

Fort Chipewyan

Water Intake Relocation Project- Phase 1

COMMUNITY PRESENTATION

Land Acknowledgement

Regional Municipality of Wood Buffalo acknowledges Treaty 8 Territory, ancestral and traditional land of the Athabasca Chipewyan First Nation, Mikisew Cree First Nation, and Fort Chipewyan Métis Nation.

We are thankful for these borrowed lands along with the traditional teachings and lessons of resilience they offer us in the spirit of maintaining good relations with others for future generations.

As long as the sun shines, the river flows, and the grass grows we will honor these lands.



RMWB and IRR Introductions

Warm welcome to staff from Regional Municipality of Wood Buffalo (RMWB) and staff from Indigenous and Rural Relations (IRR)

[Placeholder for RMWB staff names and titles]

- X
- Y
- Z

[Placeholder for IRR staff names and titles]

- X
- Y
- Z



Putting Indigenous futures first



Scout Engineering & Consulting Ltd.

is a 100% Indigenous-owned and led engineering and consulting firm that works with communities, industry, and government to deliver infrastructure, engagement, and strategic projects across Canada.



Scout combines

technical engineering expertise with project management, community engagement, and Indigenous knowledge to support collaborative, community-driven project delivery.



As a third-party facilitator

Scout's role is to provide a neutral, respectful space for information sharing and feedback, helping ensure that community perspectives are heard, documented, and meaningfully integrated into project planning and decision-making.

Team Introduction



Justin Alexander

/ Engagement Lead

Extensive experience in Indigenous engagement for infrastructure projects, educated in environmental engineering with international experience in water treatment engineering.



AMANDA ALLEN

/ Project Manager

As an engineer with a background in water treatment, I combine technical expertise and hands-on community engagement to build local trust.

Project Overview



Project Introduction



The Regional Municipality of Wood Buffalo is evaluating options for a new or improved water intake for Fort Chipewyan



This work is part of a multi-year feasibility study focused on long-term water quality, reliability, and community needs



Community and Indigenous knowledge, alongside technical studies, will help guide decision-making



Project Phases

PHASE 1

- Identify and evaluate potential water source options (surface water and groundwater)
- Engage with Nations, Knowledge Holders, and community members to gather local knowledge and feedback
- Review current intake challenges and assess alternative options
- Conduct initial water sampling and technical analysis
- Identify early environmental, cultural, and construction considerations
- Share findings and recommend a preferred option for further study

PHASE 2

- Conduct year-round water sampling (up to one year) to assess seasonal changes in water quality of the preferred option identified in Phase 1
- Complete more detailed environmental, technical, and constructability assessments on the preferred option
- Refine feasibility, costs, and implementation considerations
- Present final findings and recommendations to Council

How Your Feedback is Helpful

The feedback shared today will be used directly to inform the next steps of the study. Potential water source locations identified will be reviewed through a desktop assessment to determine initial suitability, followed by field verification and water quality testing over the coming months. Input on the evaluation criteria such as volume, stability and reliability, water quality, as well as cost and constructability will also help ensure that the options are assessed in a way that reflects both technical requirements and community priorities.

How to Provide Feedback



Community Open House Session (today)

Conversations with staff

Several poster boards around the room

Feedback form provided



Drop-in Session (April 16, 2026)

10 a.m. - 4 p.m.

Fort Chipewyan Municipal Office



Online Feedback Form/Email Contact

rmwb.ca/FCWaterIntake



Issues with the Existing Intake

01

Potential pollutants from upstream industrial operations.

02

Contamination around Big Dock.

03

Water quality concerns during periods when the Slave River reverses flow due to ice dams, which can direct treated wastewater from sewage lagoons toward Lake Athabasca.

04

Long term sustainability of the current water source as water levels fluctuate in the Delta.

05

Sediment build-up in shallow water.

06

Increased potential for algae in shallow waters.

Criteria for a Viable Water Source



Sufficient Water Volume

- The water treatment plant requires about 1,200 cubic meters or 264,000 imperial gallons of water per day.



Stable and Reliable Source

- The intake location must provide water consistently year-round and not be heavily affected by:
 - Changing water levels, both from seasonal and long-term climate change
 - Sediment movement or build up
 - Weather and seasonal changes like ice build-up, flow water, and surface algae growth



Good Water Quality

- The water source must be suitable for treatment and meet Canadian drinking water quality guidelines after treatment.



Construction & Cost Considerations

- In addition to water supply and quality, practical considerations also matter when evaluating locations for the water intake, including:
 - The cost of bringing water from the intake to the water treatment plant
 - Upgrades or changes required at the plant
 - Long term maintenance costs for the water intake system.

Consideration for Alternative Water Sources

01

—

Surface Water
from Delta Lakes
and Channels

02

—

Surface Water
from the
Northeast of Fort
Chipewyan

03

—

Groundwater

04

—

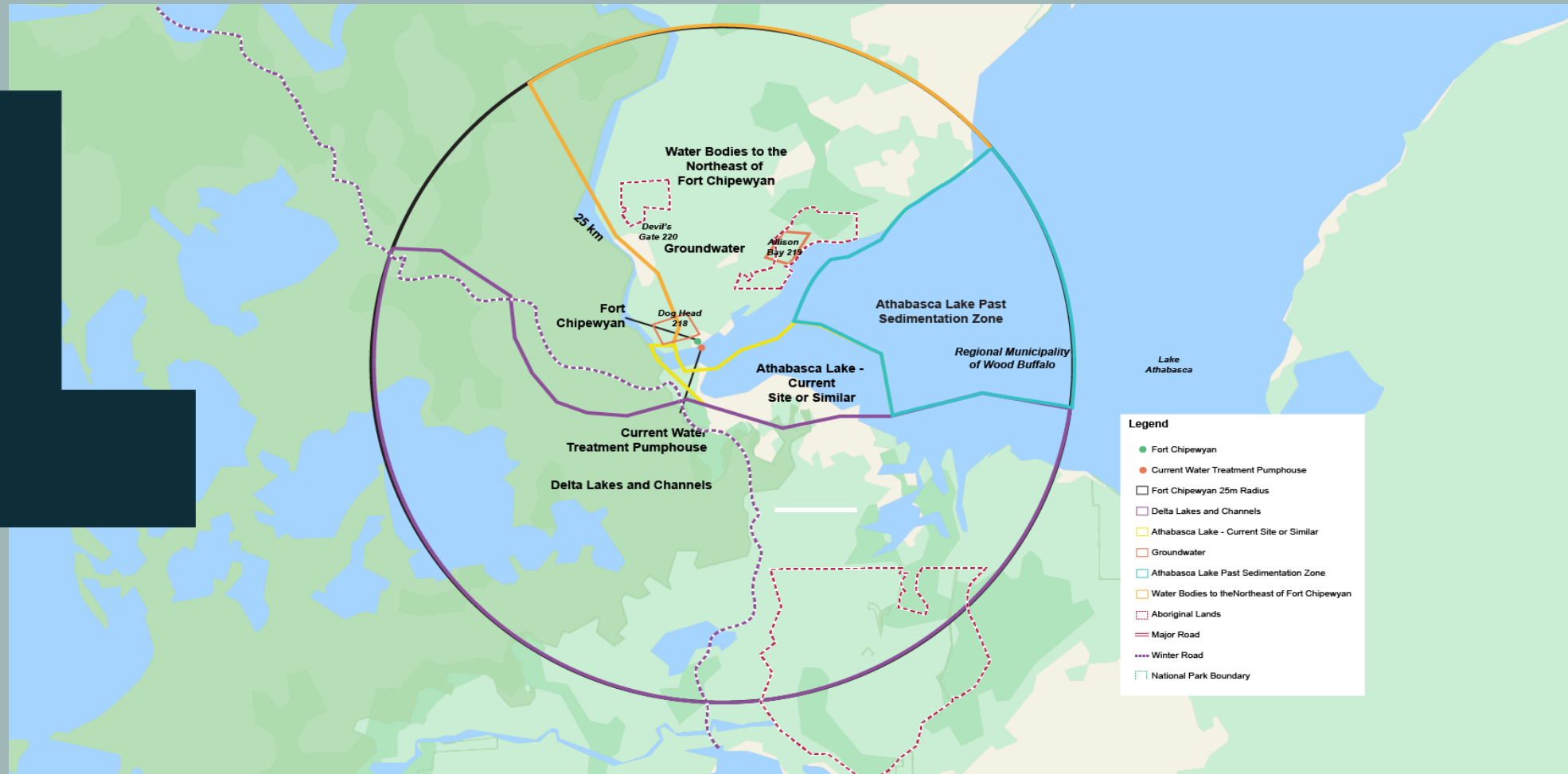
Current/Similar
Intake Site on
Lake Athabasca

Known Water Sources & Preliminary Rankings

OUR CURRENT UNDERSTANDING OF THE PROPOSED OPTIONS

- ✓ Does not meet our criteria
- ? We don't know/not enough information
- ✗ Meets our criteria

EVALUATION CRITERIA	A SURFACE WATER Delta Lakes and Channels (PURPLE on the map)	B SURFACE WATER Northeast of Fort Chipewyan (ORANGE on the map)	C SURFACE WATER Lake Athabasca Current Intake (YELLOW on the map)	D SURFACE WATER Further East on Lake Athabasca	E GROUNDWATER
VOLUME	Many lakes and channels, but the long-term availability of sufficient water volume is uncertain. ?	Information suggests these water bodies may not provide enough water for municipal use. ?	As water levels drop, this intake may not have sufficient water levels. ?	Has sufficient water for the Municipality and is stable over long term. ✓	Existing well rates in Fort Chipewyan and Allison Bay suggest there isn't enough groundwater for municipal use. ✗
STABILITY & RELIABILITY	Shallow water with sediment. Ice buildup can impact intake. ✗	The lakes have rocky bottoms and are stable. Ice buildup may have impacts. Natural spring run-off can impact sediment and water quality. ✗	Higher sediment levels are possible along the shoreline but decrease further east away from the Delta. ✗	Deeper water towards the lake center is less affected by sediment and water level fluctuations. Deep water can avoid ice impacts. ✓	Ice build up is not a factor. Spring run-off and other factors need to be studied. ?
QUALITY	Lower risk of wastewater contamination during river flow reversals, but water quality has not yet been fully tested. Organic taste and odour may occur. Risk of contamination from industrial operations. ?	Water bodies are fed by rainfall and snowmelt; but water quality has not been tested. ?	Higher sediment levels are possible due to proximity risk from Delta. Risk of contamination from wastewater (reverse flow). Risk of contamination from industrial operations. ✗	Studies suggest lower sediments and lower concentration of most metals and nutrients are present deeper in the lake. Less risk of contamination from wastewater (reverse flows). ✓	Less risk of contamination from wastewater (reverse flows). Impacts from other activities, like spring thaw, are not understood. Must evaluate risk of influence from surface water sources. Higher metal content expected in groundwater. ?
COST & CONSTRUCTABILITY	Pipelines would need to be installed through bedrock, and a new pump station would be required. Some locations fall within the National Park boundary.	Pipelines would need to be installed through bedrock, and a new pump station would be required.	It may be possible to reuse existing pumphouse and parts of the current raw water piping system.	The existing pumphouse may be re-used. Installing a pipeline into the lake will be technically challenging but may avoid blasting through bedrock.	Groundwater sources would require drilling and testing, with no guarantee that sufficient water of suitable quality would be found. Potential changes to water treatment process required due to higher expected metal content in groundwater.



OPTION FOR EXTENDING THE CURRENT WATER INTAKE

Benefits of Intake Extension



Cost

- Pumphouse may be reusable.
- Shouldn't need to blast through bedrock.



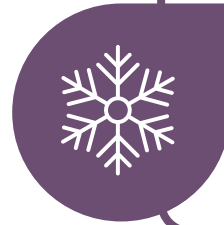
Stability

- Less susceptible to erosion and sediment deposition.



Water Quality

- Studies suggest lower turbidity and concentrations of most metal and nutrients in the central or eastern parts of the lake
(Summit Environmental Consultants, 2012).
- Less contamination risk from effluent and lagoons.



Ice Effects

- Adequate depth and more stable ice cover results in lower risk of damage to intake.



Depth

- Depth is increased towards the lake center.



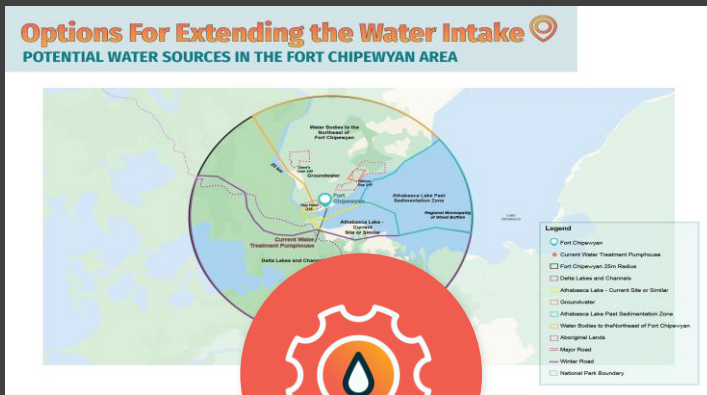
Quantity

- Adequate quantity.

Feedback Activities [Needs to be updated]

There are several feedback stations set up throughout the room. Participants are encouraged to move between them to share their input. There are also several informational boards around the room to view and staff to chat with and provide feedback to.

Feedback Boards Include:



Map Feedback Board

Identify and mark potential water sources in the Fort Chipewyan area

Water Source Evaluation Criteria Feedback Board	
OUR EVALUATION CRITERIA	YOUR SUGGESTIONS
SUFFICIENT WATER VOLUME The water treatment plant requires about 1,200 cubic meters or 264,000 Imperial gallons per day.	
STABLE AND RELIABLE SOURCE The intake location must provide water consistently year round and not be heavily affected by: • Changing water levels, both from seasonal and long term climate changes • Sufficient movement or build up • Weather and seasonal changes like ice build up, flow water, and surface water growth	
GOOD WATER QUALITY The water source must be suitable for treatment and meet Canadian drinking water quality guidelines after treatment.	
CONSTRUCTION AND COST CONSIDERATIONS Practical considerations also matter when evaluating intake, including: • The cost of bringing water from the intake • Upgrades or changes required at the plant • Long term maintenance costs for the water source	

Criteria Feedback Board

Provide feedback on how water source options should be evaluated

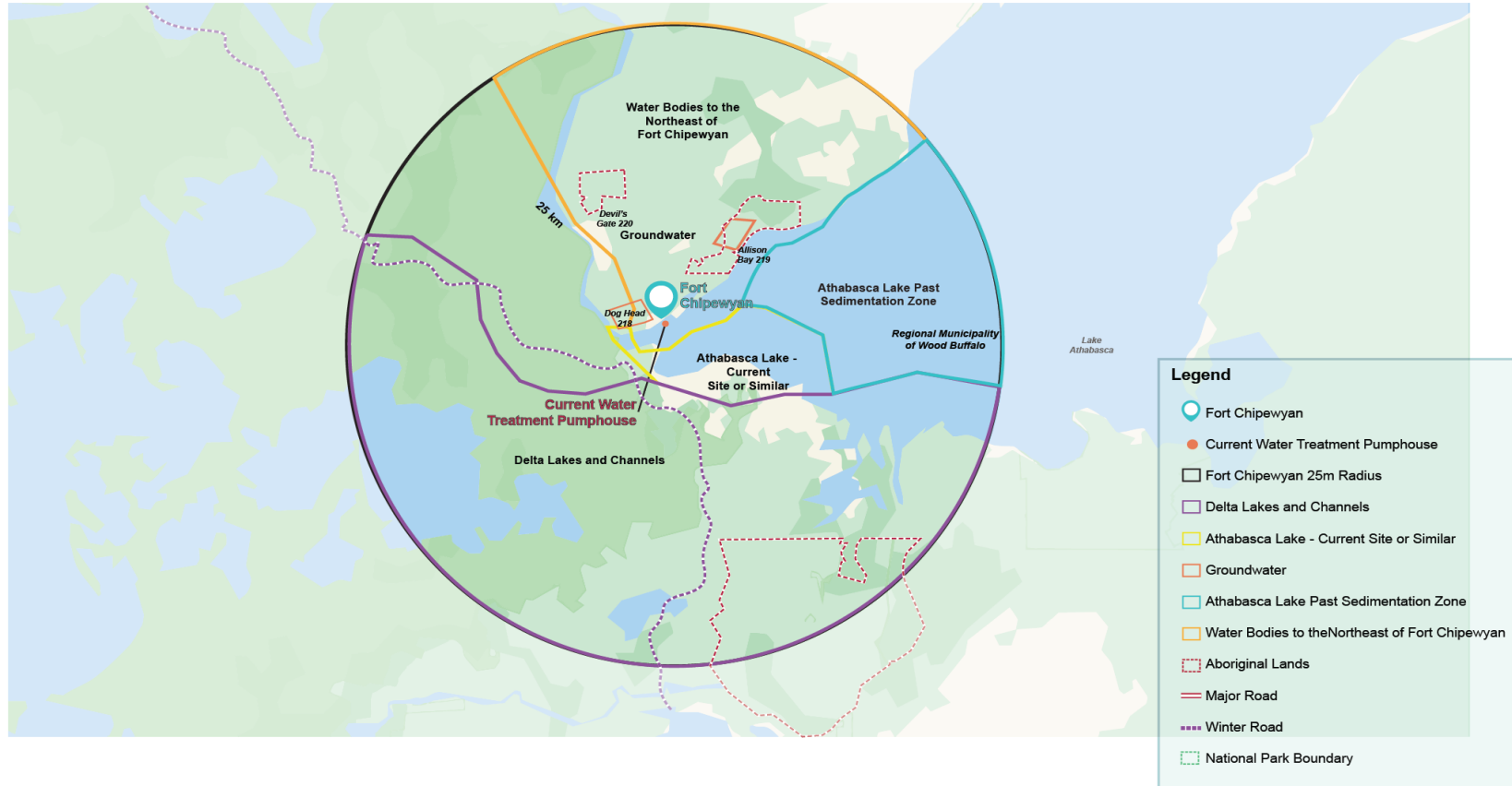
Known Water Sources & Preliminary Rankings OUR CURRENT UNDERSTANDING OF THE PROPOSED OPTIONS					
EVALUATION CRITERIA	SURFACE WATER Delta Lakes and Channels	SURFACE WATER Northwest of Fort Chipewyan	SURFACE WATER Lake Athabasca Current Intake	SURFACE WATER Further East on Lake Athabasca	GROUNDWATER
VOLUME	Many lakes and channels that are long and relatively narrow. Some are shallow and may not provide enough water for treatment plant.	Information suggests there may be some water, but it is not clear if it is sufficient for the plant.	An intake from this lake is possible, but it is not clear if it is sufficient for the plant.	Has sufficient water for the plant, but it is not clear if it is sufficient for the plant.	Feasible water source in Fort Chipewyan and Athabasca. The water is not clear if it is sufficient for the plant.
STABILITY & RELIABILITY	Shallow water with low flow. The water level can change rapidly.	The water level can change rapidly. The water level can change rapidly.	Higher and more stable water levels. The water level can change rapidly.	Higher and more stable water levels. The water level can change rapidly.	Has built up to a level that is not a factor. The water level can change rapidly.
QUALITY	Lowest risk of contamination. The water is not clear if it is sufficient for the plant.	The water is not clear if it is sufficient for the plant. The water is not clear if it is sufficient for the plant.	Higher and more stable water levels. The water level can change rapidly.	Higher and more stable water levels. The water level can change rapidly.	Lowest risk of contamination. The water is not clear if it is sufficient for the plant.
COST & CONSTRUCTABILITY	Feasible water source. The water is not clear if it is sufficient for the plant.	Feasible water source. The water is not clear if it is sufficient for the plant.	Feasible water source. The water is not clear if it is sufficient for the plant.	Feasible water source. The water is not clear if it is sufficient for the plant.	Feasible water source. The water is not clear if it is sufficient for the plant.

Water Source Feedback Board

Suggest additional drinking water sources to explore (e.g., groundwater, nearby lakes, river channels)

Options For Extending the Water Intake

POTENTIAL WATER SOURCES IN THE FORT CHIPEWYAN AREA



Map Feedback Board

Water Source Evaluation Criteria

Feedback Board

OUR EVALUATION CRITERIA		YOUR SUGGESTIONS
SUFFICIENT WATER VOLUME	The water treatment plant requires about 1,200 cubic meters or 264,000 imperial gallons per day.	
STABLE AND RELIABLE SOURCE	The intake location must provide water consistently year-round and not be heavily affected by: • Changing water levels, both from seasonal and long-term climate changes • Sediment movement or build up • Weather and seasonal changes like ice build-up, flow water, and surface algae growth	
GOOD WATER QUALITY	The water source must be suitable for treatment and meet Canadian drinking water-quality guidelines after treatment.	
COSTRUCTION AND COST CONSIDERATIONS	Practical considerations also matter when evaluating locations for the water intake, including: • The cost of bringing water from the intake to the water treatment plant • Upgrades or changes required at the plant • Long term maintenance costs for the water intake system.	



www.scoutengg.com
collaboration@scoutengg.com

Use this board to provide your feedback on how water source options should be evaluated.
Feel free to add notes with your own criteria in the second column.

Criteria Feedback Board

Placeholder for Water Source Feedback Board



FOR MORE INFORMATION AND
TO PROVIDE FURTHER
FEEDBACK:

- Please fill out the **Feedback Form** provided today
- Join us April 16 between 10 a.m. and 4 p.m. at the Fort Chipewyan Municipal Office for a **Drop-in Session**
- Visit **rmwb.ca/FCWaterIntake** for more info