Anticipated project impact and mitigation measures

For each valued component, the potential impact, mitigation measure and conclusion (residual effects and significance) are summarized in the table below. Detailed mitigation and monitoring activities for each impact are presented in Appendix A. Further details on each valued component are described in the following section.

Table 3. Summary of potential impact on valued components, proposed mitigation measures, and residual effects

Valued component	Project phase	Impact	Mitigation measure	Residual effect
Vegetation	Pre-construction and construction phases	• Permanent removal of approximately 39,594 m^2 of small-diameter trees from a young softwood stand composed of black spruce fir, a stand strongly represented in the region, and of herbaceous vegetation • Introduction or dispersal of invasive alien species	• Restore work areas as soon as possible after completion of work • Limit deforestation to the previously identified area • Avoid driving outside the work area with machinery and use existing access roads • Clean machinery before it arrives on site to prevent the spread of invasive alien plant species (IAPS) • Clean machinery at the project site exit, at least 30 m from rivers, bodies of water, and habitats of endangered or vulnerable species, in an area that is not conducive to seed germination or plant growth, and dispose of all waste materials at an authorized site	Permanent but limited impact following implementation of mitigation measures Not significant
Species at risk	Pre-construction and construction phases	• Loss of habitat due to deforestation • Disturbance caused by noise and light during construction work	• Remove vegetation outside the nesting season for endangered migratory birds and the breeding season for endangered chiroptera • For the duration of the work, prior to each nesting season, inspect the ground before construction begins to detect any nests of migratory ground-nesting birds , and protect them accordingly • Sensitize and train workers regarding the potential presence of nests on the ground, so that they can take appropriate action • Apply measures to reduce the effects of brightness: ○ Direct lighting to illuminate work areas only	Permanent but limited impact following implementation of mitigation measures Not significant

			○ Reduce lighting to a safe minimum after 11 p.m. in parking areas and around buildings • If sawdust or earth embankments (gravel, sand) of more than 0.5 m in height are left on the site, reprofile the slope of the embankments so that it is less than 70° to prevent Bank Swallows from nesting there, particularly between late April and late August	
	Operational phase	• Disturbance caused by noise and light during plant operation • Avoid creating ephemeral nesting habitat for Bank Swallows in the project area	• Apply measures to reduce the effects of brightness: ○ Direct lighting to illuminate work areas only ○ Reduce lighting to a safe minimum after 11 p.m. in parking areas and around buildings • If sawdust or earth embankments (gravel, sand) of more than 0.5 m in height are left on the site, reprofile the slope of the embankments so that it is less than 70° to prevent Bank Swallows from nesting there, particularly between late April and late August	Temporary and limited impact following implementation of mitigation measures Not significant
Migratory birds	Pre-construction and construction phases	• Loss of habitat • Disturbance caused by noise and light	• Clearly mark out the work area with coloured tape and limit cutting to a strict minimum required for the job • Prohibit tree cutting outside the designated work zone • Carry out clearing work outside of the nesting period, which runs from late April to late August • For the duration of the work, prior to each nesting period, inspect the ground for the presence of nests of migratory ground-nesting birds and protect them • Sensitize and train workers regarding the potential presence of nests on the ground, so that they can take appropriate action • If an active nest is discovered, stop work in the area and establish a species-specific buffer zone in accordance with Environment and Climate Change Canada guidelines Do not remove vegetation in the buffer zone until the nest is no longer active	Limited impact following implementation of mitigation measures, including respect for the nesting period

			• Before vegetation pruning or tree cutting begins, a qualified biologist must inspect the affected vegetation to identify the presence of nests of species identified in Schedule 1 of the Migratory Birds Regulations, 2022, including the Pileated Woodpecker ○ If an abandoned nest of a Schedule 1 species is identified and needs to be removed, contact ECCC to determine the procedure to be followed • Implement any other relevant measures indicated in the Guidelines to avoid harm to migratory birds	

	Operational phase	• Disturbance caused by noise and light	• Apply measures to reduce the effects of brightness:
			  ○ Direct lighting to illuminate work areas only
			  ○ Reduce lighting to a safe minimum after 11 p.m. in parking areas and around buildings
			• Prior to each nesting season, inspect the ground in the study area for nests belonging to migratory ground-nesting birds (e.g., Common Nighthawk, Killdeer) and protect them as needed
				Temporary and limited impact following implementation of mitigation measures
				
				Not significant

Air quality and GHG emissions	Pre-construction and construction phases	• Raising and airborne transport of dust related to the work • GHG emissions from machinery during construction	• Use vehicles and equipment that are in good condition and comply with current regulations • Optimize movement of machinery and vehicles • Use fuel-efficient equipment • Turn off vehicle and equipment engines when not in use • Use a dust cover to limit the dispersion of work-related dust • Set up a biogas migration monitoring program • Install an air emissions management system including an electrostatic precipitator to prevent particulate emissions	Temporary and limited impact following implementation of mitigation measures Not significant
	Operational phase	• Reduction ofGHG emissions by 50,700 t CO_2e by 2030 and 317,518 t CO_2e by 2050	• Implement a biogas migration monitoring program that includes the following measures: ○ Mobile detection	Limited impact following implementation of

		• Potential biogas emissions	○ Gas detection system connected to an alarm and ventilation system ○ Biogas monitoring programs and gas detectors	mitigation measures Not significant
Soils	Pre-construction and construction phases	• Potential contamination during excavation due to the presence of contaminated soils in the study area. • Potential contamination during the transportation and temporary storage of contaminated soils.	• Cover contaminated soils during transport on or off site to limit dispersion • Segregate and identify contaminated soils temporarily stored on site according to their level of contamination • Place reusable contaminated soils on site on an impermeable geotextile and cover with an impermeable geomembrane to prevent runoff • Ensure that soils are stored for a maximum period of 12 months • Install and maintain fencing and sediment barriers • Implement all other measures outlined in the Environmental Protection Plan (EPP) (Appendix 23)	Temporary and limited impact following implementation of mitigation measures Not significant
	Operational phase	• Potential contamination of soils located beneath or near the temporary storage area for contaminated soils	• Transfer to an authorized site any contaminated soils that have not been repurposed for off-site management within 12 months of work completion • Once contaminated soils in the temporary storage area have been transferred off-site, monitor the quality of the soils beneath and adjacent to the temporary storage area	Limited impact following implementation of mitigation measures Not significant
Groundwater	Pre-construction and construction phases	• Potential contamination through percolation of contaminated surface water during soil storage • Potential contamination linked to wastewater from the septic field	• If the water is unfit for consumption, install treatment systems and ensure compliance with federal and provincial drinking water standards and regulations • Monitor wastewater and the septic field, and ensure compliance with federal and provincial regulations, including the *Regulation respecting waste water disposal systems for isolated dwellings* • Monitor groundwater quality as outlined in the monitoring program	Temporary and limited impact following implementation of mitigation measures Not significant

			• Implement all other measures indicated in the EPP and in the Environmental Emergency Response Plan (EERP) (Appendix 24)	
	Operational phase	• Potential contamination from biomass storage • Potential contamination through percolation of contaminated surface water during soil storage • Potential contamination linked to wastewater from the septic field • Potential contamination related to process water, cooling water, and equipment maintenance water, or any other water use associated with the plant's operations that may impact groundwater quality	• Regularly check that contaminated soils are stored on an impermeable surface and are adequately covered • Store biomass on an impermeable surface for short periods of time • Ensure that the watertight platform and sediment fences or barriers are in good condition • Monitor surface and groundwater quality as outlined in the monitoring program • Monitor wastewater and the septic field, and ensure compliance with federal and provincial regulations, including the *Regulation respecting waste water disposal systems for isolated dwellings* • Implement all other measures indicated in the EPP and EERP	Limited impact following implementation of mitigation measures Not significant
Surface water	Pre-construction and construction phases	• Potential contamination through dispersion of contaminated soil during excavation work and storage of contaminated soil • Contamination from water used for concreting • Contamination from biomass (wood residues) dispersal outside the	• Implement a water quality monitoring program as outlined in Appendix A of this document, and establish a baseline condition at the beginning of the construction phase • Implement a surface water management system to identify contaminants that may be emitted, in particular phenolic compounds • Implement a sampling site at a location able to collect runoff water from the contaminated soil storage area before releasing it into the environment • Install sediment barriers around the biomass (wood residues) storage area	Temporary and limited impact following implementation of mitigation measures Not significant

		storage area during heavy rainfall • Potential contamination linked to wastewater from the septic field • Potential contamination from suspended solids (SS)	• Treat water from concrete mixers before discharge so that it complies with the values recommended by the MELCCFP (Appendix 26) and the *Fiche d'information – Gestion des eaux de lavage de bétonnière et de camion-pompe à béton en période de construction – Recommandations pour la gestion des eaux* [Fact Sheet – Management of concrete mixer and concrete pump truck wash water during construction – Recommendations for water management] before discharge into the environment, or transport the water off-site for treatment • Monitor wastewater and the septic field, and ensure compliance with federal and provincial regulations, including the *Regulation respecting wastewater disposal and treatment for isolated dwellings* • Implement all other measures indicated in the EPP and EERP	
	Operational phase	• Potential contamination through dispersion of contaminated soils during storage • Potential contamination from biomass storage • Potential contamination linked to wastewater from the septic field • Potential contamination from suspended solids (SS) • Potential water-related contamination during equipment maintenance, or any other use of water during plant operation	• Install sediment barriers around the biomass storage area • Inspect and maintain sediment barriers regularly to ensure proper operation • Frequently check that contaminated soils are stored on an impermeable surface, ensure the surface is in good condition, and that the soils are adequately covered • Store biomass on an impermeable surface for short periods of time • Monitor surface water quality as indicated in the monitoring program • Monitor wastewater and the disposal field, and ensure compliance with federal and provincial regulations, including the *Regulation respecting wastewater disposal and treatment for isolated dwellings* • Implement measures from the EPP related to SS during the construction phase and extend these measures to the operational phase as well, in order to minimize the	Limited impact following implementation of mitigation measures Not significant

		that could impact surface water quality	introduction of SS and woody materials into surface waters in the receiving environment during this phase • Monitor water quality at the sampling site collecting runoff from the contaminated soil storage area prior to discharge into the environment • Manage and monitor water quality resulting from plant operations (process water, cooling water, equipment maintenance, etc.) • Implement all other measures indicated in the EPP and EERP	
Wetlands	Pre-construction and construction phases	• Potential contamination through dispersal of contaminated soil during excavation and storage • Potential contamination by runoff water • Disruption of habitat functions for wildlife species and migratory birds • Potential contamination linked to wastewater from the septic field	• Maintain a protective distance of at least 15 m around wetlands in the work zone • Refuel, maintain and clean machinery more than 30 m from wetlands • Install fencing and sediment barriers around wetlands • Cover contaminated soil stored near wetlands • Monitor wastewater and the septic field, and ensure compliance with federal and provincial regulations, including the *Regulation respecting wastewater disposal and treatment for isolated dwellings* • Adhere to the principles outlined in the *Federal Policy on Wetland Conservation* (FPWC) • Implement all other measures indicated in the EPP and EERP	Temporary and limited impact following implementation of mitigation measures Not significant
	Operational phase	• Disruption of habitat functions of wildlife species and migratory birds due to noise and lighting disturbances • Potential contamination through dispersion of	• Maintain a minimum protective distance of 15 m around wetlands • Maintain and inspect fences and sediment barriers around wetlands • Regularly check that contaminated soils stored near the wetlands are adequately covered • Monitor wastewater and the septic field, and ensure compliance with federal and provincial regulations,	Limited impact following implementation of mitigation measures Not significant

		contaminated soil during storage • Potential contamination linked to wastewater from the septic field • Potential contamination from process water, cooling water, equipment maintenance water, or any other water use during plant operations that could impact wetland quality	including the *Regulation respecting wastewater disposal and treatment for isolated dwellings* • Manage and monitor water quality resulting from plant operations (process water, cooling water, equipment maintenance, etc.) • Adhere to the principles outlined in the *Federal Policy on Wetland Conservation*	

Accidents and malfunctions

NRCan, ECCC and CIB are of the opinion that the project is unlikely to result in significant adverse environmental effects resulting from accidents and malfunctions, after taking into account the implementation of the proposed standard mitigation measures, as outlined in Table 4 below.

Table 4. Accidents and malfunctions

No.	Accident/malfunction	Mitigation measures
1	Accident/malfunction resulting from the use of equipment or vehicles during the pre-construction and construction phases	• Follow standard procedures for equipment use • Ensure that equipment is in good working order • Inspect equipment daily while working • Maintenance and refuelling of equipment must be carried out in designated areas, at least 30 m from any river or wetland • Recovery trays must be placed under all stationary equipment (e.g., generators, water pumps) These trays should be large enough to contain all hydrocarbons within the equipment • A spill recovery kit must also be available near equipment containing petroleum products The kits should contain sufficient material given the nature of potentially hazardous activities conducted on site • Follow health and safety procedures for safe use of equipment • Inform contractors or other authorized persons of their roles and responsibilities in preparing and implementing emergency response plans in case of a fuel or other hazardous material spill on site They should also be aware of the legislative and regulatory provisions relating to pollution prevention, in particular those of the *Canadian Environmental Protection Act*, 1999 (CEPA) and the *Environmental Emergency Regulations*, as well as those of the *Fisheries Act* and the MBCA

		• For any accidental release of hazardous material or residual hazardous material, the following steps must be followed 1. Stop the spill and secure the site 2. Notify the National Environmental Emergencies Centre (Environment and Climate Change Canada 1-866-283-2333) and the sawmill 3. Contain spilled substance using appropriate materials (granular, sheet or roll sorbents, etc.) 4. Recover hazardous material and remove any contaminated material that is not cleaned or treated on site 5. Complete and retain an environmental incident report 6. Handle and manage contaminated soils in accordance with the Soil Protection and Contaminated Sites Rehabilitation Policy and all applicable regulations • Comply with all other measures outlined in the EPP and the EMEP
2	Accident/malfunction during operation of the plant	• For any accidental release of hazardous material or residual hazardous material, the following steps must be followed 1. Stop the spill and secure the site 2. Notify the National Environmental Emergencies Centre (Environment and Climate Change Canada 1-866-283-2333) and the sawmill 3. Contain spilled substance using appropriate materials (granular, sheet or roll sorbents, etc.) 4. Recover hazardous material and remove any contaminated material that is not cleaned or treated on site 5. Complete and retain an environmental incident report 6. Handle and manage contaminated soils in accordance with the Soil Protection and Contaminated Sites Rehabilitation Policy and all applicable regulations • General mechanical maintenance of the plant and equipment must be carried out in accordance with manufacturers' recommendations or as recommended by the insurer • A plan of the facilities will be recorded at the plant and made available prior to commissioning • Employee training sessions will be held to prepare them for common problems or emergencies • An emergency response plan will be available prior to commissioning and will be communicated to staff • Comply with all other measures outlined in the EEP and the EERP developed by the proponent, including those specifically for the construction phase since machinery (e.g., loader) will also be in operation during the plant's operational phase.