

# *Springbank Off-Stream Reservoir Project*

ENGAGEMENT ON THE DRAFT ENVIRONMENTAL  
ASSESSMENT REPORT



Agence d'évaluation  
d'impact du Canada

Impact Assessment  
Agency of Canada

Canada 

# Housekeeping

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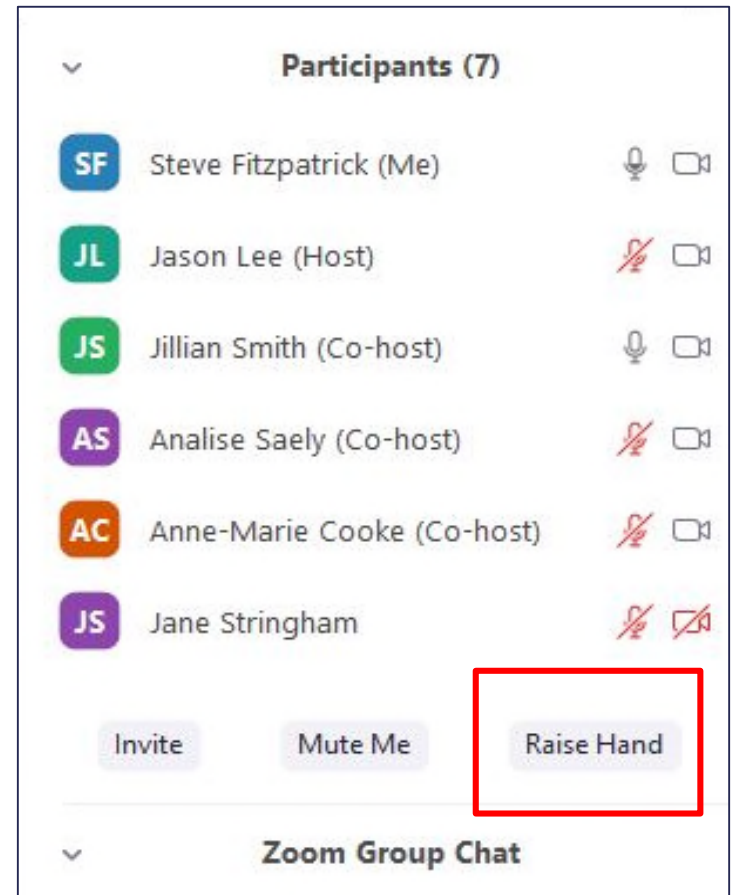
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# Presentation Outline

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- Objectives of the engagement sessions
- Federal Environmental Assessment Process under the *Canadian Environmental Assessment Act* (CEAA 2012)
- Themes – Key Findings and Mitigation Measures
- Potential Conditions
- Next Steps



# Virtual Public Session Objectives

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- Inform the public of the:
  - Environmental Assessment Findings
  - Potential conditions
- Provide an opportunity for the public to ask questions to:
  - The Agency
  - The Expert Committee
- Understand the public's concerns and comments on:
  - The Draft Environmental Assessment Report
  - The Potential Conditions document



# Project Location



# Proponent and the Project

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- Alberta Transportation (the Proponent) is proposing the construction of an off-stream storage reservoir, which includes a diversion channel, dam structures and outlet structures approximately 15 kilometers west of Calgary, Alberta.
- The diversion channel is designed to convey a peak diversion flow of approximately 600 m<sup>3</sup>/s during extreme flood events towards a natural floodplain that will act as a storage reservoir. The reservoir will remain dry until a flood event occurs and would store up to 77 771 000 m<sup>3</sup> of diverted water at maximum capacity. Diverted water would be gradually returned to the Elbow River once flooding has subsided.
- The Project is designed to prevent or reduce flood damage to the City of Calgary.
- The Project is scheduled to be functionally operational within 36 months of commencement of construction. There are no plans to expand or decommission the Project in the foreseeable future.





# Environmental Assessment Type

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- The Project is a designated activity pursuant to the Regulations Designating Physical Activities under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) as the Project involves the diversion of more than 10,000,000 m<sup>3</sup>/year of water from one natural water body (Elbow River) into another natural water body (existing wetland in the destination natural drainage area).
- The EA is being conducted by the Agency.
- At the end of this EA, the Minister of Environment and Climate Change must determine if, taking into account the implementation of any mitigation measures that the decision maker considers appropriate, the designated project is likely to cause significant adverse environmental effects in areas of federal jurisdiction.



# Parameters Assessed under CEAA 2012

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- Environmental effects in areas of federal jurisdiction:
  - migratory birds, fish, marine mammals and marine plants
  - federal lands (e.g. federal port, national park)
  - transboundary (e.g. other province or country)
  - impacts of changes in the environment on Indigenous peoples (e.g. fishing, hunting, cultural and spiritual practices)
  - effects linked to federal authorizations (e.g. *Fisheries Act*)
- Factors including:
  - cumulative environmental effects
  - accidents and malfunctions
  - community and Indigenous knowledge
  - significance of residual environmental effects (i.e. effects remaining after mitigation measures are applied)



# Federal Authorities

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- Environment and Climate Change Canada
- Fisheries and Oceans Canada
- Health Canada
- Indigenous Services Canada
- Infrastructure Canada
- Natural Resources Canada
- Transport Canada

# Authorizations and Federal Authorities

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- Authorization(s) under the *Fisheries Act*
- Potential permitting under the *Canadian Navigable Waters Act*
- Infrastructure Canada will issue funding for the construction of the Project.



# Provincial Requirements

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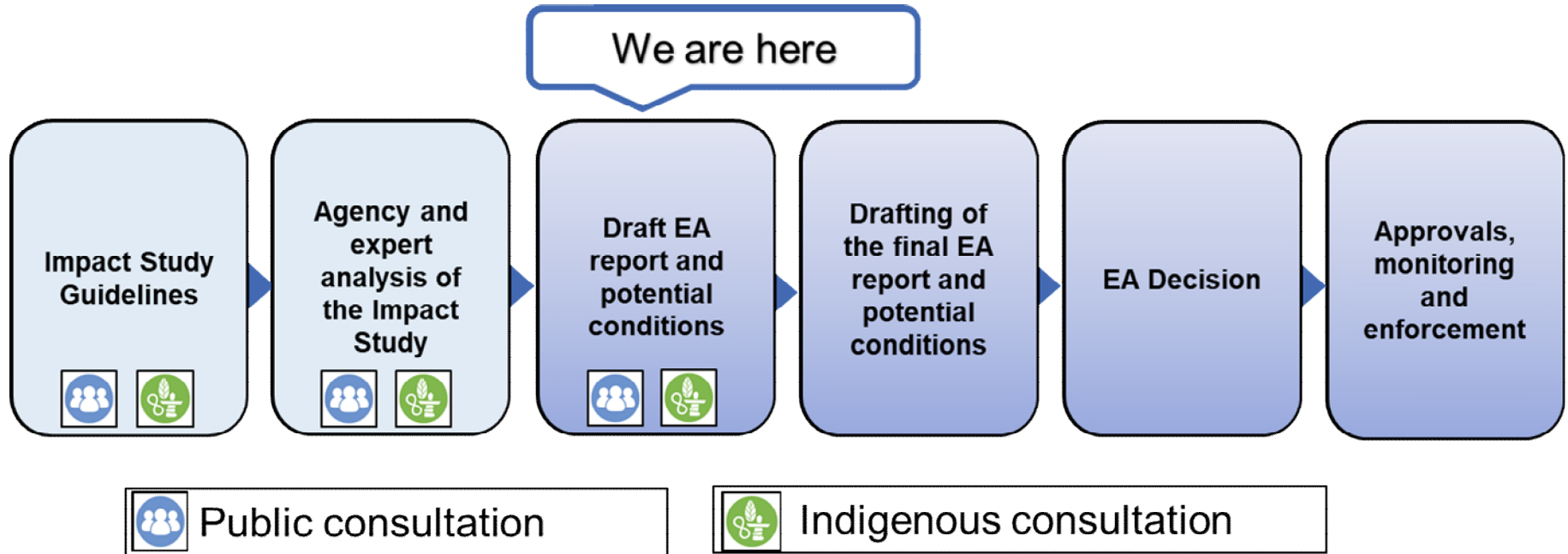
- The Project is subject to a provincial environmental impact assessment under the Alberta *Environmental Enhancement and Protection Act*.
- The Alberta Natural Resources Conservation Board will make a public interest decision on the Project.

# Current Status

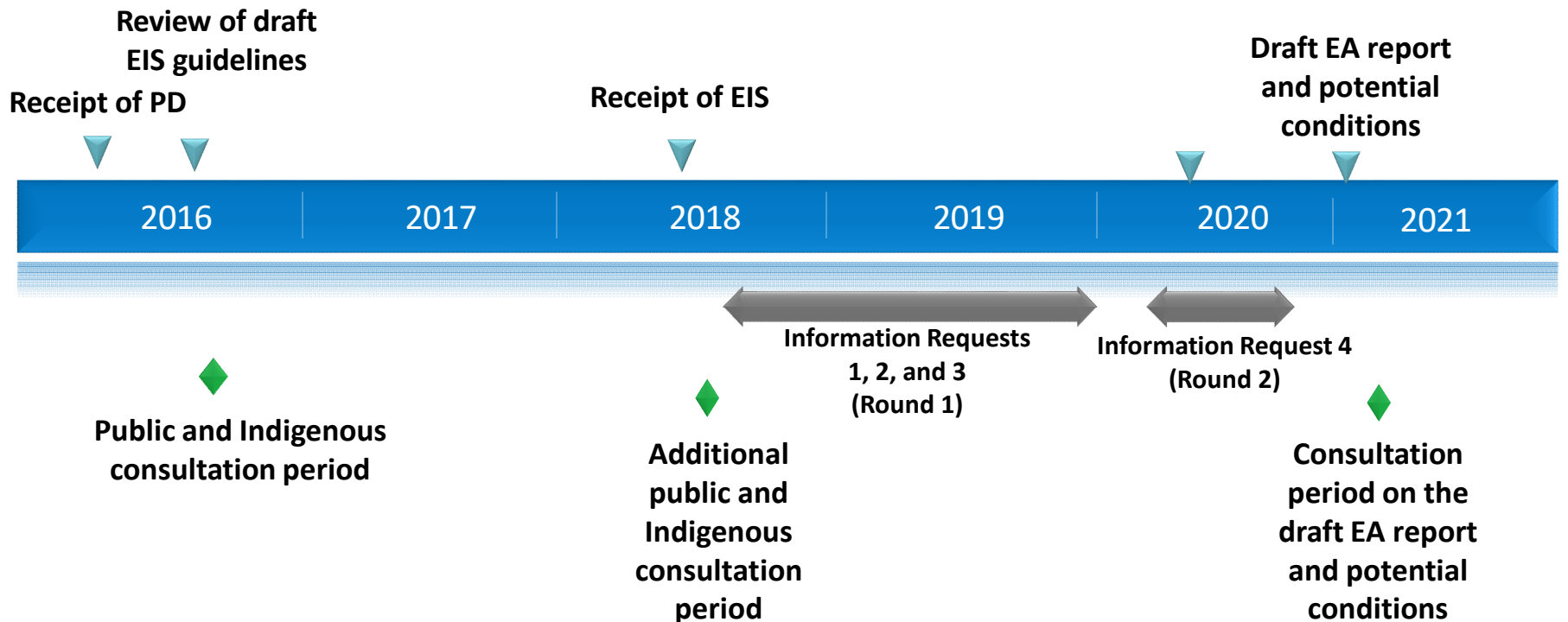
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- The Agency undertook a technical review of the EIS and determined that there were several areas where information was still required to understand the Project's effects to areas of federal jurisdiction.
- The Agency issued four packages of information requests to Alberta Transportation between June 2018 and March 2020.
- Alberta Transportation responded to the various rounds of information requests, with the final information submitted October 22, 2020.
- The Agency posted the draft EA Report on January 4, 2021.

# Environmental Assessment Process



# Key Milestones





# Agency's draft EA Report content

Aspects discussed in the draft EA report:

<b>Atmospheric Environment</b>	<b>Groundwater and Hydrogeology</b>	<b>Surface Water and Hydrology</b>
<b>Terrestrial Environment</b>	<b>Fish and Fish Habitat</b>	<b>Migratory Birds</b>
<b>Species at Risk</b>	<b>Indigenous Peoples' Current Use of Lands, Cultural Heritage, and Sites of Significance</b>	<b>Indigenous Peoples' Health and Socio-economic Conditions</b>
<b>Federal Lands</b>	<b>Accidents and Malfunctions</b>	<b>Cumulative Effects</b>
<b>Impacts to Rights</b>		



# Atmospheric Environment

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## Potential Residual Effects:

- Residual effects of fugitive dust are anticipated to be moderate to high in magnitude during construction; however, the effects would be local in extent and reversible in the long-term.
- The Agency acknowledges that there would be a low recurrence of floods that result in extensive sediment deposition and based on the proposed mitigation measures and adaptive management, effects would be local in extent and reversible in the long-term for both flood and post-flood phases.

# Atmospheric Environment

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## Key Mitigation and Follow Up Measures:

- Limitations on discharges of atmospheric contaminants.
- Maintenance and best management practices for engines and exhaust systems.
- Re-vegetation post-construction.
- Application of water or other suppressants for dust.
- Erosion control methods.
- Noise limits for blasting.
- Use of tackifiers when revegetation is slow or unsuccessful.
- Air quality monitoring will include:
  - continuous construction nitrogen dioxide (NO<sub>2</sub>) monitoring;
  - continuous total suspended particles monitoring throughout all project phases;
  - continuous fine particulate matter (PM<sub>2.5</sub>) monitoring throughout all project phases; and
  - continuous meteorology monitoring for wind speed, wind direction, temperature and other variables throughout all project phases.
- Monitoring details and results will be made available to nearby residents and reported to the Environmental Coordinator.



# Atmospheric Environment

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## Key Mitigation and Follow Up Measures:

- Finalization of an air quality management plan in consultation with Environment and Climate Change Canada and Health Canada.
  - Use of Canadian Ambient Air Quality Standards as targets.
  - It will describe mitigation measures that will be implemented, monitoring methods, and adaptive management methods if criteria air contaminants exceed targets.
  - Include a monitoring location within the community of Springbank.
- Implementation of a formalized complaint-response protocol with monitoring and mitigation measures defined in the event of complaints.
- Throughout construction, flood, and post flood operations, applicable measured pollutant concentrations will be evaluated monthly against the 2020 Canadian Ambient Air Quality Standards to trigger investigation and reporting.
- If exceedances in Canadian Ambient Air Quality Standards are noted, additional mitigations to reduce air emissions will be implemented. These include the suspension of construction activity, increased watering of access roads or the spraying of surfactants, during the construction phase; and the spraying of surfactants during the post-flood phase.

# Groundwater and Hydrogeology

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## Potential and Residual Effects:

- The Project has the potential to result in changes to hydrogeology and groundwater that may impact groundwater-dependent traditional uses and culturally sensitive areas, drinking water, and water used for domestic purposes.
- Changes to groundwater resulting from the project are low magnitude, local, intermittent, short-term, and reversible, with the application of the mitigation, monitoring, and follow-up measures.

# Groundwater and Hydrogeology

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## Key Mitigation and Follow Up Measures:

- Construction dewatering will be in accordance with regulatory terms and conditions.
- A Care of Water Plan will be developed for use of cofferdams, pumping systems, sumps, pipelines, channels, flumes, drains, and other dewatering work.
- Existing water wells within the reservoir footprint will be decommissioned and plugged off.
- Finalization of a Groundwater Monitoring Plan prior to construction
  - Water well monitoring locations:
    - in between the Project and Tsuut'ina IR 145
    - within or immediately adjacent to Project infrastructure, around the perimeter of the reservoir, outside the Project footprint, and between the Project and potential receptors
  - Steps and follow-up actions for exceedances in *Canadian Drinking Water Quality Guidelines*



# Surface Water and Hydrology

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## Potential and Residual Effects:

- The Agency acknowledges that the Project will cause residual effects to surface water quality and modify the hydrology of the Elbow River during high flows by temporarily diverting and retaining water.
- The Agency understands that depending on the size of the flood and time retained within the reservoir, potential residual effects to aquatic life exist.



# Surface Water and Hydrology

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## Key Mitigation and Follow Up Measures:

- Insolation of any instream work areas.
- Control of total suspended solids by using erosion and silt control measures and turbidity barriers.
- Transportation of hazardous material in accordance with regulatory requirements.
- Construction vehicle cleaning and maintenance requirements
- Fuel storage requirements.
- Re-establishment of surface drainage patterns after construction.
- Reclamation and re-vegetation of disturbed bank and riparian areas after construction
- Sediment laden dewatering discharge will be pumped into a vegetated area or settling basin prior to returning into a waterbody.



# Surface Water and Hydrology

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## Key Mitigation and Follow Up Measures:

- Diversion channel outfall and low-level outlet will include erosion protection and energy dissipation blocks to control flows
- Baseline mercury and methylmercury sampling will be conducted prior to construction.
- During reservoir operation, monitoring of water quality will be conducted in the reservoir, in the low-level outlet, and in the Elbow River both upstream and downstream of the Project.
- Monitoring of effects to the Elbow River will be conducted post-flood. Advisories and information will be provided to downstream users.
- Adaptive management measures for water quality will be implemented as additional settling during drawdown may be necessary.

# Terrestrial Landscape

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## Potential and Residual Effects:

- The loss of terrestrial habitat due to the Project would be site specific and partially reversible, as areas cleared during construction will be revegetated. However, habitat types in the LAA would be modified.
- Habitat loss due to flooding would be site specific, intermittent, and partially reversible as natural vegetation regrowth and revegetation will occur. The long-term persistence and viability of wildlife species are unlikely to be affected from habitat loss and alteration caused by the Project.



# Terrestrial Landscape

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## Key Mitigation and Follow Up Measures:

- Construction and maintenance activities will be restricted to the reservoir footprint to reduce the area of disturbance.
- Avoidance of wetlands where possible and minimization of disturbance to wetlands.
- Revegetation will be done using species of interest for traditional and medicinal use based on discussions with Indigenous nations and stakeholders.
- Progressive reclamation during construction.
- Topsoil stripped during construction will be stockpiled for future use in the reclamation of disturbed areas.
- Pre-construction wildlife surveys will be conducted to establish species-specific mitigation measures.



# Terrestrial Landscape

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## Key Mitigation and Follow Up Measures:

- Setback buffers from active nests or dens will be established.
- Restricted activity periods will be avoided for construction and maintenance activities.
- A wildlife rescue program will be developed.
- Where possible, reduce water retention time in the off-stream reservoir.
- A terrain and soils follow-up program will consist of erosion and sediment monitoring.
- Operation and maintenance plan for the reservoir would include sediment stabilization and debris management.
- Weed control and monitoring.
- Wildlife mitigation and remote camera monitoring program will be implemented.

# Fish and Fish Habitat

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## Potential and Residual Effects:

- The Agency recognizes that the flooding of the reservoir would result in residual effects to fish and their habitat due to changes in hydrological regime, sediment transport dynamics, and surface water quality. These changes could also alter or destroy fish habitat, which may result in the direct or indirect death of fish.
- Fish mortality would be limited to the area flooded, and would only occur when a flooding in the Elbow River exceeds 160 m<sup>3</sup>/s. The Agency notes that fish mortality is irreversible, but does not anticipate a change to the status of regional fish populations (moderate magnitude).
- Residual effects on fish habitat may result in changes to fish movement and reductions in fish abundance; however, this is not anticipated at the population level. Additionally, no residual changes to the critical habitat of species at risk are anticipated.

# Fish and Fish Habitat

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## Key Mitigation and Follow Up Measures:

- Works in water would be timed with respect to the restricted activity periods and isolated from the watercourse by using silt fences, turbidity barriers, and clean granular berms.
- Fish passage will be maintained throughout construction through the use of a temporary bypass channel.
- Stream depths will be managed downstream of the spillway through the use of rock-v-weirs to maintain fish passage.
- Isolation barriers will be removed gradually to equalize water levels.
- Water intake pipes will be screened to prevent entrainment or impingement of fish.
- Debris would be cleaned from structure gates after flooding.
- Drainage areas within the reservoir would be graded to reduce stranding of fish.
- Drawdown will be controlled to avoid soil erosion and maintain slope stability.





# Fish and Fish Habitat

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## Key Mitigation and Follow Up Measures:

- Fish rescue and contingency plan will be developed and implemented post flood.
  - Isolated pools will be identified and marked
  - Monitoring in and around the off-stream reservoir to observe any congregation and fish movement.
  - Low-level outlet will be surveyed.
  - Fish will be rescued and relocated to secure habitats in the Elbow River
- Post-flood maintenance will include grading areas to prevent fish stranding.
- Offsetting measures for Project effects on fish and fish habitat, including direct instream and riparian habitat destruction, will be developed and employed in consultation with Fisheries and Oceans Canada and Indigenous nations. A *Fisheries Act* authorization will be obtained prior to construction.



# Fish and Fish Habitat

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## Key Mitigation and Follow Up Measures:

- A follow up and monitoring program for fish and fish habitat will be developed in consultation with Fisheries and Oceans Canada and Indigenous nations prior to construction. The follow up and monitoring program will include:
  - At a minimum, weekly monitoring of temperature and dissolved oxygen throughout the reservoir to be conducted during each flood operation to verify the accuracy of modelling. Ongoing reporting of the results of this monitoring will be provided to Fisheries and Oceans Canada.
  - After each flood event, monitoring of sediment deposition downstream of the low level outlet channel will be conducted to verify the accuracy of modelling. Results of this monitoring will be provided to Fisheries and Oceans Canada.
  - During flood operations, accumulation of woody debris on the debris deflector will be monitored. Post-flood, any accumulated woody debris will be moved downstream of the diversion gates when safe to do so.
  - Monitoring during draw down to determine the soonest possible optimal timing for fish rescue.
  - Indigenous nations will be provided the opportunity to participate in the implementation of the fish rescue plan.

# Fish and Fish Habitat

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## Key Mitigation and Follow Up Measures:

- Baseline fish food web sampling will be carried out prior to flooding both upstream and downstream of the Project for:
  - One top predatory fish species.
  - One lower food web fish.
  - Invertebrates that represent a key fish food source.
- Repetition of the food web sampling will be carried out every one to three years after flooding, with frequency dependent on initial results.



# Migratory Birds

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## Potential and Residual Effects:

- Flooding of the reservoir would result in residual effects to migratory birds and their nests. Migratory bird mortality would be limited to the area flooded, and would only occur when a flooding in the Elbow River exceeds 160 m<sup>3</sup>/s. The Agency notes that migratory bird mortality is irreversible, but does not anticipate a change to the status of regional migratory bird populations (moderate magnitude).
- While the Project would result in migratory bird mortality from construction, flood, and post-flood phases of the Project, the Agency concludes that residual effects to migratory birds from direct mortality during construction would be negligible after the implementation of mitigation measures.



# Migratory Birds

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## Key Mitigation and Follow Up Measures:

- Use of previously disturbed areas for temporary workspaces and access roads.
- Avoidance of lighting surrounding work sites during evening hours.
- Pre-construction surveys to identify wildlife features and develop site-specific mitigation.
- Vegetation removal will be avoided during the migratory bird breeding season and restricted activity periods.
- Construction and maintenance activities will be reduced in the Key Wildlife and Biodiversity Zone along the Elbow River.
- Progressive reclamation during construction.
- No tall structures in the Project Development Area.
- Nest searches will be conducted by a qualified wildlife biologist for debris removal and sediment clean up, if it occurs more than 7 days post reservoir draining.

# Migratory Birds

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## Key Mitigation and Follow Up Measures:

- Develop a rescue protocol with provincial and federal regulators, and Indigenous nations, including participation by Indigenous nations through the Project's Indigenous Participation Plan.
  - As feasible, all chicks and eggs will be rescued and transported to a local wildlife rescue centre(s) prior to a flood operation.
  - Flood forecasting to support migratory bird rescue effort planning.
  - Identify priority habitat areas based on estimated breeding bird densities and habitat types within the reservoir (grassland, wetlands and shrublands along the unnamed creek within the reservoir).
  - Identify salvage locations through pre-construction nest searches and inventory surveys completed regularly at approximate intervals of every five years through the predicted operational life of the project, in consideration of the predicted variable extent and rate of reservoir flooding in operation.
  - Engage with local wildlife rescue centre(s) and act under wildlife permits (e.g., collection license) in undertaking salvage activities for authorized wildlife species.

# Migratory Birds

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## Key Mitigation and Follow Up Measures:

- Implement setback buffers identified within Alberta Transportation's Environmental Impact Statement and information request responses for migratory bird species when a nest is identified during construction and dry operations.
- Monitor any interactions between Project activities and birds and nests including species of cultural importance and species at risk to determine the effectiveness of mitigation measures to avoid harm to migratory birds, their eggs and nests.





# Species at Risk

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## Potential and Residual Effects:

- The Agency recognizes that the flooding of the reservoir will result in residual effects to the little brown myotis and amphibian species at risk and their habitats.
- No effects to the critical habitat of the species at risk were identified.
- The proponent would take appropriate actions to anticipate potential flooding events and planning to rescue and relocate amphibians, where possible. Species at risk mortality would be limited to the area flooded, and would only occur when a flooding in the Elbow River exceeds 160 m<sup>3</sup>/s.



# Species at Risk

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## Key Mitigation and Follow Up Measures:

- Mitigation discussed in the migratory birds section also applies to species at risk.
- If nests, eggs, dens, or roosts are found, species specific mitigation would be developed in consultation with Environment and Climate Change Canada.
- Appropriate setback distance for identified wildlife features will be determined by appropriate regulatory authorities.
- Disturbed land will be reclaimed to equivalent land capability
- During maintenance activities in the off-stream reservoir, all semi-permanent and permanent waterbodies would be avoided within 100 metres of the reservoir.
- Identified wildlife features will be avoided during construction.
- Silt fencing will be installed round the perimeter of wetlands when construction activities occur within 100 m of an amphibian species of management concern.
- Use of wildlife-friendly fencing.
- Construction of wildlife underpass.
- Reclamation of wetlands using appropriate native seed mix.

# Species at Risk

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## Key Mitigation and Follow Up Measures:

- Development and implementation of a wildlife mitigation and monitoring plan
  - Including a remote camera program to monitor wildlife movement and project effects to wildlife.
- Development and implementation of a migratory bird and species at risk rescue program.
  - Amphibian species at risk will be relocated if identified during salvage program.
  - Priority habitat for amphibian species at risk, including graminoid marshes, wetlands, and open water will be targeted.
  - To account for changes in habitat over time, the reservoir will be surveyed at regular intervals of approximately five years to update the understanding of habitat conditions and to recharacterize high priority areas.



# Indigenous Peoples' - Access for Current Use

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## Potential and Residual Effects:

- During flood and post-flood recovery periods, residual effects on access for current use in the PDA would be localised, high in magnitude, and long-term until access in the Land Use Area can safely resume. The Agency recognizes that the occurrence of residual effects would be infrequent given that the likelihood of a 1:100 year and design flood event is low.

# Indigenous Peoples' - Access for Current Use

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## Key Mitigation and Follow Up Measures:

- Finalize the Land Use Plan in consultation with Indigenous nations that prioritizes access and use by Indigenous nations to areas within the PDA. Develop maps to indicate locations within the project area that are available for unimpeded use by Indigenous nations.
- Establish a portion of land near or within the Land Use Area for a dedicated Indigenous nations' staging area.
- Establish an Indigenous Land Use Advisory Committee to support the development and implementation of the Land Use Plan.
- Establish a portage route around project infrastructure and safety signage in consultation with Transport Canada.
- Prior to construction and in consultation with Indigenous nations, develop a follow-up program to verify the accuracy of the environmental assessment and to determine the effectiveness of mitigation measures as it pertains to the adverse environmental effects of the Project on the current use of lands and resources for traditional purposes. The follow-up program will be implemented during all phases of the Project to verify that the Land Use Plan is being carried out as intended and that the recommendations and advice from the Indigenous Land Use Advisory Committee are being considered.

# Indigenous Peoples' - Access for Current Use

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## Key Mitigation and Follow Up Measures:

- The Agency recommends that the proponent grant Métis citizens access to the Land Use Area to carry out cultural practices to mitigate project effects to Métis citizens. The Agency also recommends that the proponent support the Métis Nation of Alberta – Region 3's participation in the Indigenous Land Use Advisory Committee.
- The Agency understands that Indigenous nations will be provided with the necessary capacity, such as technical and financial support, to meaningfully participate in the Indigenous Land Use Advisory Committee and to carry out monitoring activities.
- The Agency proposes that monitoring and follow-up programs be implemented during all phases of the Project to verify that the Land Use Plan is being carried out as intended and that the recommendations and advice from the Indigenous Land Use Advisory Committee are being considered.



# Indigenous Peoples' - Physical and Cultural Heritage Resources and Sites of Significance

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## Potential and Residual Effects:

- The Agency acknowledges that some sites of importance and cultural heritage resources would be permanently lost, altered, or inaccessible and that the requirements mandated under the Alberta *Historical Resources Act* may not fully mitigate or protect these sites and resources.

# Indigenous Peoples' - Physical and Cultural Heritage Resources and Sites of Significance

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## Key Mitigation Measures:

- Retain monitors from Indigenous nations before and during project disturbance to enforce assessment and chance find protocols.
- Conduct ceremonies led by Indigenous nations prior to construction commencement.
- Facilitate discussions between Alberta Culture and Tourism and Indigenous nations regarding Indigenous site locations, further investigation, and mitigation options for sites disturbed by the Project.
- Prior to construction, develop a follow-up program to support the gathering of traditional knowledge and verification of sites of importance; where there is a project interaction with Indigenous use sites and areas, implement adaptive management measures to incorporate traditional knowledge in accordance with the protocols of respective Indigenous nations.
- Develop a communication and engagement plan in consultation with Indigenous nations. As part of this plan, notify Indigenous nations of project activities and schedules, project maps and final design components.





# Indigenous Peoples' - Availability and quality of resources for current use

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## Potential and Residual Effects:

- The Agency is of the view that residual effects to resource availability and quality for current use during construction and dry operations is predicted to be low in magnitude, extend to the RAA, and be long-term. Residual effects would be irreversible in areas of restricted access.
- During flood and post-flood operations, the magnitude of residual effects to the availability and quality of resources for current use would be moderate to high. The geographic extent of these residual effects is regional and long-term. Residual effects would be reversible until vegetation types and wildlife habitat sufficiently recovers for cultural practices to resume. While these residual effects may be high in magnitude, they would be infrequent recognizing that a 1:100 year and design flood is a low probable event.
- Given the proponent's Land Use Plan that ensures access and prioritizes use for Indigenous nations within the PDA, the Agency is of the view that the magnitude of residual effects on resource availability for current use will be greatly minimized.

# Indigenous Peoples' - Availability and quality of resources for current use

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## Key Mitigation Measures:

- Provide opportunities for Indigenous nations to conduct pre-construction field visits to harvest and relocate plants of cultural significance.
- Develop the revegetation plan (post construction, and post-flood), wildlife rescue plan, surface water quality monitoring plan, wildlife mitigation and monitoring plan, fish rescue plan, and fish offsetting plan in consultation with Indigenous nations. Provide Indigenous nations with the opportunities to participate in implementing these plans and monitoring activities.
- Prior to construction and in consultation with Indigenous nations, develop a follow-up program to verify the availability and quality of resources in areas where changes to the environment may occur due to the Project. Implement adaptive management measures as required.

# Indigenous Peoples' - Quality of Experience

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## Potential and Residual Effects:

- During construction and dry operations, the Agency is of the view that residual effects to the quality of experience would be low in magnitude. Nuisance disturbances, interactions with land users, changes to aesthetics from project infrastructure, and access restrictions will be localised and long-term in duration.
- During flood and post-flood operations, the Agency is of the view that residual effects to the quality of experience would be high in magnitude. This high rating is due to: drastic changes in aesthetics, potential for increased mortality risk of culturally important species, and change in the cultural and spiritual connection with the land from the loss or alteration of sites of importance. While these residual effects may be high in magnitude, the Agency recognizes that the occurrence of residual effects would be infrequent given that a 1:100 year and design flood is a low probable event.

# Indigenous Peoples' - Quality of Experience

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## Key Mitigation and Follow Up Measures:

- Avoid key traditional harvesting periods.
- Develop and implement, in consultation with Indigenous nations, cultural awareness training for all employees associated with the Project, ensuring that the training is delivered by Indigenous nations.
- Should the Project proceed, the Agency proposes that the proponent continue its engagement with Indigenous nations to support the gathering of traditional knowledge for the duration of the Project to inform changes to and/or include additional mitigation measures, as necessary. The Agency also proposes that the proponent work toward addressing these ongoing concerns by finalizing an Indigenous Participation Plan for each affected Indigenous nation.

# Indigenous Peoples' Health

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## Potential and Residual Effects:

- The Agency anticipates residual effects to health during construction to be adverse and of high magnitude. However, the Agency anticipates these effects to occur at an irregular frequency, to be reversible, and to occur within a resilient ecological/socio-economic context.
- Residual effects to health during flood and post-flood operations are anticipated to be low in magnitude, short term duration, occurring at irregular frequency, and reversible.

## Key Mitigation and Follow Up Measures:

- The Agency supports the key mitigation measures as outlined in the Atmospheric Environment, Groundwater, and Surface Water slides.



# Indigenous Peoples' - Socio-economic Conditions

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## Potential and Residual Effects:

- The Agency notes that the residual Project effects on Indigenous peoples' socio-economic conditions are partially dependent on the magnitude of flooding events.
  - The residual effects during a 1:10 year flood would be moderate, leading to changes in the behaviours required for carrying out traditional activities but they would not be compromised overall, as most areas would remain open to use.
  - However, a 1:100 flood or design flood event would lead to noticeable changes in the behaviours required for carrying out traditional activities in regularly used areas. The traditional activity would be compromised or no longer possible until revegetation and any necessary reclamation would be sufficiently advanced. The Agency considers this to be a high magnitude event but, since the impact is site specific, overall the event would not cause significant adverse environmental effects.

# Indigenous Peoples' - Socio-economic Conditions

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## Key Mitigation and Follow Up Measures:

- The purposeful inclusion of Indigenous nations in the economic benefits of the project, including training, employment and contracting opportunities.
- Proponent support of programming within Indigenous nations to strengthen the transmission of Indigenous ways of life and cultures to current and future generations.



# Federal Lands

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## Potential and Residual Effects:

- The Agency has not predicted residual effects on federal lands.

## Key Mitigation and Follow Up Measures:

- As a part of the Groundwater Monitoring Plan, the proponent will include water well locations in between the Project and Tsuut'ina. Results of the monitoring of these wells will be communicated with Tsuut'ina.



# Effects of Accidents and Malfunctions

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## Potential and Residual Effects:

- The Agency is of the view that most accidents and malfunctions, particularly those that could potentially result in serious environmental effects, are unlikely to occur and, with proper preparation, response, and mitigation measures, could be managed and dealt with sufficiently.

# Effects of Accidents and Malfunctions

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## Key Mitigation and Follow Up Measures:

- Refueling areas will be at least 100 m from waterbodies.
- Various materials, including fuel and lubricating oils, will have storage requirements.
- Equipment and project components will be maintained to applicable standards and tested annually.
- Worker health, safety, and environment training.
- Transportation of hazardous materials will be in accordance with regulatory requirements.
- Slope stability will be monitored and channel banks will be revegetated to improve stability.
- Soil will not be stockpiled at high slopes to reduce sliding and sloughing.
- Back-up generators will be available to power all electrically-powered components.
- Should a pipeline rupture occur, contaminated water will be held in the reservoir and not released back into the Elbow River until applicable guidelines are met.
- A shoreline clean up and assessment program will be developed to evaluate areas affected by an accident or malfunction.

# Effects of Accidents and Malfunctions

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## Key Mitigation and Follow Up Measures:

- Prior to construction, the proponent will develop an accident and malfunction response plan that includes:
  - the types, location, and quantities of all substances expected to be stored within the project development area that may cause adverse environmental effects in case of a spill;
  - a description of the types of accidents and malfunctions that may cause adverse environmental effects during any phase of the Designated Project, including fire, spills and overtopping, failure or breach of the auxiliary spillway; and
  - the measures to be implemented in response to each type of accident and malfunction to mitigate any adverse environmental effect caused by the accident or malfunction.

# Effects of the Environment on the Project

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## Potential and Residual Effects:

- Climate change may result in floods of a higher frequency and size than anticipated; however, the Project is designed to manage a flood of the design flood volume and has additional capacity if needed. The Agency is of the view that the project design and mitigation measures proposed by the proponent would avoid or reduce potential effects.

# Effects of the Environment on the Project

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## Key Mitigation and Follow Up Measures:

- Develop and implement contingency and emergency response plans, including stopping work if conditions are unsafe.
- Establish exclusion zone around the Project for commercial operations that may result in induced seismic events.
- Monitoring of seismic activity within 25 km of the Project.
- Repair any damage caused by the environment.
- Prior to construction, the proponent would update the probable maximum precipitation modelling to:
  - ensure parameters are within a reasonable range;
  - account for precipitation variation that occurred during the 2013 flood; and
  - include the important features of the spatial and temporal evolution of the 2013 flood.

# Cumulative Environmental Effects

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## Potential and Residual Effects:

- The Agency is of the view that, after taking into consideration the effects of the Project and their interactions with effects from past, existing, and reasonably foreseeable projects or activities identified in Alberta Transportation's EIS and information request responses, the Project is not likely to cause significant adverse cumulative effects on fish and fish habitat, migratory birds, and Indigenous peoples' current use of lands and resources for traditional purposes.

# Impacts to Rights

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## Potential and Residual Effects:

- Should the Project proceed, the Agency acknowledges that the Project is likely to cause changes to the exercise of rights. This includes, but is not limited to: low severity of impacts on the right to hunt, trap, and fish, and low to moderate in severity on the right to cultural practice.
- Taking into account mitigation and follow-up program measures to be included as conditions of approval, the Agency is of the view that the potential impacts of the Project on Aboriginal or Treaty rights would be appropriately mitigated. The application of mitigation and follow-up program measures should allow the continued exercise of Aboriginal and Treaty rights of Indigenous nations in a similar manner as before the Project. However, the Agency recognizes that discussions with each nation regarding accommodations are still ongoing.

# Potential Conditions

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- Enforceable conditions to avoid significant environmental effects based on the key mitigation measures discussed above;
- Requirements for consultation with potentially affected parties and Indigenous nations;
- Requirements for requested follow-up programs, including the filing of an annual report to the Agency;
- Publication of annual follow-up reports on the Canadian Impact Assessment Registry;
- Requirement for the proponent to make annual reports available on its website.



# Public engagement

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- Public engagement period from January 4 – February 3, 2021
- The Agency would like to receive your comments online, on the Canadian Impact Assessment Registry (CIAR): [Canada.ca/CIAR](https://Canada.ca/CIAR)  
(Registry Number 80123)



# Next Steps in the Environmental Assessment Process

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- Preparation of final EA Report, which considers public and Indigenous Nations comments on:
  - Environmental Assessment Report
  - Potential conditions;
- Provided to Minister of Environment and Climate Change for Decision
- Minister's decision:
  - Project is/is not likely to cause significant adverse environmental effects;
  - Referral to the Governor in Council in the case of significant adverse effects.



# Thank you!

Submit comments:

- Canadian Impact Assessment Registry:  
reference number 80123 <https://iaac-aeic.gc.ca/050/evaluations/proj/80123>
- By Email  
[IAAC.Springbank.AEIC@canada.ca](mailto:IAAC.Springbank.AEIC@canada.ca)



# Annex 1: Additional Information



# Dates for Key Milestones

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- Receipt of Project Description: April 28, 2016
- Notice of Commencement of federal environmental assessment: June 23, 2016
- Public comment period on draft EIS Guidelines: July 25, 2016
- Final EIS Guidelines issued: August 10, 2016
- EIS received – March 29, 2018
- EIS public comment period – April 30, 2018 – June 15, 2018
- Agency issued information requests - Round 1 Package 1, 2, and 3 – June 29, August 20, August 31, 2018
- Alberta Transportation submitted responses to Round 1 information requests – June 14, 2019
- Agency identified gaps in the information request responses and issued additional questions – July 16, August 6, August 21, 2019.
- Alberta Transportation submitted additional information – November 5, December 10, December 16, 2019
- Agency issued information requests – Round 2 – March 23, 2020
- Alberta Transportation submitted responses to Round 2 information requests – October 22, 2020
- Public comment period on the draft Environmental Assessment Report and draft Potential Conditions – January 4 – February 3, 2021

