MD OF ACADIA & SPECIAL AREAS JOINT IRRIGATION STUDY

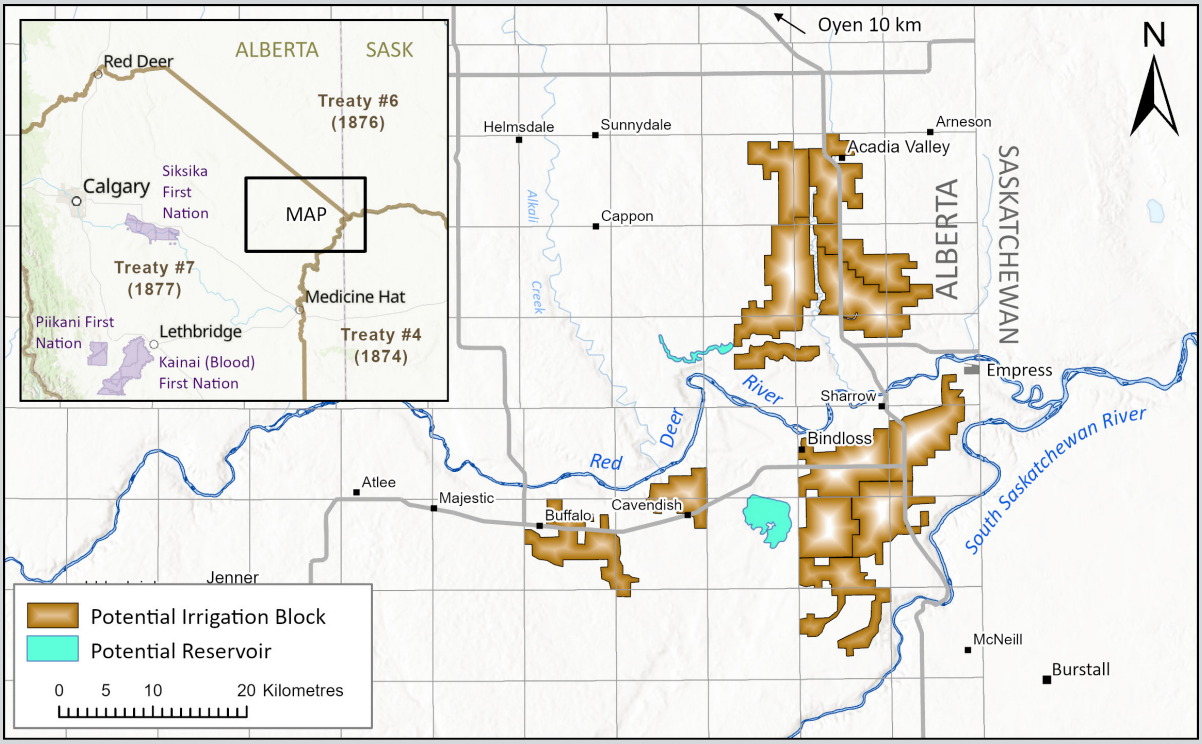
Quarterly Project Update | Issue No. 1 | November 2023

A MESSAGE TO OUR READERS

In March 2021, the Government of Alberta, Canada Infrastructure Bank (CIB), MD of Acadia (MDA), and Special Areas Board (SAB) reached a Memorandum of Understanding (MOU) to assess the technical and financial feasibility of irrigation expansion in east-central Alberta. A Phase 1 project feasibility report was completed in 2022 and work has now entered the second phase.

This Quarterly Update document is the first in a series of status updates for the second phase of the project.

CONCEPTUAL PROJECT SITE MAP



CONSULTANTS ENGAGED FOR NEXT PHASE OF WORK

Project Managers / Water Availability Specialists

Following a competitive selection process, WaterSMART Solutions Ltd. (WaterSMART) was re-engaged as the project manager and water availability analysis lead for the MD of Acadia & Special Areas Joint Irrigation Project. WaterSMART was previously engaged as the project manager in Phase 1 of the project, and authored the Phase 1 project feasibility report. WaterSMART is a niche strategic and engineering consulting and project management company with deep domain expertise and understanding of water in Alberta. WaterSMART is committed to exploring the financial and technical feasibility of this project.

Engineering Consultant Team

Following a competitive selection process, in July 2023, Associated Engineering and Clifton Engineering Group, together with Boost Energy, Wilde Brothers Engineering & Surveys, Scott Land & Lease, SG1 Water Consulting, and TROUT Hydrography (the AE-Clifton Team) were engaged as the engineering consultant team for the second phase of the MD of Acadia & Special Areas Joint Irrigation Project. The AE-Clifton team comprises western-Canadian employee-owned businesses focused on making this project successful. The team has technical expertise in irrigation design, permitting, licensing, and operations for complex irrigation systems in Alberta and beyond. They are committed to engaging with local landowners, businesses, Indigenous groups and others interested in the project.

PHASE 2 PROJECT TEAM

Project Management:

waterSMART Water Management Solutions

Water Availability:

waterSMART Water Management Solutions

Water Availability Assessment and Modelling

Engineering:

Associated Engineering, Clifton, boost Energy Ventures, Scott Land & Lease Ltd, SG1 Water Consulting, Trout Hydrography, Wilde Bros Engineering & Surveys

Agrology, Costing, Energy, Engagement, Environmental, Geotechnical, Infrastructure

Financial:

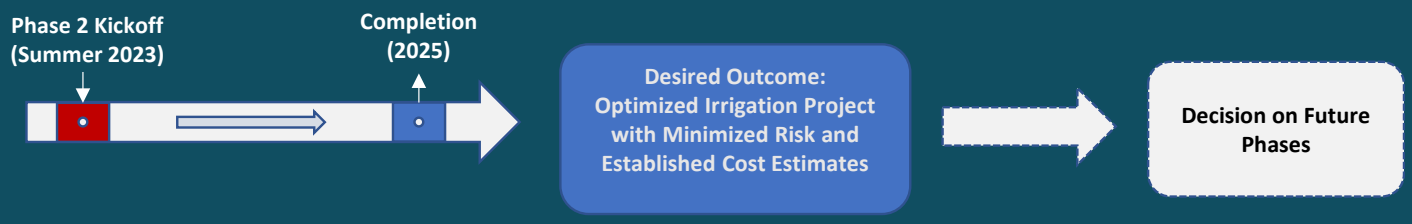
Consultant to be Determined

Governance:

Consultant to be Determined

WHAT'S HAPPENING IN THIS PHASE?

STUDY PROCESS



STUDY SCOPE

Phase 2 will be based on the Phase 1 findings – including the anticipated size (108,000 acres) and general project area identified in the Project Site Plan. Phase 2 will further investigate the potential challenges and risks identified in Phase 1 and explore ways to optimize the project. Phase 2 activities include:

- Underwater, ground, and air surveys.
- Environmental and geotechnical field work and testing.
- Water availability analysis and modelling.
- Conceptual design of major infrastructure components and locations, including a river intake(s) from the Red Deer River, water pumping stations, water storage reservoirs, and water conveyance canals and pipelines.
- Analysis of power demands and development of options for power supply.
- Capital and operating cost estimates, including on-farm equipment costs.
- Engagement with Indigenous groups, producers, landowners, other stakeholders, and regulators.
- Preparation of environmental permitting documents.
- Investigation of the preferred governance structure.
- Financial analysis of project costs and potential revenue generation.
- Analysis of procurement approaches that could be used to implement future phases of work.

WORK UNDERWAY AND COMPLETED THIS QUARTER

Notable tasks completed from August to October 2023 included:

- Site reconnaissance tours by discipline experts to gather information.
- Drone surveys to capture aerial photos.
- Air survey to capture topographic data to better understand the suitability of the existing design and potential constraints (LiDAR survey).
- Underwater surveys to establish water depths to identify potential hazards and construction risks (bathymetric river survey).
- Geographic Information System (GIS).
- Engagement Plan and distribution of introduction letters to Indigenous communities and project stakeholders.
- Crop Mix Recommendations and Water Use Analysis.
- Analysis of project risks.

Ongoing work also includes:

- Communications with regulatory authorities.
- Soil and bedrock profiles of the project area.
- Preliminary pump station intake concept.
- Hydrogeologic modelling.
- Refinements to the project energy model.
- Ongoing modelling of the Red Deer River watershed to analyze water availability to support the irrigation project.

WORK ANTICIPATED FOR NEXT QUARTER

- An iterative process is underway to confirm water demand and optimize infrastructure requirements:
  - A critical path item will be confirmation of the preferred location for the intake structure in the Red Deer River. By knowing where the structure could be located, the technical and environmental teams can better focus their investigative efforts.
  - Confirmation of a secure water supply at the recommended intake location is required. While the pump station siting is occurring, the agrology/soils group will estimate anticipated irrigation demand.
  - The anticipated irrigation demand will be input into a water management model being developed by the hydrology team.
- Over the next several months, the engagement team will support SAB and the MD of Acadia in communicating with ratepayers, arranging for meetings with Indigenous communities and water / environmental stakeholders as needed.
- Open Houses will be planned for the spring of 2024.

CONTACT

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Alberta

CIB BIC

Special Areas Board
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