



*ARNASON Industries Ltd.*

GENERAL CONTRACTORS AND ENGINEERS

Director  
Environmental Assessment and Licensing Branch  
Manitoba Conservation  
160-123 Main Street  
Winnipeg, MB  
R3C 1A5

Re: Community of Berens River Water Treatment Plant – Environmental  
Assessment Report

Environmental Licensing,

Please see the attached drawings and info packages from the water treatment design done by Corix Water Systems for the Environmental Act Proposal for the Community of Berens River, MB. Attached is also the check for the \$500 fee for the Class 1 Developments.

If you have any further questions, please do not hesitate to contact us.

Sincerely,

Kevin Esau

**P.O. Box 48, Group 200, R.R. 2    Winnipeg, Manitoba    R3C 2E6**

**Phone: (204) 633-2567    Fax: (204) 694-5622**

**Location: Perimeter Highway 101 and ¼ Mile West of Highway 7 on the North Access Road**



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## **Executive Summary**

The community of Berens River and Manitoba Aboriginal Northern Affairs (MANA) has requested Arnason Industries Ltd to prepare the Environment Act Proposal for the construction of the new water treatment plant in Berens River, Manitoba.

## **Introduction and Background**

The EAP is being made for the Community of Berens River, Manitoba. This is for the construction of a new water plant, which uses the existing water supply from an intake line inside Berens River that supplies the existing water plant.

Arnason Industries Ltd. has been hired by Manitoba Aboriginal and Northern Affairs to construct a new water plant beside the existing plant.

The new water plant construction involves building beside the existing water treatment plant and installing a new Corix DAF plant. This DAF plant will be replacing the existing ST plant the current WTP uses. It was suggested by the Office of Drinking water to go with a DAF plant as opposed to a re-furbished or new ST plant as they felt it was better for the surface water treatment application in this region.

Currently, the ST plant in operation discharges its backwash water back into the environment. It is proposed that the new DAF plant will also discharge its backwash water into the environment. Following this section, there will be details on what the backwash water contains and how it is concluded that the environmental effects of the wastewater discharge will be insignificant. The community will own and operate the water treatment plant, and will provide a standard monitoring of the discharged wastewater to confirm our conclusion.

## **Description of Proposed Project**

### **Project Location Geography**

- The Community of Berens River is located one kilometer from the Berens River airport. It is located right beside the existing water plant, and is owned by the community. Berens River is located about 292 km north of Winnipeg on the east side of Lake Winnipeg.

### **Ownership**

- Ownership of the existing land of both the current and the proposed water treatment plants is held by the Community of Berens River.

### **Land Use**

- Land use of the proposed site is an empty river lot space of no other use. The lot faces the river and lies between the two residences.

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### Description of Existing Project Environment

- The local area of the water plant is on top of a hill next to the Berens River. From the top of the hill where the plant is located, there is a steep drop down a hill to the river shoreline.
- The existing land is not used for any agriculture, forestry, mining, hydroelectric, oil, gas, recreation or tourism purposes.

### Socioeconomic environment

- No existing public safety and health risks in the development area.
- No protection areas located at the construction site.
- The Community of Berens River lies beside the Berens River First Nations.

### Description of Existing System

#### System Use

- **Estimated gross water use for all purposes:** 28,000 L (6 hours plant operation per day)
- **Estimated connections:** Estimated 26 connections to houses or businesses. Future plans to increase up to 36 connections.
- **Water treatment plant requirements:** 20 USgpm
- **Estimated per capita consumption:** 250 L/day/person appears to be on the high side for this community. Actual numbers show closer to 200 L/day/person appears to be more accurate.
- **Agricultural and livestock water use:** None for this community

### Water Conservation Report

- **Water conservation report:** all efforts are made by MANA, Berens River water treatment plant operator and Berens River council to inform the public and residents who use water; to conserve and not waste.
- This is achieved by limiting the watering of their lawn's and washing of their cars.
- Water bleeders are not used, water lines are a continuous loop to avoid freezing and water line breaks. All water lines are of plastic or poly and will not corrode.

### Description of Environmental Effects

- There will not be any effect on the biophysical environment, which includes wildlife, fisheries, surface water, groundwater, and forestry resources.
- The proposed DAF WTP is to discharge waste based on the Corix spec sheet (see attached). The water plant is expected to run approximately 6 hours a day.

On the high side, we would be looking at from the DAF Skimming:

- Max 200g/h (TSS) (approx. 1200g/day)
- Max 1g/h (Alum or PAC) (approx. 6g/day)

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High side from filter backwash pump:

- Max 846.7 g/backwash (TSS)
- No hazardous wastes will be produced
- No storage of gasoline or associated products
- No impact on heritage resources
- No socio-economic implications resulting from environmental impact
- No climate change implications expected

## Mitigation Measures and Residual Environmental Effects

Environmental management practices:

- The technology of the system chosen for this project is based on high standards for quality of drinking water.
- No dangerous chemicals will be discharged into the environment.
- Minimal wastewater to be discharged to the community waste water treatment plant
- Minimal electricity usage due to the small size of the building and compact filtration system used.
- By discharging this non-hazardous waste back into the environment, it will help to not overload the existing FN waste lagoon that the community used, where the backwash water would otherwise be sent to.

Residual environmental effects:

- The project shows there are no identifiable residual environment effects associated with this project

Control Technology

- Corix Water Systems has provided an engineered design of technology for treatment of the raw water. (See attached)

## Follow-up Plans

Regular monitoring of wastewater discharge will be performed to follow requirements for compliance.

## Conclusion

This report has not identified any environmental issues that arise from the construction of a new water treatment plant in Berens River, MB.

The following are key notes of the new project:

- Raw water will continue to be taken from the existing intake line from Berens River. No new wells or intake lines will be installed for the construction of this new water plant.

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- The new water plant will tie into the existing town distribution line. There will be no alteration to the existing distribution lines themselves.
- The treatment process is mainly comprised of treatment with a DAF Plant, followed by UV system and chlorination. It is then stored in 4 storage tanks until required for community distribution.
- There are no construction activities associated with the project that have environmental issues
- There are no social, historical or other extraneous factors, which need to be considered in relation to this project.

The conclusion is that the project should receive approval under 'The Act'

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