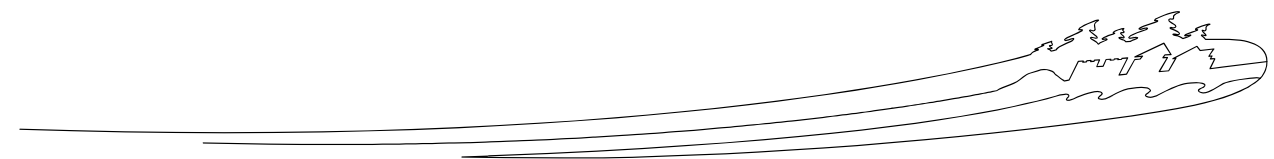
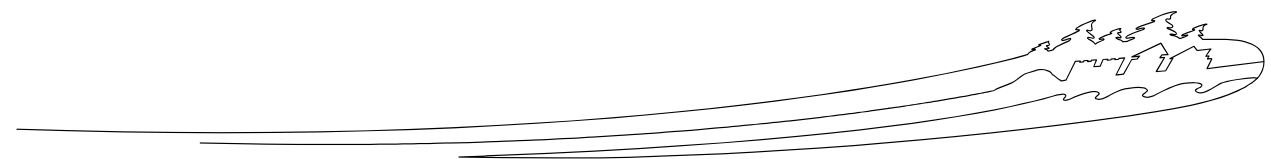


Table 1 Identification and Assessment of the Project Effects and Identification of Mitigation Measures

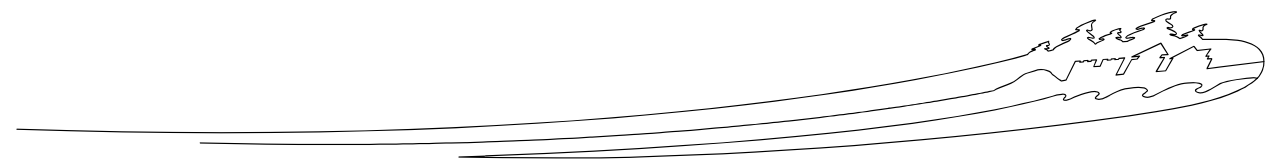
Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
<p>1. Mobilization, site preparation and storage of materials</p> <p>Vegetation removal and tree cutting</p>	<ul style="list-style-type: none"> <li>• Water quality</li> <li>• Soil quality</li> <li>• Wildlife</li> <li>• Vegetation</li> </ul>	<ul style="list-style-type: none"> <li>• Erosion and sedimentation</li> <li>• Contamination of water and soil</li> <li>• Wildlife mortality caused by project activities</li> <li>• Risk of damage to the root system, branches, and tree bark due to the movement of machinery</li> <li>• Removal of trees and vegetation (siphons 1 and 2, spillway 3 and Workshop ditch)</li> <li>• Introduction or dispersal of invasive alien species (IAS)</li> </ul>	N	<p><b>General planning</b></p> <p>1.1 Ensure that all workers review mitigation measures and all site-specific considerations prior to starting work.</p> <p>1.2 Present a development plan that delimits, on an already disturbed plot (e.g. road, gravel surface), the access roads to the site as well as the various areas needed for the project such as the work area, the staging area, the storage areas for construction materials and hazardous materials (including hydrocarbons), the cleaning area, the refueling area, and the parking lots and specify duration of use. These areas must have been approved by the Parks Canada Agency (PCA) Representative.</p> <p>1.3 Avoid sensitive elements (wildlife, vegetation, cultural resources) and any related restricted activity area designated by the PCA. If other fragile elements are found, stop all work immediately and notify the PCA Representative to determine next steps.</p> <p><b>Wildlife</b></p> <p>1.4 If animals are observed inside or near the work site, ensure an adequate and safe exit from the site to keep them away from areas of potential conflicts/ accidents and report any sightings to the PCA Representative to ensure, among other things, compliance with legislative requirements related to species at risk.</p> <p>1.5 Do not set traps, harass, feed, bait, lure, poison or kill animals on the job site.</p> <p>1.6 Choose erosion and sediment control products that reduce the risk of attracting or entangling wildlife, that prevents the introduction of invasive alien species, and that are made from 100% biodegradable materials (e.g. jute, sisal or coconut fiber). Ensure that supporting materials are also biodegradable.</p> <p><b>Protection of the aquatic environment</b></p> <p>1.7 Water from the canal may not be used to wash equipment nor to perform other site operations without the prior authorization of the PCA Representative.</p> <p>1.8 The precipitation and runoff water must be diverted to a terrestrial environment in a buffer vegetation area for infiltration, far from the waterbody and bare soils, or directed to a sedimentation basin or a filtration structure to reduce the inputs of particles to the channel. If there is a risk of contamination at the site, the waters must be contained and sampled. If they exceed the standards in force, they must be treated.</p> <p>1.9 If a treatment system (settling pond, filters, or other such facilities) is to be used, it must prevent contaminants and sediment from flowing into sewers and water bodies. Use the necessary means to define the mode of elimination of captured sediments and wastewater.</p> <p>1.10 Obtain authorization from the PCA Representative before discharging any water into the environment.</p> <p>1.11 Put in place effective measures to limit the input of sediment and debris from the worksite to the aquatic environment (e.g. sediment barrier, berm, sediment</p>	NS



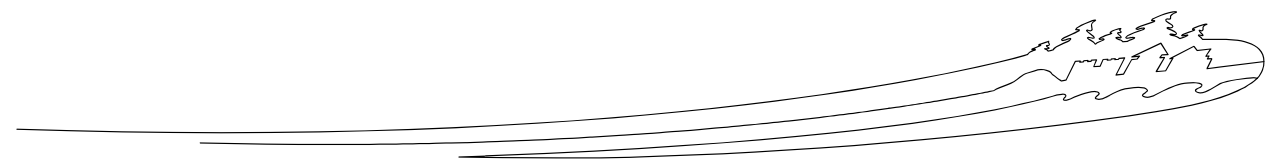
Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
				<p>trap, sedimentation basin, temporary stabilization of slopes, diversion of water towards vegetation zones). The measures must remain effective during the temporary closure of the site and during heavy rains. Pay attention to limit the movement of particles in the waterbody when removing the structures. All erosion control and sediment control structures must be in place prior to starting work.</p> <p>1.12 Do not throw any excavated material, waste or debris into the aquatic environment. Remove any debris accidentally introduced into the aquatic environment as soon as possible.</p> <p>1.13 Ensure that no harmful substances are immersed, released into the aquatic environment or in a place that could contaminate the aquatic environment, as required by the Fisheries Act and the 1994 Migratory Bird Convention Act.</p> <p>1.14 No snow removed during snow removal may be placed in a canal, in accordance with the Regulation respecting historic canals.</p> <p>1.15 Use retention tanks (110% capacity) or waterproof fuel mats with a berm for all stationary equipment and machinery (generators, compressors, etc.) located on the shore and inspect the facilities during periods of rain in order to avoid any overflow.</p> <p>1.16 Portable toilets should be installed away from storm sewers, environmentally sensitive areas (trees, canal, etc.) and paved roads. Make sure they are well anchored to the ground.</p> <p><b>Vegetation</b></p> <p>1.17 Cut trees outside the bird nesting period, from early April to late August, or carry out an inventory of nests (trees, fallow vegetation, dam structure) in the 7 days preceding the work to ensure that no nests are affected during the nesting period. If nests are found, a protection zone may have to be established until the young fledge.</p> <p>1.18 Cut down the ash trees between September 15 and April 15, ash tree residues must be disposed of at a processing site or be transformed onsite by a compliant process (small chips).</p> <p><b>For vegetation removal, felling and trimming of trees:</b></p> <p>1.19 Clearly delimit the area where vegetation will be removed and mark the trees to be conserved. The plan of trees to be felled must be submitted for prior approval by Parks Canada.</p> <p>1.20 Tree trunks should be cut flush, as close to the ground as possible.</p> <p>1.21 Trunks and other recovered materials must be transported to a storage site without spreading debris and without damaging standing trees or landscape features outside the limits indicated for clearing or storage. They should not be dragged into the waterway.</p> <p>1.22 Vegetation debris must be removed as quickly as possible from the right-of-way and transported outside the site for disposal. In the case of temporary storage, store the removed vegetation in areas already subject to disturbance to minimize the area of disturbance.</p>	



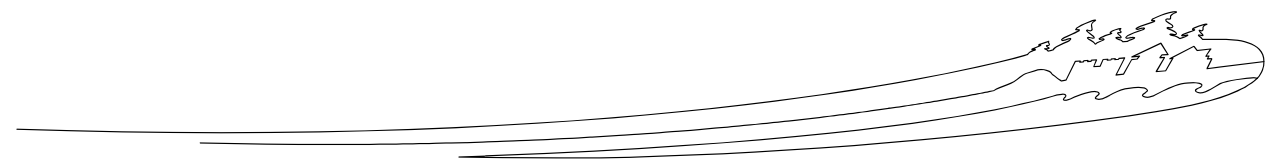
Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
				<p>1.23 Residues of invasive alien species cannot be stored on the site and must be removed immediately. They must be disposed of in a landfill that accepts them, or in an incineration site.</p> <p>1.24 During trimming work, use recognized techniques and comply with the requirements of standard NQ 0605-200. Examples of good techniques include:</p> <p>1.25 Cut the branches above the collar, at the anchoring point of the branch on the trunk, avoiding leaving snags on the tree.</p> <p>1.26 Trim branches over 3 cm in diameter in three steps:  Make an incision about 30-40 cm from the trunk, the depth of which should be equivalent to one third of the diameter of the branch.  Saw off the entire branch a few centimeters higher than the incision.  Saw off the snag, taking care to always protect the edge and collar of the branch.</p> <p>1.27 For branches more than 10 cm in diameter, cut progressively (in a log) from the top to the trunk to reduce the weight during the fall and to avoid injury to the tree.</p> <p>1.28 Ensure that the cuts are clean (no tearing) and minimize the cut surface (straight vs oblique).</p> <p>1.29 For small branches, bevel cut 0.5 cm above a bud at an angle of about 30 degrees in the same direction as the bud.</p> <p>1.30 The trimming of the branches must enable to avoid as much as possible the accumulation of water on the wound, which favors the establishment of mold, parasites and fungi.</p> <p>1.31 Do not cut milkweed between May and October, or until the first frost.</p> <p>1.32 Establish and delimit a protection area around the trees and shrubs to be protected (eg fences, ribbons, barriers, etc.) so as not to damage them or affect the root system. If this is not possible, install a protection system for the trunks and the root system (wooden planks, non-compacting material with geotextile, etc.). Under no circumstances can a tree be used as a support.</p> <p>1.33 Branches likely to be damaged must be protected or trimmed.</p> <p>1.34 Do not paint, damage, or mark natural elements (e.g. rocks, trees) present on the site and in the surroundings for surveying or other purposes before having obtained prior authorization from PCA.</p> <p>1.35 In the event that trees are damaged during the work, provide a forest engineer report including an assessment of the survival potential of the affected trees. If the survival of the trees is affected by the damage, they must be replaced as indicated by the PCA Representative.</p> <p>1.36 Replacement of cut / removed trees (including compensation for those removed on private land)</p> <p>1.37 Apply conservation measures for milkweed and monarch.</p> <p><b>Invasive alien species</b></p> <p>1.38 Monitor the presence of invasive alien species on the site and prepare a management plan, if applicable. Ensure that machinery is clean and free from invasive species and noxious weeds upon arrival onsite and keep it in that condition thereafter.</p>	



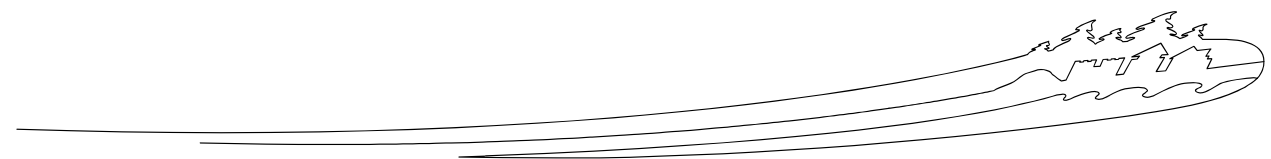
Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
	<ul style="list-style-type: none"> <li>Visitor experience</li> <li>Quality of life of neighbouring residents</li> </ul>	Increase in ambient noise level and noise pollution	Ns	1.39 Identify the main resource persons, as well as their respective roles and responsibilities, before starting the work and passing the information on to all workers onsite. 1.40 Plan noisy activities to minimize impact on visitors and nearby residents 1.41 Comply with laws, regulations, standards, codes and good practices relating to public health and safety, noise, working hours and nuisances, as well as any other risk related to the components of the work. 1.42 Manage the site in such a way as to minimize the work that generates significant noise activity. 1.43 Stop machinery engines, noisy tools and equipment during work stoppages or breaks. 1.44 Inform residents and the public in advance of possible inconveniences caused by the work and their location via the Parks Canada website and local media	NS
	<ul style="list-style-type: none"> <li>Built environment - transportation infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Disruption of local road circulation (lane closure on Route 223 - 2 days)</li> <li>Temporary loss of access to the cycle path</li> </ul>	Ns	1.45 If possible, suggest a bypass or an alternative path. 1.46 Put in place appropriate signage to indicate disruptions and detours to users: road signs and the presence of flaggers. 1.47 Advertise in advance the dates of planned closures	NS
2. Use of cofferdams and draining of the canal (including water management)  Relocation of fish	<ul style="list-style-type: none"> <li>Water quality</li> <li>Wildlife</li> </ul>	<ul style="list-style-type: none"> <li>Contamination of water</li> <li>Wildlife mortality caused by project activities</li> <li>Temporary encroachment in fish habitat</li> </ul>	Ns	2.1 Perform work in fish habitat during the period that allows to protect fish, including eggs, juveniles and spawning adults, and the organisms they feed on. This period is from August 1 to March 31. 2.2 When pumping water, use "anti-fish" nozzles (fitted with a screen at the opening of the pump with a mesh size of one centimeter maximum) in order to avoid the entrainment or impingement of aquatic organisms. Leave adequate space between the pump nozzle and the bottom of the lock to prevent sediment suction. 2.3 If there is a lot of turbidity, find ways to remove unnecessary sources of sediment in the pumping area. 2.4 Determine the maximum flow rate for pumping activities and prevent the flow of pumped water from causing erosion and resuspension of sediment. 2.5 If necessary, provide a system at the outlet to retain fine particles and discharge only clear water into the watercourse. 2.6 Regularly monitor the quality of the discharged water. If the water is cloudy at the point of discharge, discontinue work until the source of the turbidity is established and other mitigation measures are applied. Where applicable, the sediment should be filtered before the pumped water is discharged into the waterbody. 2.7 Comply with the maximum permissible standard for the discharge of suspended solids (SS) in water, which is 25 mg / L above the background level (short-term exposure). The sampling point is at the outlet of the pipe at the discharge point. 2.8 At the request of Parks Canada, real-time turbidity monitoring should be performed to ensure that the increase in total particulate matter generated by the discharge of pumped water does not exceed the value recommended by the CCME for protection of aquatic life, i.e. a maximum increase of 8 UTN compared to the background value (or a maximum increase of 10% of the background value when this is 80 UTN.).	NS



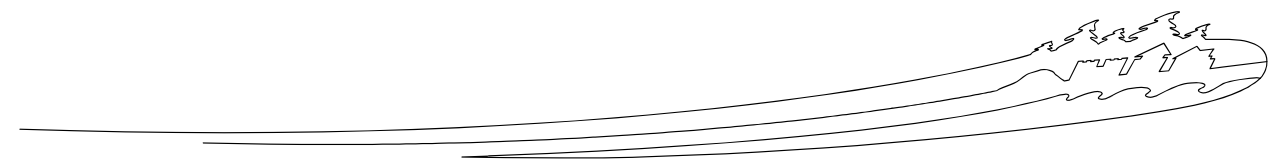
Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
				<p>2.9 Hire a qualified environmental professional who will ensure that all required permits for the relocation of fish have been obtained and who will take care of capturing all fish and other aquatic organisms (for example, if mussels are found in dewatering areas, they will need to be relocated as well) caught in the work area and release them safely elsewhere in the Richelieu River.</p> <p>2.10 Ensure that the drained area is free of fish throughout the work. If a fish is observed, stop the work then notify the Parks Canada official in order to recover, relocate and identify the species.</p> <p>2.11 The method of access to the banks and to the channel, if applicable, must minimize the movement of machinery and must first be approved by Parks Canada.</p> <p>2.12 Develop and locate the accesses in such a way as to limit the transport of sediment by runoff and erosion. Install erosion and sedimentation control devices.</p> <p>2.13 Ensure that the channel bed is dry before installing backfill or any other type of temporary installation.</p> <p>2.14 The machinery must not at any time circulate directly on the sediments of the channel. The circulation of machinery must be limited only to temporary structures fitted out for this purpose.</p> <p>2.15 The machinery that circulates on the bank (less than 15 m from the canal), on an embankment in the canal or on any other type of temporary installation must run on biodegradable vegetable oil. Proof of the application of this mitigation measure may be required.</p> <p>2.16 Clean all equipment before entering the canal to ensure that it is free of contaminants and unwanted plant species. Inspect them daily to make sure they are not leaking.</p> <p>2.17 Remove machinery from the bottom of the canal outside of working hours.</p> <p>2.18 Before the construction of a temporary structure (eg cofferdam, backfill, etc.), cover the bottom of the canal, the banks and all surfaces that will be affected by the structure with a thick non-woven geotextile. This measure is used to facilitate the recovery of materials during the dismantling of the structure and to protect the integrity of the soil in place. If there is a deposit of granular material at the bottom of the channel, make sure that the geotextile protrudes sufficiently on each side of the material.</p> <p>2.19 Take all necessary measures to minimize the suspension and movement of fine particles during the installation and removal of temporary works.</p> <p>2.20 All temporary structures must be stabilized to avoid causing erosion and sedimentation that could affect the integrity of the environment.</p> <p>2.21 The construction of temporary works, including cofferdams, with materials containing particles of less than 5 mm is prohibited, unless they are contained in double bags to avoid percolation and they are put in place and removed manually.</p> <p>2.22 Ensure that the work area is well insulated to prevent water loaded with sediment from entering into the canal. Give priority to the installation of a membrane ensuring the water tightness of the structure.</p> <p>2.23 In order to limit the suspension of sediments during the installation of a temporary structure in the canal, use turbidity curtains before its construction and until</p>	



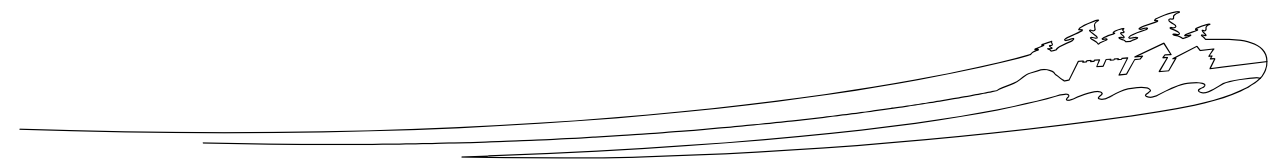
Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
				<p>after its removal at the end of the work in order to define the work area. Also implement the following measures:</p> <ul style="list-style-type: none"> <li>• Place the curtains according to specifications as close as possible to the structure to minimize sedimentation.</li> <li>• Make sure to install the curtain starting by following the structure and then moving away from it to minimize the risk of trapping wildlife.</li> <li>• Do not use turbidity control curtains as a primary or secondary settling area for dewatering activities.</li> <li>• Seal the joint between the curtain and the shoreline to reduce the risk of sediment coming out of the curtain.</li> <li>• Before removing the curtain, allow the suspended sediment to settle. Ensure that the removal method allows the recovery of settled sediments and minimizes their resuspension.</li> <li>• Unless otherwise specified, the reworked canal bed materials must be salvaged in order to restore the profile and materials of the canal bed at the end of the work to its original state.</li> </ul> <p>2.24 A photo report of the conditions "before" and "after" the installation of temporary facilities must be sent to Parks Canada.</p> <p>2.25 All debris present in drained areas must be removed before returning them to the water.</p>	



Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
<p>3. Use, circulation, refueling and cleaning of machinery</p> <p>Storage of construction materials and of hazardous materials (HM)</p>	<ul style="list-style-type: none"> <li>• Air quality</li> <li>• Water quality</li> <li>• Soil quality</li> <li>• Vegetation</li> </ul>	<ul style="list-style-type: none"> <li>• Emissions of greenhouse gases (CO, CO<sub>2</sub>, NO<sub>x</sub>), of O<sub>3</sub> and of fine particles into the air</li> <li>• Soil erosion, loss of topsoil and exposure of subsoils</li> <li>• Sedimentation causing turbidity</li> <li>• Soil compaction and formation of ruts</li> <li>• Risk of damage to the root system, branches, and bark of trees due to the movement of machinery</li> <li>• Contamination of water and soils by HM, waste and hydrocarbon leaks from machinery</li> </ul>	NS	<p><b>Air quality</b></p> <p>3.1 Make sure that exhaust and pollution systems for machinery, equipment and other construction equipment are maintained in good condition.</p> <p>3.2 Comply with current municipal regulations regarding air dust emissions.</p> <p>3.3 Put in place appropriate measures to reduce dust emissions into the air (e.g., watering dry materials, scanning, using tarpaulins on bare surfaces or materials in piles, ensuring that equipment is equipped with a source suction system, etc.).</p> <p>3.4 Avoid handling and transporting materials that can easily erode or when a plume of dust is visible.</p> <p>3.5 The dump trucks carrying materials (soils, concrete, granular materials and any other type of materials) must be equipped with waterproof tarpaulins.</p> <p><b>Circulation of machinery</b></p> <p>3.6 Prescribe the mobilization/circulation of vehicles on durable or already disturbed surfaces (e.g. paved road, gravel surface, high-resilience disturbed area) and avoid the area of the tree root system (minimally the ground projection area of the branch).</p> <p>3.7 Spread a dust suppressant in unpaved areas in case of heavy dust. Water must be used within 60 m of the aquatic environment. Do not use chemicals as dust suppressant for this work.</p> <p>3.8 Clean access roads and traffic lanes regularly during construction.</p> <p>3.9 Limit the speed of vehicles onsite at 15 km/h and 10 km/h on the canal path.</p> <p>3.10 visually observe the dust emission and take action to control it as needed.</p> <p><b>Storage</b></p> <p>3.11 Limit storage areas to durable areas or already disturbed surfaces. If this is not possible, the proposed storage areas must have been approved by Parks Canada. Equipment and machinery cannot be stored above the root system of trees.</p> <p>3.12 The storage of petroleum products and hazardous materials, as well as the maintenance, refueling and cleaning of machinery, must be carried out more than 30 m from the waterbody, on a site designed for this purpose where there is no risk of contamination of soil and groundwater and surface water.</p> <p>3.13 All temporary accumulation of unconsolidated materials located within 30 m of an aquatic environment and left in place for more than 24 hours must be protected with a sediment barrier and covered with a watertight canvas to prevent the transport of sediment into the water.</p> <p>3.14 Respect all health and safety regulations, laws, standards and preventive measures relating to padlocking, storage, signage, communication, maintenance of the storage area, and to handling and the specific disposal of the hazardous materials present on the site.</p> <p>3.15 Provide the construction site with adequate containers for the temporary and safe storage of hazardous waste, which must be separated by categories.</p> <p><b>Hydrocarbons</b></p> <p><i>Measure 2.15</i></p> <p>3.16 Maintain in good condition and regularly maintain vehicles and equipment. Immediately repair or remove leaky vehicles or equipment from the site.</p>	NS

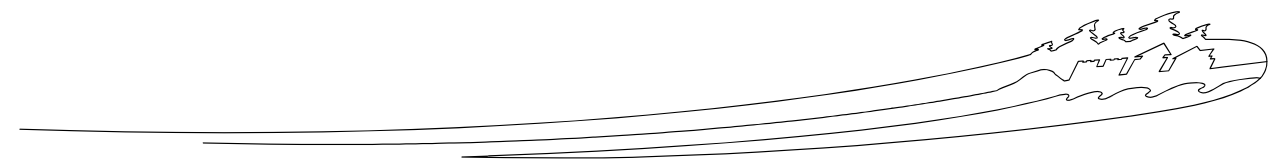


Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
				<p>3.17 Do not leave any vehicle, machinery and / or gasoline-powered equipment within 10 m of the canal or at the bottom of a lock outside working hours or during prolonged site closures, unless confined in a waterproof enclosure. If this is not possible, soil protection measures must be implemented under the equipment or machinery throughout the aforementioned period (e.g. containment tank having a volume equivalent to at least 110% of the volume of the equipment or machinery's fuel tank).</p> <p>3.18 Provide for sufficient quantities of hydrocarbon recovery kits (containment sticks, absorbent rollers, watertight containers, etc.) and a standard fire extinguisher that meets current standards to manage any spill, environmental incident or fire. Ensure workers are trained to respond quickly to leaks or spills and are informed of the location of the kits.</p> <p>3.19 Prepare an emergency procedure and communication plan in the event of a spill, environmental incident or fire. This procedure should include, but is not limited to, measures to plug leaks, confine spilled products to limit their extent and prevent them from reaching sensitive areas, recover contaminants at the source, decontaminate affected areas and dispose of contaminated material in accordance with existing laws, policies and regulations. Rehabilitation of the affected areas must be undertaken without delay.</p> <p>3.20 In the event of an environmental incident, notify the PCA, National Centre for Environmental Emergencies Environment and Climate Change Canada (1-866-283-2333) and Emergency Environment of Quebec (1-866-694-5454).</p> <p>3.21 Make refueling on a waterproof surface and in a confined area.</p> <p>3.22 Clean leaks and spills that occur during refueling and properly dispose of contaminated materials.</p> <p>3.23 Never dispose or deposit fuel in the environment or in a waterbody.</p> <p>3.24 Clean tools and equipment off-site. If it is necessary to do it onsite, cleaning should be done at a location at least 30 m from any waterbody.</p>	
	<ul style="list-style-type: none"> <li>Visitor experience</li> <li>Quality of life of neighbouring residents</li> </ul>	<ul style="list-style-type: none"> <li>Increased ambient noise levels</li> <li>Increased risk of accidents for the public and users caused by the movement of heavy machinery and construction equipment</li> </ul>	Ns	<p><i>Measures 1.39 to 1.47</i></p> <p>3.25 Ensure that silencers or noise-cancelling devices are working properly.</p> <p>3.26 Avoid the removal of rear panels from dump trucks.</p> <p>3.27 For the transport of materials, favour a route avoiding residential and recreational areas.</p> <p>3.28 Put in place appropriate signage indicating the presence of machinery.</p>	NS
<p>4. Excavation of soils and of sediments and backfilling</p> <p>Ditch ("Workshop" ditch) and watercourse reprofiling (Siphon 1)</p>	<ul style="list-style-type: none"> <li>Soil and sediment quality</li> <li>Water quality</li> <li>Vegetation</li> </ul>	<ul style="list-style-type: none"> <li>Input of contaminated substances to the environment</li> <li>Cross-contamination</li> <li>Erosion and sedimentation</li> <li>Sedimentation causing turbidity</li> <li>Temporary loss of vegetation</li> </ul>	N	<p><i>Measures 1.11 to 1.14, 3.6 to 3.10, 3.11 and 3.13</i></p> <p>4.1 In the presence of signs of contamination of excavated soils (smell, iridescence, stains), soils will need to be characterized to determine their off-site disposition in accordance with the MELCC's Guide to Intervention - Soil Protection and Rehabilitation of Contaminated Lands.</p> <p>4.2 Avoid excavation during periods when the soil is saturated, rain is heavy and there is runoff, strong winds or wet snow.</p> <p>4.3 Limit the in-situ storage time of excavated materials. Favour direct loading on the various sites, especially in the presence of contaminated materials.</p> <p>4.4 Manage the excavation materials (storage and disposal) based on their nature (e.g., topsoil, backfill), volume and extent of contamination (e.g., generic criteria,</p>	NS

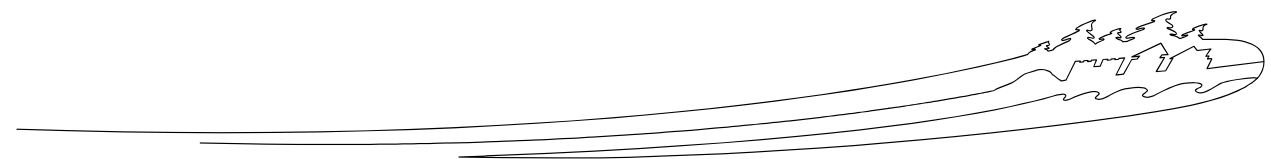




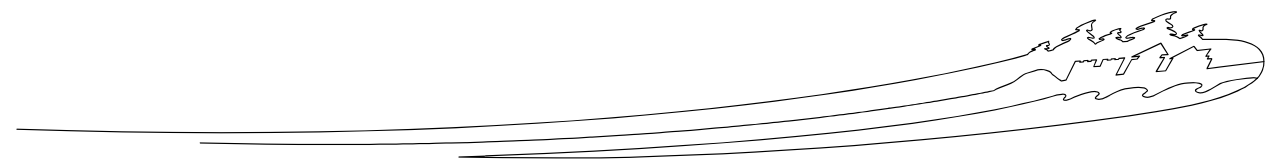
Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
Ditch cleaning (Siphon 2) Vegetation removal				<p>recommendations) according to existing federal, provincial and municipal laws and regulations.</p> <p>4.5 Take the necessary precautions during the temporary storage of the excavated soils to control the dispersion of fine elements and to avoid contamination of the underlying and adjacent soils. Plan, at least, to:</p> <ul style="list-style-type: none"> <li>• Segregate the excavated materials based on their nature and level of contamination.</li> <li>• Store the excavated materials on a waterproof tarp and cover it with solidly secured tarps to prevent them from being lifted by the wind.</li> <li>• Install sediment barriers to encircle the various storage areas of the materials.</li> <li>• At all times, ensure that soils do not migrate to other environments, either by air, runoff or vehicle transit.</li> <li>• Do not store contaminated materials excavated near the waterbody.</li> </ul> <p>4.6 All machinery that has come into contact with contaminated soils will need to be properly cleaned before being used in other areas.</p> <p>4.7 When disposing of contaminated soils, keep any documents or slips attesting of their disposition in sites authorized by the MELCC depending on their degree of contamination.</p> <p>4.8 Use clean backfill material, free of contaminants and unwanted species.</p> <p>4.9 No permanent encroachment, change in profile or change in surface material of the canal bed or watercourse considered fish habitat is permitted, except for work planned and previously validated by Fisheries and Oceans Canada (DFO).</p> <p>4.10 Temporary encroachments into the canal bed should be minimized as much as possible so as not to result in loss of fish habitat.</p> <p>4.11 Do not take any borrowing material into the canal.</p> <p>4.12 Do not store contaminated material excavated near a waterbody.</p> <p>4.13 Machinery that comes into contact with contaminated soil must be properly cleaned before being used in other areas.</p> <p>4.14 New material (e.g. topsoil, controlled backfill) must be properly compacted to prevent subsidence and minimize erosion.</p>	
	<ul style="list-style-type: none"> <li>• Wildlife and habitat</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of 98 m<sup>2</sup> of fish habitat related to the extension of siphon 1 in Simard Creek (4 m<sup>2</sup>) and to the added thickness of the canal walls at spillways 1 to 3 (29 m<sup>2</sup>, 29 m<sup>2</sup> and 30 m<sup>2</sup> respectively)</li> <li>• Temporary change in fish habitat related to work in the shoreline and permanent change in habitat due to reprofiling of Simard Creek (359 m<sup>2</sup>)</li> </ul>	Ns	<p><i>Measure 2.1</i></p> <p>4.15 Obtain authorization from Fisheries and Oceans Canada, if required, before carrying out work in the shoreline</p> <p>4.16 Reduce to the minimum the removal of natural debris from wood, rocks, sand or other materials from the shoreline or watercourse bed below the high-water line. If materials are removed from the water, they must be set aside to be relocated to their original location once construction is completed.</p> <p>4.17 Restore the contour of the banks and the slope of the riverbed to their original state. If it is not possible to restore the initial flow slope due to instability, a stable slope that does not obstruct the passage of fish should be developed.</p>	NS
	<ul style="list-style-type: none"> <li>• Built environment</li> </ul>	<ul style="list-style-type: none"> <li>• Changes to private land (Workshop ditch)</li> </ul>	Ns	<p>4.18 Make agreements with landowners</p> <p>4.19 Restore affected properties to initial conditions</p>	NS
5. Concrete demolition	<ul style="list-style-type: none"> <li>• Air quality</li> <li>• Water quality</li> <li>• Soil quality</li> <li>• Wildlife</li> </ul>	<ul style="list-style-type: none"> <li>• Emissions of GHGs, O<sub>3</sub> and fine particles</li> <li>• Input of debris and contaminants to the environment</li> <li>• Alteration of local natural components of the aquatic environment due to the products used</li> </ul>	N	<p>Measures 1.7, 1.11 to 1.13, 1.40 to 1.44, 2.25, 3.2 to 3.5, 3.14 to 3.16</p> <p>5.1 Plan measures to contain and recover debris, residues, particles and dust (e.g. tarpaulins, geotextiles, sileage or shoreline barriers, dust screens, equipment</p>	NS



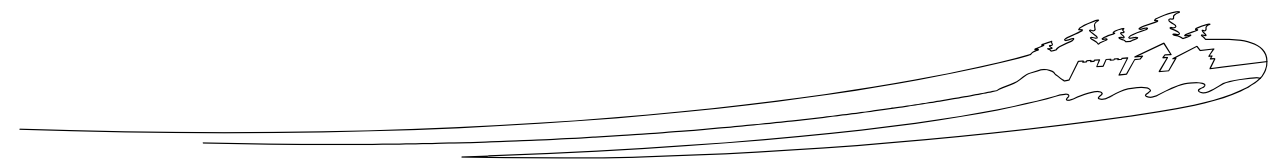
Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
(spillway) and concrete	<ul style="list-style-type: none"> <li>Quality of life of neighbouring residents</li> </ul>	<ul style="list-style-type: none"> <li>Degradation of soil and sediment quality</li> </ul>		<p>equipped with a source suction system). Be sure to limit the movement of residues into the water when removing the equipment.</p> <p>5.2 Clean demolition debris immediately and dispose of it at MELCC-authorized sites.</p> <p>5.3 Avoid fresh, wet and not hardened concrete and concrete dust from coming into contact with waterbodies. All accidentally introduced debris should be removed as soon as possible.</p> <p>5.4 The surplus of concrete from concrete pumps must be poured into a confined, watertight enclosure. After hardening, concrete residues must be managed with construction waste and disposed of in an approved facility.</p> <p>5.5 The washing water of the cement mixers must be collected in a watertight basin designed to prevent any flow into the environment. The clean-up area must be located more than 30 m from the waterbody and must be pre-approved by Parks Canada.</p> <p>5.6 Washing water can be taken care of by the concrete supplier and brought back to the concrete plant for disposal. Otherwise, these waters must be sampled and treated (if any) to meet the applicable discharge standards, namely the CCME's recommendations for water quality - protection of aquatic life and the SURFACE water quality criteria of MELCC (protection of aquatic life - acute effect).</p> <p>5.7 Use working methods that generate as little dust as possible.</p> <p>5.8 Undertake concrete demolition, granular base and asphalt work outside periods of wet, windy or rainy weather where the risk of erosion and sedimentation is higher.</p>	
6. Lining of the pipe (Siphon 3)	<ul style="list-style-type: none"> <li>Water quality</li> <li>Sediment quality</li> <li>Wildlife</li> </ul>	<ul style="list-style-type: none"> <li>Risk of water and sediment contamination (resin) in the event of a break or failure during lining works</li> <li>Risk of hot water inflow to the watercourse that could cause fish mortality</li> </ul>	N	<p>6.1 Prepare a plan to respond to hot water leaks in the environment</p> <p>6.2 Wait for the cooling of the water before cutting the lining to make sure the resin has attached into the sheath.</p> <p>6.3 In the event of a hot water spill, ensure that the coffer has the capacity to contain the discharged water. Check the quality of water accumulated in the coffer (presence of resin) before it is released into the watercourse. In the event of contamination, pump the water into a tanker truck and dispose of it off-site in an authorized location.</p> <p>6.4 In the presence of contaminated water, check sediment quality and remove contaminated materials. Rehabilitate the site according to the initial conditions.</p>	NS
7. Granular base and paving of the canal path (siphon 1)	<ul style="list-style-type: none"> <li>Water quality</li> <li>Soil and sediment quality</li> <li>Visitor experience</li> <li>Quality of life of neighbouring residents</li> <li>Built environment (transportation infrastructure)</li> </ul>	<ul style="list-style-type: none"> <li>Increased ambient noise level and noise nuisance</li> <li>Temporary loss of access to the cycle path</li> </ul>	Ns	<p><i>Measures 1.39 to 1.47, 5.8</i></p> <p>7.1 Use low-emission products of volatile organic compounds (VOCs) (e.g. bitumen emulsion rather than fluidized bitumen)</p> <p>7.2 Respect the Code of Practice for Reducing Emissions of Volatile Organic Compounds from Fluidized Bitumen and Bitumen Emulsion from Environment and Climate Change Canada (ECCC)</p> <p>7.3 Where possible, use oil coatings from recycled oil aggregates and cold or lukewarm manufacturing processes, for example, to reduce greenhouse gas emissions and save energy.</p>	NS
8. Off-site waste management and disposal including	<ul style="list-style-type: none"> <li>Water quality</li> <li>Soil quality</li> <li>Air quality</li> <li>Vegetation</li> </ul>	<ul style="list-style-type: none"> <li>Contamination of air, water and soil by cleaning residues, waste, and hazardous materials</li> <li>Changes to floristic habitat</li> </ul>	Ns	<p><b>Water management</b></p> <p>Measures 1.2, 1.6 to 1.9, 2.6, 2.7, 3.24, 5.5, 5.6, 6.3 and 6.4</p> <p>8.1 Make sure that wastewater generated by construction equipment and operations (e.g., equipment washing water, surface cleaning water, concrete</p>	NS



Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
contaminated soil and invasive alien species debris  <i>(building materials, hazardous materials, cleaning water, etc.)</i>	<ul style="list-style-type: none"> <li>Wildlife</li> </ul>	<ul style="list-style-type: none"> <li>Changes to wildlife habitat</li> </ul>		<p>sawing wastewater) is contained and recovered. Before being released to the environment, these waters must be sampled and treated (if any) to meet the applicable discharge standards, namely the CCME's recommendations for water quality - protection of life, the MELCC surface water quality criteria (protection of aquatic life - acute effect) and the CMM Regulations 2008-47 for suspended materials. pH and C10-C50. It will be the contractor's responsibility to demonstrate compliance with these standards.</p> <p>8.2 If the waters do not meet applicable standards and cannot be treated onsite, they must be recovered in watertight containers and transported to a MELCC-authorized location.</p> <p><b>Hazardous and non-hazardous waste</b> Measures 1.12, 2.25, 3.20, 3.24, 4.3, 4.7, 5.2 and 5.4</p> <p>8.3 Regularly clean up construction sites so that they are always free of waste. It is forbidden to release waste into the environment.</p> <p>8.4 Hazardous waste materials must be collected by companies with appropriate permits for the transportation, storage, processing or disposal of these materials.</p> <p>8.5 Lock down hazardous materials that are left onsite outside construction hours.</p> <p>8.6 list and sort all hazardous or toxic substances (concrete debris, creosote-treated wood, mold, animal feces, paint, automotive products, electrical equipment) as well as all pollutants such as gasoline and solvents at the work site. Handle, store and dispose of in accordance with CEPA, the Dangerous Goods Transportation Act 1992, SIMDUT and all other applicable laws, regulations and standards.</p> <p>8.7 Implement an adequate management program to ensure containment and disposal of waste such as metal debris, used oil coating and concrete debris. These wastes should be segregated at the source as much as possible and recycled.</p> <p>8.8 Confine and stabilize non-hazardous waste at a minimum distance of 30 metres from the canal and to the designated and authorized storage area.</p> <p>8.9 Eliminate all non-hazardous waste from the site and provide enough containers to store household waste on a daily basis.</p> <p>8.10 Recover solid residue from washing construction equipment and dispose of it appropriately. Containers must be watertight and materials must be transported to a MELCC-authorized location.</p> <p>8.11 Maintain portable sanitary facilities on a regular basis and dispose of waste accumulated in an appropriate disposal facility. Portable facilities must have sufficient capacity and be managed to prevent waste from being released into the receiving environment.</p> <p>8.12 Do not make fires or burn or bury construction waste, hazardous substances or any material (e.g. plastic).</p> <p>8.13 Store in a vehicle, secure building or wildlife-proof containers, all products that may attract animals (e.g. petroleum products, food, recyclable beverage containers and waste). If possible, keep food waste separate from construction debris and dispose of it daily.</p>	



Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
9. Rehabilitation and demobilization	<ul style="list-style-type: none"> <li>• Soil quality</li> <li>• Vegetation</li> <li>• Wildlife</li> <li>• Water quality</li> </ul>	<ul style="list-style-type: none"> <li>• Erosion and sedimentation</li> <li>• Introducing and spreading of invasive alien species</li> </ul>	Ns	<p><i>Measures 1.36 and 4.19</i></p> <p>9.1 Disturbed soils, exposed soils, vegetated surfaces and all floristic elements disturbed during the work must be rehabilitated, re-vegetated or replaced at the end of the work with methods approved by the PCA representative so that the site is left as it was in its original state.</p> <p>9.2 Plant trees to compensate for tree loss in a ratio of 1:1.</p> <p>9.3 The rehabilitation of damage to vegetation, natural features and wildlife must be carried out under the supervision of a qualified specialist.</p> <p>9.4 Supervise disturbed and re-vegetated plots until the Parks Canada Representative establishes that native vegetation grows well there and that the spread of invasive alien species has been avoided.</p> <p>9.5 Rehabilitated surfaces must have a degree of compaction and aeration corresponding to the initial state (pre-work).</p> <p>9.6 Assure drainage of runoff, which may include the restoration or improvement of the original drainage conditions.</p> <p>9.7 Restore and re-vegetate the site at the end of the work. This includes restoring removed ornamental shrubs (if any) and vegetation cover using diverse, fast-growing, low-maintenance, project area-appropriate native species to enhance the local plant community.</p>	NS
10. Cultural Resources Management	Cultural resources			<p><b>General</b></p> <p>10.1 If changes in the scope of the work or the proposed conservation approach were to take place, the project team would need to provide an update with appropriate documentation describing the change or changes so that a follow-up analysis could be completed.</p> <p>10.2 Parks Canada's Cultural Resource Management Advisor and other expertise (archaeology) will continue to be involved in the next phases of the project.</p>	
	<p>Cultural resource of national historic significance - The cultural landscape</p> <p>Landscape components:</p> <ul style="list-style-type: none"> <li>• The banks</li> <li>• The hauling path</li> <li>• The service path</li> <li>• Buildings</li> <li>• Engineering works</li> </ul>	<ul style="list-style-type: none"> <li>• The waterway's banks will be affected by the proposed interventions.</li> <li>• The hauling path, service road and various waterway buildings and engineering structures could be affected by the proposed interventions.</li> </ul>	Ns	<p>10.3 <b>Particular attention should be paid to the profile of the shoreline in the areas of intervention affecting the riverbank, especially during rehabilitation as before.</b> Indeed, the profile of the riverbank delimits the size of the waterway.</p> <p>10.4 <b>Particular attention should be paid to the hauling path</b> profile so that the portions affected by the interventions are rehabilitated to limit the impact of the interventions.</p>	NS
	<p>Cultural resources related to other heritage values - buildings</p> <ul style="list-style-type: none"> <li>• The Crane-garage shed</li> </ul>	<ul style="list-style-type: none"> <li>• The work could result in the loss, modification or destruction of heritage elements that contribute to the heritage value of the building.</li> <li>• Undertake interventions without understanding the impact on heritage value and/or the effect on building characteristic features.</li> </ul>	N	<p>10.5 If necessary, the materials will be replaced identically to limit the impact on heritage value and not to result in any change to the characteristic elements of the Crane-garage shed.</p>	NS
	Cultural resources related to other heritage values - engineering	<ul style="list-style-type: none"> <li>• The work could result in the loss, modification or destruction of heritage elements that</li> </ul>	Ns	<p>10.6 Siphons: the material - concrete - is replaced identically to limit the impact on heritage value and not to cause changes to the characteristic elements of the</p>	NS



Project Component	Environmental Component	Description of the Environmental Impact	Effect Evaluation	Mitigation Measures	Significance of the Residual Effect
<b>Construction</b>					
	works <ul style="list-style-type: none"> <li>• The hauling path</li> <li>• The service path</li> <li>• Spillways 1, 2 and 3</li> <li>• The remains of the hydroelectric power plant</li> <li>• Siphons 1, 2 (Pelletier) and 3</li> </ul>	contribute to the heritage value of the various engineering works on the Chambly Canal. <ul style="list-style-type: none"> <li>• A change in equipment or not using appropriate materials could have a negative impact on the heritage value and features of the Chambly Canal spillways and various engineering works.</li> </ul>		Siphons of the Chambly Canal. 10.7 Spillways: The material - concrete - is replaced identically to limit the impact on heritage value and not to cause changes to the characteristic elements of the Chambly Canal spillways. 10.8 The walls of spillway 3: the material - concrete - is replaced identically in order to limit the impact on heritage value and not to cause any changes to the characteristic elements of this engineering work related to the Chambly Canal spillway 3.	
	Cultural resource linked to other heritage values - archaeological resources	<ul style="list-style-type: none"> <li>• Excavating without recognizing the possibility of fortuitous archaeological discoveries could have negative effects on archaeological resources.</li> <li>• Damage to archaeological remains and resources during excavations</li> </ul>	S	10.9 <b>Archaeological monitoring</b> of interventions is <b>highly recommended</b> . 10.10 Detailed plans and specifications for the construction and mobilization of the project will be submitted to Parks Canada's Earth Archaeology team for review. 10.11 If changes are made to the plans, any additional sources of information will be submitted to Parks Canada's Earth Archaeology team for review. 10.12 Vehicle access paths and mobilization areas will be restricted to existing roads and parking lots and other disturbed areas. A parking area location plan for heavy machinery (and machinery type) and a location map for container storage areas and/or demolition debris are required. If undisturbed areas are to be used, then protective measures will be needed - by setting up a geotextile web and wood chips or gravel. During unloading and removal, the machinery must remain on the gravel to avoid rutting, especially if this project is carried out when the soil is saturated with water. 10.13 In the event of incidental discoveries of cultural resources made in the absence of an archaeologist, it is imperative that the contractor suspend work in the immediate area of discovery and notify the Parks Canada project manager who will then take the necessary steps to protect and conserve the resource or resources.	NS

