP) has commissioned Golder and Associates to conduct the Bow and Elbow River Hazard Study and to develop mapping regarding Open Water Flood Inundation starting from the 2-year flood event to the 1000 year flood event. A copy of the draft report submitted to AEP in this regard is attached at **Appendix "H"**. The SCLG will be relying on this draft study report during the oral hearing.
36. In addition to the technical report from AEL, some members of the SCLG with technical expertise on emergency response planning and emergency preparedness provided additional comments on these issues. See for example, the submissions of Ian Dowsett, which is attached as **Appendix "I"** to these submissions.
37. The SCLG members have also expressed concerns regarding the inadequate consideration of climate change impacts on the Project and the Project's ability to withstand such future variability in climate parameters.
38. The SCLG retained Jon Fennell, Ph.D, to review the Project's design, operation and safety elements in view of Project's sensitivity to changes or variability in climate parameters. Dr. Fennell's report and curriculum vitae are attached at **Appendices "J"** and **"K"** to these submissions.

E. Topic 4 - Water

i. Groundwater, groundwater-surface water interactions, hydrogeology, and climate change

39. The SCLG members have expressed concerns regarding the impacts of the Project on groundwater, their water wells, surface water and the related impacts to fish and other aquatic resources that have their habitats in these surface water resources. The members' concerns in this regard are addressed in Appendix C to these submissions.
40. The SCLG retained Jon Fennell (Ph.D.) to review the hydrogeology, groundwater-surface water interaction, geochemistry and climate change implications of the Project. Dr. Fennell has over 30 years experience in the natural resource sector examining hydrogeology, surface water and groundwater interaction and climate change implications. Dr. Fennell's report and curriculum vitae are attached at **Appendices "J"** and **"K"** respectively to these submissions.
41. David Klepacki, a member of the SCLG, with technical expertise in aquatics, flood frequency, and with special knowledge of flow conditions in Elbow River and Bragg Creek also prepared a submission on these issues. Mr. Klepacki's submissions and curriculum vitae are attached at **Appendix "L"** to these submissions.
42. The SCLG notes that the AEP commissioned Golder and Associates to conduct a hydrology assessment for the Bow, Elbow, Highwood and Sheep River. A draft of Golder and Associates' report of the hydrology assessment dated September 2020 is attached at **Appendix "M"** to these submissions. This report is relevant to the Board's consideration of its public interest determination as the authors reported flood frequency estimates for Elbow River and its tributaries, the June 2013 flood flow data, the preliminary estimates of annual maximum flows in 2013, 2014 and 2015. The authors also examined historic flood information in the hydrology assessment.
43. The SCLG also retained Allan Locke, a professional biologist, to review the Project's impacts on fish populations in Elbow River including a review of impact on Mountain

Whitefish, Westslope Cutthroat Trout and Bull Trout habitat, migration and breeding grounds. Mr. Locke's report and curriculum vitae are attached respectively at **Appendices "N" and "O"** to these submissions.

F. Topic 5 – Air Quality, Human Health and Terrestrial

i. Air Quality

44. Many members of the SCLG have expressed concerns about the Project's impacts on air quality and the implications to their health. They are concerned that AT has not adequately accounted for the effects of post-flood silt on air quality after the release of water from the reservoir back into Elbow Creek. Many members commented on the amount of silt that was left behind post 2013 flooding. Photos showing the silt deposition after the 2013 flood is attached at **Appendix "P"** to these submissions.

45. The SCLG retained Brian Zelt, Ph.D of Zelt Professional Services Inc. to provide a critical review of the fugitive dust emissions and predicted concentrations provided in Alberta Transportation's air quality assessment report. Dr. Zelt has over 30 years of experience coordinating and undertaking air quality and dust impacts assessment. Dr. Zelt's report and curriculum vitae are attached respectively at **Appendices "Q" and "R"** to these submissions.

ii. Biodiversity and Wildlife Considerations

46. Many members of the SCLG have expressed concerns about the Project's impacts on wildlife and their habitats as well as impacts of the Project on biodiversity. For instance, members have reported sightings of grizzly bears, swallows, elks, cougars, hawks, and migratory birds within the Project's footprints. David Klepacki has documented in his submissions at Appendix L the GPS coordinates of various photos taken by the SCLG members of wildlife sightings in the area and the SCLG's concerns relating to wildlife impacts of the Project.

47. The SCLG retained Cliff Wallis of Cottonwood Consultants Ltd to assess the biodiversity considerations of the Project's construction and to evaluate the potential residual

environmental impacts of the Project on biodiversity. Mr. Wallis is professional biologist with over 50 years of experience in conducting biodiversity assessments. Mr. Wallis is personally familiar with the Project lands through environmental significant areas study conducted in the Calgary region and through subsequent field visits through the area and surrounding lands. Mr. Wallis visited the Project area recently in November 2020. Mr. Wallis' report and curriculum vitae are attached as **Appendices "S" and "T"** respectively to these submissions.

iii. Weeds Impacts

48. Many members of the SCLG have expressed concerns regarding the potential for the Project to introduce and spread weeds including noxious weeds on their lands. The spread of weeds will affect their crop yields, may affect the health of their livestock due to the contamination of feed by weeds, and cause financial losses to them.

49. The SCLG retained Terry Osko, Ph.D, to examine the potential for the Project to introduce weeds in and beyond the Project area, the necessity for weed management and the impacts of any weeds including noxious weeds introduced by the Project on agricultural activities, livestock, natural vegetation and wildlife in the area. Dr. Osko's report and curriculum vitae are attached respectively at **Appendices "U" and "V"**.

iv. Human Health Impacts

50. The SCLG members have expressed concerns about the impacts of the Project on human health including impacts arising from air pollution and increase in trauma effects due to the potential for flooding to occur from this Project. Dr. Karen Massey's submissions at Appendix C provides additional information regarding the health effects of this Project.

G. Additional Documents

51. The SCLG members, including Karin Hunter, will refer to the following additional documents attached to these submissions as **Appendix "W"**:

Tab #	Description
1	AMEC Southern Alberta Flood Recovery Task Force Flood Mitigation Measures for the Bow River, Elbow River and Oldman River Basins, Volume 1 – Summary Recommendations Report, dated June 2014
2	AMEC Southern Alberta Flood Recovery Task Force Volume 4 - Flood Mitigation Measures: Appendix G – Springbank Off-Stream Storage Project, dated May 2014
3	Benefit/Cost Analysis of Flood Mitigation Projects for the City of Calgary: Springbank Off-Stream Flood Storage, February 18, 2015
4	Bragg Creek Flood Mitigation Project, dated February 28, 2017
5	Martin Ignasiak’s 2019 Review of Alberta Transportation’s Springbank Project
6	Rockyview County’s Capital Project Management Memo to Council dated July 28, 2020
7	Alberta Transportation’s Community Information Session September/October 2020
8	Stantec Flood Mitigation Measures Elbow River, Sheep River and Highwood River Basins, October 25, 2013
9	Alberta Watersmart, Water Management Solutions, The 2013 Great Alberta Flood: Actions to Mitigate, Manage and Control Future Floods, dated August 2, 2013
10	AT Project Summary Table, dated July 11, 2014
11	Bow Basin Flood Mitigation and Watershed Management Project, dated March 31, 2014
12	AT Government of Alberta Landowner Meeting Presentation Cochrane, July 18, 2015

13	AB WaterSmart, The 2013 Great Alberta Flood: Progress Report on Actions to Mitigate, Manage and Control Flooding, dated April 24, 2014
14	WaterSmart, Elbow River Historical Detention and Diversion Sites, January 2014
15	Elbow River Flood Mitigation Project Decisions Fact Sheet, February 23, 2015
16	AB Watersmart, Room for the River Pilot in the Bow River Basin, Advice to the Government of Alberta with Addendum, February 27, 2015
17	IBI Group & Golder Associates, Flood Mitigation Options Assessment Summary: A City of Calgary Summary, December 15, 2017
18	Rocky View County, Bragg Creek Flood Mitigation Project Update 1 – April 2018
19	Rocky View County Presentation: Elbow River – Flood Protection, 2018
20	ERSA: Elbow River Watershed & SR1: The Lost Opportunity for Comprehensive Water Management, dated January 27, 2020
21	Owen’s Lake; The Surprise Reincarnation of Owens Lake

VIII. REASONS FOR PROPOSED OUTCOME

52. The SCLG respectfully submits that AT’s application for the proposed Project fails to appropriately, adequately, or fully address the concerns of the SCLG, whether of the group broadly or those of the individual members. The SCLG further submits that the Project, as has been applied for, is not in the public interest, when assessed against the adverse impacts that will be created, including but not limited to those raised in these submissions.

53. The SCLG respectfully requests that relief be granted by the Board in the form of a denial of the application for the Project.
54. Alternatively, should the Board decide to approve the application for the Project, the SCLG requests that the Board impose adequate conditions to the approval as listed in the SCLG's members' submissions, the SCLG's experts' reports and as may be requested during the hearing or in final argument.

IX. ADDRESS FOR SERVICE

55. The SCLG may be contacted through its counsel, Ackroyd LLP. Ackroyd LLP's contact information is:

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Attention: Richard C. Secord and Ifeoma M. Okoye

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS 26th DAY OF FEBRUARY 2021.

**SR1 CONCERNED LANDOWNERS
GROUP**

by its legal counsel,

ACKROYD LLP

<Original signed by>

Ifeoma M. Okoye and Richard C. Secord

X. APPENDICES

- A List of SCLG members
- B Map of SCLG Members land locations within or adjacent to the Project Footprint
- C SCLG Members' Statements
- C1 Marlene Dusdal's Video Evidence
- D 2015 AEP Recommendations on the Elbow River Major Infrastructure Decisions
- D1 & Submissions of Karin Hunter
D1.A
- E Rocky View County's Letter dated December 11, 2018
- F Golder & Associates, Bow and Elbow River Hazard Study, September 30, 2020, DRAFT
- G Austin Engineering Report
- H Curriculum Vitae of Witnesses from Austin Engineering Ltd.
- I Submissions of Ian Dowsett
- J Evidence of Jon Fennell, Ph.D
- K Curriculum Vitae of Jon Fennell, Ph.D.
- L Submissions of Dave Klepacki & CV
- L1 Additional Submissions of Dave Klepacki – Erosion
- M Golder & Associates, Bow, Elbow, Highwood, & Sheep River Hydrology Assessment, dated September 2020 (DRAFT)
- N Evidence of Allan Locke, P.Biol.
- O Curriculum Vitae of Allan Locke, P. Biol.
- P Silt Deposition Photos

- Q Evidence of Brian Zelt, Ph.D
- R Curriculum Vitae of Brian Zelt, Ph.D
- S Evidence of Cliff Wallis, P.Biol.
- T Curriculum Vitae of Cliff Wallis, P.Biol.
- U Evidence of Terry Osko, Ph.D
- V Curriculum Vitae of Terry Osko, Ph.D
- W Additional Documents