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## NORTHERN PULP BACKGROUND

The project will consist of the construction of a wastewater treatment facility, a high density polyethylene (HDPE) pipeline that will carry treated effluent overland to Caribou Harbour, then out into the marine environment discharging into the Northumberland Strait via a diffuser at about 20 meters of water depth. The treatment facility will be located on Northern Pulp property, adjacent to the mill, and will employ a biological activated sludge process. Once the effluent is treated, it will be directed to an ocean discharge point much further away into the Northumberland Strait than discharge currently occurs at shoreline. Treated wastewater will enter at Caribou Harbour through a pipeline, with an overall length of approximately 11.4 km, which follows the Highway 106 right-of-way within the existing road shoulder and reaches Caribou Harbour adjacent to the Northumberland Ferries marine terminal.

## WASTEWATER TREATMENT FACILITY KEY FACTS

The proposed type of wastewater treatment facility is in very common use across Canada for treatment of liquid waste from cities and municipalities as well as pulp and paper mills.

Design of the new treatment facility is based on a flow of 85,000 m<sup>3</sup>/day. Over 90% of the time, the daily average effluent flow is between 55,000 – 75,000 m<sup>3</sup>/day. A designed 85,000 m<sup>3</sup>/day facility is appropriate and well supported by the operating data of the last three years.

Non-contact cooling water makes up a considerable portion of the total Northern Pulp effluent flow. This project will reduce

the peak summer effluent flow at the mill by approximately 5,000 m<sup>3</sup>/day below current levels, making the design flow even more conservative.

Effluent entering the treatment facility is continuously monitored for flow, pH, temperature and conductivity. In cases where the effluent is out of normal range, or during an emergency such as a power outage, effluent will be diverted to the spill basin. The spill basins offer a measure of protection for the treatment biology in an AST and the sizing to hold 10 hours of flow is standard practice. The spill basin will be maintained empty to ensure it is available in the event of an emergency.

Materials in the spill basin will be returned to the treatment facility or removed from the system. Continuous monitoring of level, as well as standard operating procedures, will ensure there are no releases to the environment. Northern Pulp will not continue normal operation if there is a risk to the environment.

A human health risk assessment is well underway to assess any impacts from the project on local community health. The Northern Pulp health study, to be completed by spring 2020, will provide the public and government with a transparent expert opinion on the project's impact if any.

The installation of a modern engineered deep-water diffuser provides a significant improvement in treated effluent dilution compared to the current system in Boat Harbour where effluent enters the Northumberland Strait via a dam at Boat Harbour at the shoreline.





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No history of ice scour was found at the planned location of the diffuser port located outside of Caribou Harbor in 20m water depth.

Ocean water quality within 5 meters of the diffuser will meet Canadian marine guidelines. Third party environmental experts have assessed that no significant impacts are expected on any fisheries or fish habitat as a result of this project.

Within 2 meters of the diffuser, the difference between the treated wastewater and ocean temperature will be less than 1C.

**The project will have no impact in terms of accumulation of materials around the diffuser. Stantec summarized that “It is unlikely that sediment will build up in either the near or far-field.”**

Maintenance procedures along the effluent pipeline corridor will be consistent with standard procedures used by the Canadian pipeline industry, with specific modifications made for the Nova Scotia regulatory environment.

HDPE was selected for the pipe material because of its flexibility and is well suited to Nova Scotia’s climate. Fused joints do not leak, and create a strong seal that industry testing has shown to be as strong and durable as the pipe itself. During construction, the pipe and joints will be tested before the pipe sections are buried. The pipeline will be one half inch thicker than regulatory standards to protect local groundwater.

The construction phase will be initiated following the receipt of EA approval and the receipt of all additional required permits, approvals, licenses, authorizations, or leases for the project.

Throughout the construction phase, site inspections will be undertaken by the contractor, Northern Pulp’s Environmental Team and/or designate. Site inspections will include environmental monitoring and compliance with the EMP, and legislation.

Today in Canada, 88 pulp and paper mills are in operation from British Columbia to the Maritimes in most instances discharging treated air emissions, creating solid waste and discharging treated wastewater into either rivers, lakes or marine environments. In virtually all respects, Northern Pulp is a very typical NBSK pulp mill compared to the other Canadian mills. Northern Pulp’s energy usage is made up of over 92% renewable energy. Northern Pulp has reduced its greenhouse gas emissions by 44% since 1990, and produces over 23 megawatts of green electricity. Economists believe the entire Nova Scotian forest industry is hinged on the daily operation of Northern Pulp and its consumption of local Nova Scotian wood chips.

With the introduction of this proposed state-of-the-art wastewater treatment facility, Northern Pulp’s environmental footprint is significantly reduced. Forestry and fishing industries will be able to both thrive and co-exist; and the negative environmental legacy of Boat Harbour can end allowing community healing and rebuilding to begin.

