



9. MITIGATION MEASURES

To mitigate for the potential harmful effects of the project, the following measures shall be implemented:

9.1. General:

9.1.1. The Owner, Parks Canada Agency (PCA) is the main Environmental Authority for Trent-Severn Waterway (TSW) projects. Issues pertaining to Federal and Provincial Legislation (i.e. *Historic Canal Regulations, Species at Risk Act, Fisheries Act, Impact Assessment Act, Endangered Species Act, Migratory Bird Convention Act, etc.*), such as that pertaining to Species at Risk (SAR), invasive species, spills, water quality, etc., shall be directly reported to PCA.

9.1.2. Inform PCA's Representative and PCA's Environmental Services (ES) Officer (TSW in Peterborough) regarding any changes to project plans and/or scheduling. Any changes not assessed under this Basic Impact Assessment (BIA) will require approval from PCA and may require further mitigation measures.

9.1.3. The Contractor is required to submit an Environmental Management Plan (EMP) to the Department Representative and PCA's EA which outlines all the measures to be implemented by the contractor on the project site to eliminate or reduce environmental effects and address mitigation measures outlined in this BIA. In order to allow for the timely commencement of project activities, the EMP can be submitted as separate components as project details become available. The EMP, or its components, will be submitted in writing prior to implementation of project activities and must be accepted by Parks Canada.

9.1.2.1. The EMP and its component plans, must be prepared in accordance with Parks Canada Agency's Environmental Standards and Guidelines Document (ESG) - Ontario Waterways, July 2017, this BIA, and applicable PCA Best Management Plans (BMPs).

9.1.2.2. PCA will not issue permit to authorize start of Work, under *Historic Canal Regulations*, prior to the review and acceptance of EMP.

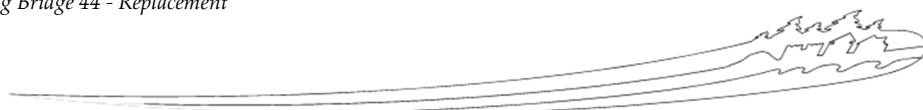
9.1.2.3. The contractor is to ensure that all on-site personnel are aware of, and comply with the contents of the PCA-accepted EMP and any measures outlined within subsequent PCA-accepted amendments to the EMP.

9.1.2.4. A copy of the EMP shall be kept on site for the duration of the project and all works, as applicable, shall be completed in compliance with the EMP.

9.1.3. A Qualified Environmental Professional(s) (QEP) shall prepare the EMP or its component plans incorporating guidance found in PCA's *Environmental Standards and Guidelines - Ontario Waterways (2017)*. The EMP will detail frequency of monitoring and list high-risk construction activities where an environmental professional must be onsite. Monitoring and testing should be adaptable to changing site conditions and will capture any event/incident for the length and scope of that event.

9.1.4. The contractor is to ensure that all on-site personnel are aware of, and comply with the prescribed mitigation measures within this BIA and any measures outlined within subsequent amendments to this BIA.

9.1.4.1. A copy of this BIA and any subsequent amendments shall be kept on site for the duration of the project.





9.1.5. The Contractor shall adhere to all federal, provincial, and municipal legislation, by-laws, regulations, guidelines, safety standards, and codes governing construction activities. In cases of overlap, the most stringent will apply.

9.1.6. Should conditions at the work site indicate that there are negative impacts to fish, fish habitat, wildlife, cultural or visitor experience resources, all associated works shall cease until the problem has been corrected and PCA's ES staff have been consulted/notified. PCA has the right to require that work be altered or ceased immediately. Any death of fish or harmful alteration, disruption, or destruction of fish habitat must be reported to PCA and the Department of Fisheries and Oceans (DFO).

9.1.7. As per the *Historic Canal Regulations (HCR)* applicable to lands administered by the TSW National Historic Site of Canada, a permit signed by PCA's Ontario Waterways Director (or delegate) will be required to authorize the project work prior to commencement of the project (to be facilitated by PCA).

9.1.8. The BIA and the contractor's approved EMP will form the basis for a permit under the HCR. Non-compliance with required mitigation may lead to violations of the permit.

9.2. Equipment and Site Condition:

9.2.1. All machinery and equipment shall be clean, free of leaks and maintained in optimal working condition to avoid leakage of fuels and liquids. Ensure measures are in place to minimize impacts of accidental spills.

9.2.2. All materials and equipment used for the purpose of site preparation and project completion shall be operated and stored in a manner that prevents any deleterious substance (e.g. petroleum productions, debris etc.) from entering the water. Ensure measures are in place to minimize impacts of accidental spills.

9.2.3. All stockpiled materials and concrete debris shall be stored and stabilized a safe distance (a minimum of 30 m) away from any watercourse, drainage course or swales to prevent erosion and subsequent entry into the TSW or removed from the site, in accordance with all federal, municipal and provincial regulations.

9.2.4. Store all oils, lubricants, fuels and chemicals within sealed, impermeable containers, within secure areas a minimum of 30 m away from the watercourse and upon impermeable-lined drip/spill trays.

9.2.5. Vehicle and equipment re-fueling and/or maintenance shall be conducted over an impermeable-lined drip/spill tray to allow full containment of spill, off of slopes and away from the water at a minimum distance of 30 m. If not possible, fueling sites shall be as per the EMP and mitigations to prevent substances from entering the watercourse shall be applied.

9.2.6. A designated re-fueling depot shall be established at a minimum distance of 30 m away from the watercourse to minimize the potential for extensive impacts at the site due to accidental releases of substances; proper spill management equipment shall be in place for fueling.





- 9.2.7. If 30 m setbacks from cannot be achieved due to site constraints, alternatives will be identified in the EMP and additional mitigations shall be applied to prevent substances from entering the watercourse.
- 9.2.8. Drip/spill trays shall be placed under all fuel-powered equipment. Drip trays shall be sized appropriately to encompass the outer perimeter of the equipment/machinery, providing adequate spacing for refueling activities.
- 9.2.9. All compressed air/fuel tanks shall be stored off to the side, away from on-going activity, and be adequately protected with an impact-protection barrier.
- 9.2.10. Any Above-ground Storage Tanks (ASTs) or other fuel storage tanks on site, are to be stored in compliance with Federal and Provincial storage tank requirements. Specifically, ASTs are to be placed within a secondary containment system of adequate holding capacity, based on the volume of the AST. See: <https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/publications/code-practice-storage-tank-systems/part-3.html> .
- 9.2.11. Self-contained fuel tanks, or fuel tanks so large where sizing a drip/spill tray to be placed underneath said tank would be impractical, at minimum, a spill tray is to be placed at the nozzle/hose end and utilized for all refueling activities.
- 9.2.12. There shall be no discharge of chemicals and cleaning agents in or near aquatic habitats; all such substances shall be disposed of at a facility licensed to receive them
- 9.2.13. Spill control and emergency plans will be in place prior to initiation of construction; an emergency spill kit shall be kept on-site and employed immediately should a spill occur. The contractor shall ensure that adequate additional spill clean-up resources are available.
- 9.2.14. In the event of a spill, PCA and the Ontario Spill Action Centre (1-800-268-6060) shall be notified immediately. Remediation will be conducted immediately to contain and clean up in accordance with federal and provincial regulatory requirements **AND to the satisfaction of PCA**. Documentation of remediation, testing and results will be provided to PCA. Spills shall be reported directly to the PCA Environmental Officer on file (705-750-4900).
- 9.2.15. Spill-related environmental incidents or emergencies include (but is not limited to):
- 9.2.15.1. Chemical spill or petroleum spill;
 - 9.2.15.2. Poisonous or caustic gas emission;
 - 9.2.15.3. Biological or chemical explosion;
 - 9.2.15.4. Hazardous material spill;
 - 9.2.15.5. Sewage spill;
 - 9.2.15.6. Contaminated water into waterways;
 - 9.2.15.7. Release of turbidity into the waterway; and
 - 9.2.15.8. Release of water with pH <6 or >9 into the waterway.
- 9.2.16. Operate machinery from stable location.





9.2.17. Only the working end of machinery shall directly enter the water. Any part of a machine or equipment entering the water shall be free of fluid leaks and externally degreased to prevent any deleterious material from entering the water. Complete the in-water activity as quickly as possible to minimize the time equipment is in the water. Do not leave equipment in water during breaks in work activity.

9.2.18. Use biodegradable hydraulic fluids for machinery that will be working in or around the river.

9.2.19. The Material Safety Data Sheet (MSDS) of any unapproved substances to be utilized onsite (particularly that of substances to be in use in/adjacent to water) shall be provided to PCA ES for review and acceptance. MSDS information of known products to be utilized in/adjacent to water throughout the duration of the project should be incorporated as part of the EMP.

9.2.20. An adequate containment system shall be placed below the swing bridge and inspected daily to effectively confine and capture any debris that could potentially become detached during the removal and replacement of the swing bridge superstructure, or any of its component parts, including the asphalt wearing surface and nail laminated timber deck.

9.2.21. All debris collected within the containment system shall be carefully emptied into an enclosed container daily, or more frequently if required, to ensure that no paint chips or debris escape into the surrounding environment, or remain at the site. All paint chips and debris shall be recovered, collected, and taken to a landfill site licensed to receive it for disposal in accordance with all applicable federal, provincial, and municipal laws, regulations, and guidelines.

9.3. Water Quality:

9.3.1. Ontario Drinking Water Quality Guidelines cannot be exceeded (beyond parameters that currently exist) due to project activities.

9.3.2. Ensure that sediment settling basins are of adequate size to compensate for excess sediment run-off and erosion (i.e. storm water run-off, misdirected drainage).

9.3.3. Only washed and clean material free of fine particulate matter shall be placed in or near water where it has been previously planned and authorized.

9.3.4. Salt and other road chemicals shall be properly stored in designated areas only, preferably in dry sheds to prevent infiltration of leachate to the water table and surface runoff.

9.3.5. Accumulated snow that may be contaminated with salt shall be disposed of only at approved dumpsites or designated areas.

9.3.6. Snow containing salt or sand should never be dumped in, or allowed to melt and run off into watercourses.





9.4. Fish and Fish Habitat:

9.4.1. All in-water work shall be initiated after July 15th and completed before March 15th to protect fish populations during their spawning and nursery periods. Should work be required beyond this date, additional mitigation measures may be required based on site specific characteristics. Work beyond March 15th must be approved by PCA prior to work occurring, and may not be granted if site conditions do not allow it.

9.4.2. All works shall be completed in the dry (unless otherwise approved by PCA). This may entail de-watering the work area and diverting and/or pumping flows around cofferdams placed at the limits of the work area. Should dewatering be a required component of the scope of work, a Dewatering Plan shall be submitted as part of an EMP to PCA for review and acceptance prior to any dewatering.

9.4.2.1. Approved in-water works must be adequately isolated (i.e. turbidity curtains) and/or mitigated for.

9.4.3. All debris on bed (including unused aggregate/concrete rubble) which accumulated throughout the duration of construction (and is a direct or indirect result of construction) shall be completely removed and area restored to original state upon completion of work.

9.4.4. Should dewatering/in water work be required, fish shall be removed from the work area prior to complete dewatering and released alive downstream into the river.

9.4.4.1. Fish salvages shall be conducted by a QEP in areas isolated from flows prior to construction, under applicable permit(s).

9.4.4.2. PCA ES shall be advised 24 hours prior to fish rescue.

9.4.4.3. Minimize the length of time fish are out of the water.

9.4.4.4. Use appropriate equipment to remove any stranded fish in the dewatered area. As water levels drop in the work area monitor the deeper pool areas where fish are congregating. If safe to do so, seine nets or dip nets can be operated by field staff to remove the fish.

9.4.4.5. Contact PCA ES staff should there be any issues with fish removal.

9.4.4.6. Any fish found within the dewatered cofferdam areas will be documented by species, counted and removed and placed downstream if found in the downstream cofferdam and upstream if found upstream.

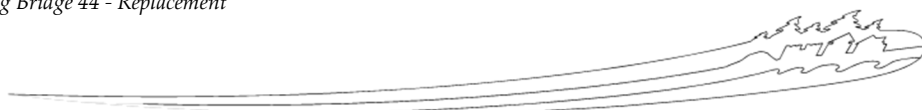
9.4.4.7. Round Gobies (*Neogobius melanostomus*) or other invasive species found during dewatering activities shall be euthanized humanely and not returned to the water system; this shall be reported to PCA.

9.4.4.8. Sediment/turbidity curtains shall be deployed in a manner – i.e. moved in a direction from close to shore/structures outward – which prevents the entrapment of fish inside the curtain.

9.4.4.9. Should flooding occur on the site, fish salvages will once again be conducted by a qualified professional, as necessary.

9.4.5. The *Canadian Council of Ministers of the Environment (CCME) Canadian Water Quality Guidelines for the Protection of Aquatic Life* will form the baseline for water and streambed quality (see <http://ceqg-rcqe.ccme.ca/en/index.html#void>).

9.4.6. Activities causing turbidity or release of sediment will comply with the CCME Guidelines on Total Particulate Matter (see <http://ceqg-rcqe.ccme.ca/download/en/217>).





- 9.4.7.** At any discharge point into the watercourse – i.e. the interface between the work site and the natural waterbody – a maximum increase of 8 NTU caused by suspended sediment from background levels for a short-term exposure (< 24-h period). Maximum average increase of 2 NTU from background levels for a longer term exposure. If elevated turbidity is observed PCA will stop work and assess potential impact to the aquatic environment. Additional mitigation measures may be required.
- 9.4.8.** At any discharge point into the watercourse, a maximum increase of suspended sediment concentrations by more than 25 mg/L over background levels during any short-term exposure period (e.g., 24-h). For longer term exposure (e.g., > 24 h), average suspended sediment concentrations shall not be increased by more than 5 mg/L over background levels. If elevated turbidity beyond 25 mg/L from background levels is observed during in-water activity, PCA will assess potential impact to the aquatic environment. Additional mitigation measures may be required.
- 9.4.9.** The contactor shall abide by those mitigation measures and best management practices outlined within Fisheries and Oceans Canada's (DFO's) online guidance materials: Measures to Avoid Causing Harm to Fish and Fish Habitat (<http://www.dfo-mpo.gc.ca/pnw-pppe/measures-mesures/measures-mesures-eng.html>).
- 9.4.10.** If water pumping is required, ensure that there is a fish screen that complies with DFO *Freshwater Intake End-of-Pipe Fish Screen* Guideline when pumping in fish-bearing water to prevent impingement or entrainment of fish.
- 9.4.11.** Existing river flows shall be maintained downstream (and/or outside) of the dewatered work area without interruption, as per operational guidelines, during all stages of the work.
- 9.4.12.** As per *Section 38(4)* of the *Fisheries Act*, any death of or injury to fish as a result of the work will be reported without delay to DFO.

9.5. Erosion and Sediment Control:

- 9.5.1.** An Erosion and Sediment Control Plan, as part of the EMP, shall be prepared by a QEP and submitted for approval to Parks Canada. The document must demonstrate:
- 9.5.1.1.** A focus on erosion control primarily and sediment control secondary.
 - 9.5.1.2.** Erosion and sediment controls will be tailored to the type of sediment found onsite (e.g. if clay is present, additional controls are necessary).
 - 9.5.1.3.** The area to be controlled. In addition to the construction site, it is necessary to identify adjacent areas that could be negatively impacted by construction activities;
 - 9.5.1.4.** Drainage areas and patterns based on pre-construction topography and construction design.
 - 9.5.1.5.** The EMP will have, as a principal to reduce the amount of sediment laden water produced, a focus on separating offsite and infiltrating water into the construction site from construction activities and sediment sources.
 - 9.5.1.6.** How clean storm run-on will be diverted around the site and away from exposed areas.





- 9.5.1.7. How sediment-laden run-off will be directed to detention or retention facilities on-site. Large drainage areas can produce a significant amount of run-off, resulting in a need for large detention or retention structures.
 - 9.5.1.8. Channels that are designed and constructed to the necessary design discharge;
 - 9.5.1.9. Temporary and permanent erosion control needs for all drainage channels;
 - 9.5.1.10. Consideration of project schedule in selecting, designing and laying out environmental controls.
 - 9.5.1.11. Consideration of seasonal requirements (for longer-term projects); select and design controls and practices for controlling erosion and sedimentation including shutdown periods.
 - 9.5.1.12. The EMP shall provide plans and mitigation for the installation and removal of any temporary structures (i.e. cofferdams, temporary bridges, etc.).
 - 9.5.1.13. The EMP shall include a Traffic Control Plan which shall include measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. This shall also include measures to minimize the amount of mud transported onto paved public roads by vehicles and/or runoff.
 - 9.5.1.14. Trees and vegetation that are required to be removed should be clearly identified within the EMP and justification of removal should be made clear.
 - 9.5.1.15. The EMP shall include a replantation plan which shall outline the replacement and compensation of trees and vegetation which have been removed/impacted.
 - 9.5.1.16. The EMP shall include a Waste Water Management Plan, identifying methods and procedures for management, treatment and discharge of waste waters.
- 9.5.2. Erosion and sediment control measures shall be implemented prior to work and maintained during the work phase, to prevent entry of sediment into the water where site access or other activities cause exposed soil. The following principles should be considered:
- 9.5.2.1. Diversions to limit run-on water.
 - 9.5.2.2. Reduction of erosional forces by surface water velocity reduction.
 - 9.5.2.3. Reduction of sediment development through sediment collection or anchoring.
 - 9.5.2.4. Sedimentation of mobilized sediments.
 - 9.5.2.5. Filtration of sediment-carrying flows.
 - 9.5.2.6. Collection of captured or contained sediments.
 - 9.5.2.7. Treatment of pH (hydronium and hydroxide).
- 9.5.3. The size of particles present in the sediment is a key consideration for selecting the appropriate sediment treatment option(s):
- 9.5.3.1. If the sediment consists primarily of gravel or sand, which are relatively large particles, a single treatment using a more basic technology, such as a sediment trap or sediment bag, may be adequate.
 - 9.5.3.2. If the sediment consists of silt and/or clay, which are relatively small particles, the effluent will most likely need a more advanced technology, such as a filter press or chemical treatment with anionic flocculent and a filtration method.
 - 9.5.3.3. If the sediment consists of a large spectrum of particle sizes, the water may need primary treatment to remove larger particles, followed by secondary treatment to remove finer particles.
- 9.5.4. All in-water work shall be performed in a manner that minimizes the disturbance of the watercourse bottom and dispersion of sediment.





- 9.5.5. Sediment control measures shall be implemented during any in-water work to control turbidity levels. Sediment/turbidity curtains, or other appropriate measures, shall be implemented prior to any in-water work that may result in sedimentation. These shall remain in place until all suspended sediments have settled.
- 9.5.6. Monitor water quality for unacceptable suspended sediment levels during in and near-water activities. Monitoring shall include the full scope and breadth of any incident.
- 9.5.7. Design and construct cofferdams to minimize sediment inputs to the water course.
- 9.5.8. All erosion and sediment control measures shall be inspected daily to ensure they are functioning properly and are maintained and/or upgraded as required to prevent entry of sediment into the water.
- 9.5.9. Environmental protection measures shall be checked after each extreme weather event.
- 9.5.10. If sediment and erosion control measures are not functioning properly, no further work shall occur until the sediment and/or erosion problem is addressed **to the satisfaction of PCA.**
- 9.5.11. All disturbed areas of the work site shall be stabilized immediately and re-vegetated as soon as conditions allow. All exposed areas should be covered with erosion control blankets or other measures to keep the soil in place and prevent erosion until vegetated.
- 9.5.12. Soils shall be protected by laying geotextile and covering with a suitable depth of gravel, >100mm to prevent crushing/compaction of existing soils; alternative methodology for soil-compaction prevention may be utilized (ex. blast mats), as reviewed and approved by PCA.
- 9.5.12.1. Laying of geotextile and gravel should not occur prior to the beginning of May (or until after 2 or more 15°C sunny days), to ensure that hibernating snakes have emerged from their hibernacula.
- 9.5.13. Sediment and erosion control measures shall be left in place until all areas of the work site have been stabilized.
- 9.5.14. Upon completion of the work all debris shall be completely removed and the area restored to its original state or better. Repair all damages to property due to project activities.
- 9.5.15. Sediment control measures and exclusion fencing must be removed in a way that prevents the escape or re-suspension of sediments.
- 9.5.16. Erosion and Sediment controls shall not be removed without acceptance from PCA.
- 9.5.17. A US Dot II Marine Grade turbidity curtain will be maintained in the water around all working areas where sediments can enter the watercourse. A turbidity curtain shall be used during installation and removal of all cofferdams and/or dewatering process. It will be maintained in the water around all working areas during construction to contain and control





the suspension of fines. If water levels/conditions do not permit the flotation of a turbidity curtain, other measures as approved by PCA will be implemented.

9.5.18. Turbidity curtains should be placed in accordance with US DOT II Marine Grade Specifications. Turbidity curtains are to be anchored or weighted down across its length to form a continuous seal on the substrate bed, with adequate floatation at the water's surface to prevent over spills of water.

9.5.19. With respect to turbidity curtain installation:

9.5.19.1. Perform an initial sweep of the work area to drive fish out prior to completely closing off turbidity curtains surrounding the work area.

9.5.19.2. Deployed turbidity curtains in a manner – i.e. moved in a direction from close to shore/structures outward – that prevent entrapment of fish inside the curtain.

9.5.19.3. Turbidity curtains shall not be deployed fully across the watercourse to serve as a barrier to fish migration.

9.5.20. Turbidity curtains should not be used as a primary or secondary settling area for dewatering activities. Supplementary sediment and erosion control measures should be installed prior to construction activities and should be added upon/reinforced as necessary.

9.5.21. Sediment or debris that has accumulated around the temporary cofferdams shall be removed prior to their withdrawal. All cofferdam material will be removed from the watercourse upon decommissioning.

9.5.22. Fine materials such as unwashed rocks or materials that have the possibility of being suspended or transported downstream will not be used. Limestone-based aggregates are not preferred for in-water work as they generate smaller particles and are sediment managements is more difficult to manage.

9.5.23. No acid-generating rock (containing sulphides) will be used.

9.5.24. In the event of a significant sedimentation or debris caused by construction activities, the contractor will take appropriate measures to contain and mitigate the problem including the installation of additional turbidity curtains.

9.5.25. The contractor will maintain a standby supply of pre-fabricated sediment fence barriers, or an equivalent ready-to install sediment control devices.

9.5.26. Avoid activities that could lead to erosion during excessively wet weather conditions; monitor forecasts for heavy rainfall watches & warnings.

9.5.27. Filter material will consider the grain size characteristics of the concrete sediment and shall be designed around the principals of maintaining sufficient hydraulic flow and prevention of particle movement through the material.





9.5.28. Only use clean, approved fill with negligible fines where it has been previously planned and authorized.

9.5.29. Sediment fences shall not have mesh or netted backing and shall be installed as per Ontario Provincial Standards Drawing (OPSD) 219.130.

9.6. Concrete:

9.6.1. Concrete leachate is alkaline and highly toxic to fish and aquatic life. Measures must be taken to prevent the incidence of concrete or concrete leachate from entering the watercourse. Maintain complete isolation of all cast-in-place concrete and grouting from fish-bearing waters for a minimum of 48 hours if ambient air temperature is above 0°C and for a minimum of 72 hours if ambient air temperature is below 0°C or until significantly cured to allow the pH to reach neutral levels. Avoid project activity during wet weather conditions

9.6.2. All concrete, sealants, or other compounds used for this project shall be utilized according to the appropriate Product Technical Data Sheet, stating guidelines and methods for proper use, and provided by the manufacturer of the product.

9.6.3. Ensure that all works involving the use of concrete, cement, mortars, and other Portland cement or lime-containing construction materials (concrete) will not deposit, directly or indirectly, sediments, debris, concrete, concrete fines, wash or contact water into or about any watercourse.

9.6.4. All concrete debris and dust generated as a result of various concrete work shall be removed in a way that will ensure material does not enter the waterway. All debris including unused aggregate or concrete rubble shall be completely removed and area restored to original state upon completion of work.

9.6.5. All concrete debris and slurry shall be placed into an enclosed container daily, or more frequently if required, in order to ensure that no debris escape or remain at the site.

9.6.6. All concrete waste/wash water shall be directed to an isolated/impermeable containment unit and removed from site.

9.6.7. At the discharge point into the watercourse, pH will be maintained between 6.5 and 9.0. Water with pH > 9 cannot be released directly back into the watercourse, but must be treated prior to release. Water with a pH ≥ 12.5 is considered toxic and treated as a hazardous waste under Ontario Regulation 347 of the *Environmental Protection Act* and wastewater in this condition must be removed from the site.

9.6.8. In the event of sedimentation or turbidity caused by construction activity, contractor shall stop all work and install additional sediment barriers as necessary to ensure watercourse is protected.

9.6.9. Mitigation Measures for Placement of Tremie Concrete:

9.6.9.1. Ensure concrete forms are tight and no flow is occurring.





- 9.6.9.2. Isolate area with curtains or impermeable material specified for concrete particulates.
 - 9.6.9.3. Ensure that fish exclusion procedures are followed and fish are not trapped within the turbidity curtain during placement;
 - 9.6.9.4. Isolated area should be the minimum size required to complete task.
 - 9.6.9.5. For tremie pours, CO₂ system must be installed and operating along the entire length of the isolated area. The tank shall be used to release carbon dioxide gas into an affected area to neutralize pH levels. Ensure sufficiently sized tanks for the concrete volumes used.
 - 9.6.9.6. Workers shall be trained in the use of the system.
 - 9.6.9.7. Use of neutralizing acids is not permitted.
 - 9.6.9.8. pH monitoring conducted inside and outside the containment area, and downstream while the activity is taking place. Monitoring locations and frequency shall be outlined within the EMP.
 - 9.6.9.9. Turbidity curtains shall be left in place until the pH is less than or equal to baseline conditions.
 - 9.6.9.10. Use Anti-washout Admixture to decrease the percentage of concrete fines released to the water column Use grout bags where possible to further contain the concrete; and
 - 9.6.9.11. Stop placement of concrete if fish kill is observed and contact PCA ES Officer.
- 9.6.10. In the event of a release of concrete or grout, PCA and the Ontario Spill Action Centre (1-800-268-6060) shall be notified; remediation will be conducted immediately contain and clean up in accordance with federal and provincial regulatory requirements **AND to the satisfaction of PCA**. Documentation of remediation, testing and results will be provided to Parks Canada.
- 9.6.11. Wash concrete-impacted equipment and machinery at least 30 m away from waterbody away from water and provide containment facilities for the wash-down water from concrete delivery trucks, concrete pumping equipment, and other tools and equipment. Wash-out locations will be identified within the EMP.

9.7. **Dewatering and Pumping Activities (If required):**

- 9.7.1. Should dewatering be a required component of the scope of work, a de-watering Plan shall be submitted, as part of an EMP, to PCA for review and acceptance prior to any dewatering.
- 9.7.2. Submersible pumps or pump intakes used for dewatering and should be placed in the low point of the work site. If there is high turbidity, consider pre-filtering water that goes to the pump by placing it in a perforated drum with clear stone around the outside or other similarly designed approach.
- 9.7.3. Cofferdam de-watering systems and sediment treatment areas must be designed to have sufficient capacity to remove fine sediments from water prior to being released; flocculants for settling fines may be necessary due to the nature of particulates from limestone based rock and clay.





- 9.7.4. Discharged water should be filtered by means of an appropriately designed sediment basin, anionic flocculation or by physical means such as a filter press.
- 9.7.5. Discharge of pumped water must be a manner that does not cause additional erosion.
- 9.7.6. Dewatering, demolition and construction is staged such that clean is pumped back to the system and turbid water is managed through a waste water system.
- 9.7.7. For de-watering, fish screens must comply with DFO Freshwater Intake End-of-Pipe Fish Screen Guidelines when pumping in fish-bearing water to prevent impingement or entrainment of fish.

9.8. Vegetation:

- 9.8.1. Site clearing/commencement of construction must be planned to occur outside of sensitive nesting times (April 1 to August 31). If this is not feasible, then the site must be inspected by a QEP prior to clearing, to check for the presence of nests and other wildlife (particularly snakes and turtles).
 - 9.8.1.1. Nest surveys shall be considered valid for three (3) days following a sweep event. Nest survey results must be shared with PCA and vegetation removal shall not initiate without PCA approval.
 - 9.8.1.2. If bird nests are found within the vegetated area to be cleared and/or within the general work area, contact the PCA ES for guidance on how to proceed.
- 9.8.2. Phase vegetation removal to reflect construction activity; grubbing should not be conducted unnecessarily early in the schedule, and/or over an area that is larger than realistically required, to be properly mitigated with Erosion and Sediment controls
- 9.8.3. Identify vegetation clearing zones in Environmental Management Plan; EMP to demarcate all construction sites and laydown areas; identify and keep work activities confined to planned areas and within previously disturbed areas. Trees, shrubs and vegetation which are to remain throughout construction should be properly identified and delineated and protected.
- 9.8.4. De-compact subsoil which has been compacted from the movement of construction equipment and project staging.
- 9.8.5. Restore the site and to a specific future condition – i.e. as per restoration plan; ensure re-planting success. Native grasses, shrubs, etc. should be planted to match existing species growing on the sites. Common milkweed should be actively restored.
- 9.8.6. Where feasible, stumps will be ground down, rather than completely removed by grubbing in attempts to preserve these features. If grinding of stumps is not feasible, this will be identified in the EMP and require acceptance by PCA.
- 9.8.7. If large tree roots are extracted, they should be retained for post-construction restoration.





- 9.8.8.** Where it is necessary to remove mature vegetation at any time of year, an inventory of species to be removed, coupled with a replanting plan using native species shall be submitted to PCA staff for approval.
- 9.8.9.** Trees (and associated root systems), shrubs and vegetation which are to remain throughout construction should be properly identified and delineated with flagging tape or temporary fences.
- 9.8.9.1.** Tree protection shall be set in place at least 1.5 m from the dripline of the tree.
- 9.8.10.** Where practical, the branches of the large trees should be trimmed back as the first option rather than cutting the entire tree.
- 9.8.11.** Should any woody vegetation require chipping/mulching, the after product will be stored onsite for the duration of the project to supplement erosion and sediment control methods where required.
- 9.8.12.** Minimize clearing as much as possible to maintain riparian vegetative cover and windbreaks, where possible maintain vegetated buffer at shoreline and minimize clearing near water bodies. If buffers cannot be maintained, avoid grubbing of vegetation root mass in proximity to shorelines and stream banks.
- 9.8.13.** Clear vegetation from unstable or erodible banks by hand, and where possible, avoid the use of heavy machinery. If machinery must be used, operate machinery on land and in a manner that minimizes disturbance to the banks of the water body.
- 9.8.14.** Only cut trees using tools designed for tree cutting activities (e.g. chainsaw, brush saw).
- 9.8.15.** Grubbing should not be conducted unless a suitable planting plan and Erosion and Sediment Controls are in place.
- 9.8.16.** Whenever possible, vegetation should be trimmed in early spring, late fall or winter. Trimming when the plant is actively growing (i.e. late spring summer and early fall) can further stimulate growth, weakening the plant and making it susceptible to disease.
- 9.8.17.** Prune limbs close to the tree trunk. For a clean cut, make a shallow undercut first, then follow with the top cut. This prevents the limb from peeling bark off the tree as it falls. Do not use an axe for pruning.
- 9.8.18.** If over half of a tree needs pruning, in most circumstances it will be best to cut it down instead of pruning. Cut trees off at ground level and do not leave pointed stumps.
- 9.8.19.** In larger areas to be cleared attempts should be made to keep trees >15 cm DBH intact and instead remove lower limbs (< 2.5 m high).
- 9.8.20.** Delineate areas to be avoided with flagging tape or temporary fences.





- 9.8.21.** Ensure appropriate handling procedures are followed for noxious weeds such as Giant Hogweed (*Heracleum mantegazzianum*), Poison Ivy (*Toxicodendron radicans*) or Wild Parsnip (*Pastinaca sativa*).
- 9.8.22.** In disturbed areas not designated for sodding, native species are to be used for tree planting and/or ground cover with mulch to prevent erosion and to help seeds germinate.
- 9.8.23.** If there is insufficient time (at least four weeks) in the growing season remaining for the seeds to germinate, or at risk of germinating and being damaged by frost, the site shall be stabilized (e.g., cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) and vegetated the following spring. Frost can occur as early as August 31st and late as June 25th.
- 9.8.24.** Root systems of trees identified to remain should be properly delineated and fenced off at a minimum of 1.5 m beyond the dripline of the tree, so as to protect the root systems from being crushed and impacted by machinery.
- 9.8.25.** In the event that the installation of root-protectant fencing is not possible and/or ideal, alternative measures, as approved by PCA, must then be implemented. Such measures must provide a sufficient amount of soil compaction prevention with regards to the highest level of activity to occur within the immediate area of protection.
- 9.8.26.** The success of all vegetative plantings shall be assessed through visual site inspections conducted at least once each spring and each fall for the first two growing seasons following planting. If at any time during the monitoring period any plantings are found dead or failing, mitigation measures shall be implemented to reduce the risk of future failure and the plants shall be replaced and monitored accordingly.
- 9.8.27.** Burning of cleared vegetation is not be permitted.
- 9.8.28.** Transplanting of trees or vegetation on site it not permitted without approval from PCA.
- 9.8.29.** To limit the potential to disturb hibernating snakes, tree stumps will not be removed until after May 15th, when above ground conditions are acceptable for their emergence.
- 9.8.30.** Grubbing will not take place during vegetation clearing prior to April. Grubbing will be conducted during initial site mobilization and will not be conducted in too large an area to be properly mitigated with Erosion and Sediment controls.
- 9.8.31.** Brush and mulch piles, which may attract snakes, will not be stored on site, or shall be isolated with exclusion fencing (i.e. sediment fencing).

9.9. Wildlife:

- 9.9.1.** If an animal is found within the limits of the work area, it should be left alone to leave the area if possible. If found in the project area, turtles may need to be relocated prior to commencing work (with permits required from Ontario Ministry of Northern Development, Mines, Natural Resources and Forestry [OMNDMNR] for relocation). Do not handle wildlife. First contact PCA ES for guidance on how to proceed.





- 9.9.2.** The EMP must detail procedures (e.g. exclusion fencing) for preventing turtle entry/nesting within disturbed project gravels/soils during all stages of project activity.
- 9.9.3.** As due diligence, isolation barriers (i.e. turbidity curtains, sediment fences, etc.) should be installed as early on in the fall season as possible, in order to prevent individuals from entering the work area and establishing over-wintering sites.
- 9.9.4.** Once cleared and before staging set-up, temporary reptile fencing, such as polythene/ woven geotextile secured with timber stakes, or material of a similar nature/function, should be installed completely around gravel stockpiles to prevent turtle nesting in the project area. Exclusion fencing should also be installed completely around stockpiled material (wood chips, gravel, earth, etc.) to prevent turtle nesting in the project area. Fencing shall not have mesh or netted backing. For guidance on how to plan and install exclusion fencing, refer to the Reptile and Amphibian Exclusion Fencing guidance developed by Ontario Ministry of the Environment Conservation and Parks (MECP): <https://www.ontario.ca/page/reptile-and-amphibian-exclusion-fencing>
- 9.9.5.** The EMP must demonstrate procedures for avoiding disturbance/harm to wildlife and nesting birds.
- 9.9.6.** Synthetic plastic Erosion Control Blankets/Mats shall not be utilized, particularly during nesting season, as they pose as an entrapment hazard to turtles. Fibre-based bio-degradable Erosion Control Blankets/Mats are only to be utilized.
- 9.9.7.** If recommended by a QEP and approved by PCA, exclusion zones or “no go” areas will be established to protect areas with known residences (e.g., hibernacula, dens, nests).
- 9.9.8.** If recommended by a QEP and approved by PCA, conduct “Pre-stressing” activities within a few days prior to the onset of site preparation (vegetation clearing and grubbing) to encourage wildlife to move away from a site.
- 9.9.9.** Field information regarding incidental encounters with wildlife (non-SAR wildlife) shall be compiled and reported on a daily basis.
- 9.9.10.** For incidental encounters, the following information should be recorded in the field:
- 9.9.10.1.** Locations, dates and time of day where the species were encountered;
 - 9.9.10.2.** Names of species encountered;
 - 9.9.10.3.** Photographs of the species, if taken;
 - 9.9.10.4.** Condition of animal.
- 9.9.11.** If injured/dead wildlife are encountered report to PCA immediately. PCA may require retrieval and storage on ice of carcass for laboratory testing
- 9.9.12.** The contractor shall ensure that all vehicles and equipment used by project personnel will follow any construction zone speed limits to reduce the risk of hitting wildlife, as enforced by the site supervisor.





9.9.13. Work areas will be kept clean and free of potential hazards to wildlife such as wire, cable, tubing, plastic, antifreeze or other materials that wildlife may eat or become entangled in.

9.9.14. Waste will be stored, handled, and transported in accordance with the Waste Management Plan, including storage of all solid waste in sealed, bear-proof containers.

9.9.15. Feeding of wildlife is prohibited.

9.9.16. Attractants (i.e. waste) shall be regularly removed from site to further deter the presence of wildlife in the work area.

9.9.17. Migratory birds, their nests and eggs are protected under the Migratory Birds Convention Act (1994). Project works or activities are potentially disruptive activities to birds and should be avoided during breeding times. No vegetation shall be removed from April 1st to August 31st to protect nesting birds.

9.9.17.1. If vegetation removals are required during this period, a QEP will conduct a nest survey to confirm the presence/absence of active nests in the area where vegetation is to be removed. If no nests are found, a clearance letter provided by PCA shall be provided to grant approval for vegetation removals to proceed. If an active nest is observed, vegetation removals will be required to wait until the nest has successfully fledged or confirmed to be unsuccessful.

9.9.18. On a daily basis, an inspection or “sweep” of the work area shall be performed prior to commencement of project works and activities to ensure wildlife are not present in the work area (include in daily environmental site monitoring checklist).

9.10. Species At Risk:

9.10.1. The contractor is to ensure that SAR training is provided to all employees before they begin work on site (materials can be part of the EMP). Employees must be able to identify potential SAR and know the proper procedures to follow when they encounter a SAR.

9.10.2. If a SAR is observed or suspected on or near the worksite (this includes snakes, turtles, nests, dens, young, and/or eggs), the species must not be harmed or harassed. If the species does not leave or cannot leave the site, the contractor must immediately stop all works within the SAR’s vicinity and contact PCA’s ES staff on how to proceed. Additional measures to avoid impacts may be required before work can restart. Stand back and allow the animal to leave the site.

9.10.3. Prior to construction and the beginning of nesting activity (May 1st), an inspection for Barn Swallow and Chimney Swift nests within the construction area shall be conducted by a QEP. Should empty nest structures be observed at this time, they shall be reported to PCA and removed to discourage nesting within the direct vicinity of the construction activities. Deterrent mitigations to prevent further nesting activity throughout the life of project activities in affected areas must be included in the EMP.

9.10.3.1. After May 1st, daily inspections of viable nesting structures should be completed for bird nesting attempts and removal of preliminary nest structure (i.e. the initial deposition of nest-building material by breeding birds) should be completed.





- 9.10.3.2.** Should a nest structure reach 50% completion or greater (general formation of base and cup-structure), the nest is considered active and is not to be removed or disturbed.
- 9.10.3.3.** Should active nests within the work area be identified and be required to be removed, contact PCA for further direction.
- 9.10.4.** Minimize the disturbed area; clearly mark the work space.
- 9.10.5.** Park on roads or disturbed area only.
- 9.10.6.** Rehabilitation and replantation efforts should include the planation of milkweed and butterfly-friendly flowers.
- 9.11. Invasive Species:**
- 9.11.1.** To reduce the risk of introducing invasive species, all equipment, clothing and footwear must be thoroughly cleaned prior to coming to the site. Any machinery that appears to have not been cleaned will not be permitted on site. For additional information or guidance on how to properly clean equipment, see the Clean Equipment Protocol for Industry developed by the Ontario Invasive Plant Council and found here:
http://www.ontarioinvasiveplants.ca/wp-content/uploads/2016/07/Clean-Equipment-Protocol_June2016_D3_WEB-1.pdf
- 9.11.2.** Any equipment or vehicles which are to be used in water, should be thoroughly cleaned before and after use of any visible mud, vegetation, mussels, etc.
- 9.11.2.1.** Vessels/equipment should be drained of standing water.
- 9.11.2.2.** Vessels/equipment should ideally be cleaned with high pressure water (> 250 psi).
- 9.11.2.3.** Vessels/equipment should be dried for 2 – 7 days in sunlight before transported between waterbodies.
- 9.11.2.4.** Cleaning of vessels/equipment should be conducted away from waterbodies at a recommended distance of at least 30 m from the shoreline.
- 9.11.3.** Mud, dirt and vegetation should be cleaned from clothing and footwear prior to entering the work site, and prior to leaving the work site.
- 9.11.4.** Should an invasive species be encountered (or at least suspected), a photo and report of the specimen should be sent to PCA's EA staff and the Invading Species Hotline at 1-800-563-7711 or online at EDDMapS Ontario: <https://www.eddmaps.org/ontario/>.
- 9.11.5.** Conduct a site assessment for invasive plant infestations prior to carrying out field activities.
- 9.11.6.** Use weed-free material (i.e. sand, gravel, etc.) for erosion control and stabilization and weed-free seed and confirm that seed mix to be used for revegetation purposes does not (potentially) contain invasive plants.
- 9.11.7.** Seed mixes must be included in the replantation plant and accepted by PCA prior to application.





9.11.8. Seed purchased commercially should have a label that states the following:

- 9.11.8.1. Species;**
- 9.11.8.2. Purity:** Most seed should be no less than 75 % pure and preferably over 85 % pure. The rest is inert matter or other seed;
- 9.11.8.3. Weed seed content:** The tag should state NO invasive plants are present. Only certified weed-free seed should be used; and
- 9.11.8.4. Germination of desired seed:** Germination generally should not be less than 50 % for most species, although some shrubs and forbs will have lower percentages.

9.11.9. Move only weed/contaminate-free materials into non-infested areas. Moving materials from one infested location to another within a particular zone may not cause contamination, but moving materials from infested to non-infested areas could lead to the introduction and spread of invasive plants.

9.11.10. If removal of invasive species occurs, individuals will be disposed of appropriately, offsite to ensure no further propagation.

9.11.11. Workers should familiarize themselves with invasive species potentially present within the work sit areas:

9.11.11.1. Black Dog Strangling Vine:

<http://www.eddmaps.org/ontario/Species/subject.cfm?sub=3398>

9.11.11.2. Boxelder: <http://www.eddmaps.org/ontario/Species/subject.cfm?sub=3245>

9.11.11.3. Dog-strangling Vine:

<http://www.eddmaps.org/ontario/Species/subject.cfm?sub=4260>

9.11.11.4. European Buckthorn:

<http://www.eddmaps.org/ontario/Species/subject.cfm?sub=3070>

9.11.11.5. European Common Reed:

<http://www.eddmaps.org/ontario/Species/subject.cfm?sub=59038>

9.11.11.6. European Frog-bit:

<http://www.eddmaps.org/ontario/Species/subject.cfm?sub=12792>

9.11.11.7. Mossy Stonecrop:

<http://www.eddmaps.org/ontario/Species/subject.cfm?sub=34246>

9.11.11.8. Round Goby:

<http://www.eddmaps.org/ontario/Species/subject.cfm?sub=12252>

9.11.11.9. Rusty Crayfish:

<http://www.eddmaps.org/ontario/Species/subject.cfm?sub=15170>

9.11.11.10. Scots Pine: <http://www.eddmaps.org/ontario/Species/subject.cfm?sub=3231>

9.11.11.11. Zebra Mussel:

<http://www.eddmaps.org/ontario/species/subject.cfm?sub=10567>

9.12. Cultural Resources and Archaeology:

9.12.1. Before any on-site mobilisation/construction work commences, PCA staff will clearly delineate any archaeologically sensitive areas and photo-document this activity for PCA records. These areas will be deemed no-go zones for staging, vehicular traffic and machinery.





9.12.2. The contractor is to ensure that all personnel working on site undergo a heritage induction to clearly identify the value of the place and how to avoid inadvertent impacts on cultural and archeological resources (known and unknown).

9.12.3. Vehicular access routes and staging areas will be restricted to present-day roadways, parking lots, exposed bedrock areas and significantly disturbed areas. If this is not possible, the use of protective covering is required. All protective measures employed must be removed following construction and the area restored to a pre-construction state. Excavation is not permitted outside of cleared/reviewed areas in the Archaeological Overview Assessment during installation or removal of protective covering.

9.12.4. If archaeological, cultural resources, or character-defining elements (e.g. structural features or artifact concentrations) are encountered or damaged during construction activities, work will cease in the immediate area and the PCA Project Manager (PM) shall be informed. The PM shall then contact PCA's Terrestrial Archaeology section for advice and assessment of significance, and if necessary, any further mitigation measures. Ensure that all exposed underwater cultural materials are kept submerged and/or wet while waiting direction.

9.12.5. Inform the Cultural Resource Management Advisor, Ontario Waterway regarding any changes to project plans and/or scheduling. Any changes not assessed under this BIA will require approval from PCA and may require further mitigation measures.

9.12.6. A turtle statue, carved into a stump, is located on the south embankment, immediately west of the Boundary Bridge structure. Should the statue be at risk for damage, or be in the way of construction activities, the contractor is to contact PCA to coordinate its removal and reinstatement.

9.13. Air Quality and Noise:

9.13.1. All on-site vehicles are expected to have a Drive Clean Emissions Report in compliance with O. Reg. 361/98: Motor Vehicles under the *Environmental Protection Act, R.S.O. 1990, c. E.19*. EA Officers may stop a vehicle if they believe the vehicle is emitting excessive exhaust smoke or suspect that emission control equipment has been tampered with or removed.

9.13.2. Use well-maintained heavy equipment and machinery, preferably fitted with fully functional emission control systems/muffler/exhaust baffles, engine covers, etc. In addition, employ timing and location of construction activities to reduce or minimize the effect of noise on nearby residents, recreational users, and wildlife.

9.13.3. Machines shall not be left to unnecessarily idle in order to avoid emissions.

9.13.4. Adhere to local and municipal noise by-laws.

9.13.5. Notify residents of planned activities that may cause disturbance and schedule them to avoid sensitive time periods.





9.13.6. Minimize the noise levels from construction activities by using proper muffling devices, in addition to appropriate timing and location of these activities to reduce or minimize the effect of noise on nearby residents, recreational users, and wildlife.

9.13.7. Due to the proximity of the work site to water, calcium chloride shall not be used to suppress concrete dust.

9.14. Waste Management:

9.14.1. Littering is prohibited. Garbage and waste material onsite is to be collected daily and stored in appropriate containers/bins.

9.14.2. Burning or burying of waste is prohibited.

9.14.3. Recyclable material and waste shall be removed from the site, in accordance with all federal, provincial and municipal regulations, to disposal facilities licensed to receive them.

9.14.4. Waste containers should be sealed or lined to prevent leakage of liquid wastes.

9.14.5. Waste generated will be disposed according to regulations (i.e., O. Reg. 102/94 and O. Reg. 558/00, R.R.O. 1990, 347).

9.15. Work Area Commissioning and Site Restoration:

9.15.1. Turbidity curtains shall be in place during cofferdam removals.

9.15.2. The area inside of coffer dams will be cleaned and restored; alternatively, capped with clean rock, in order to mitigate turbidity from the former construction area as the areas are re-flooded. All debris on bed (including unused aggregate/concrete rubble) shall be completely removed and area restored to original state upon completion of work.

9.15.1. Sediment and Erosion control measures are to only be removed with approval from PCA.

9.15.2. Upon completion of work there shall be a final clean-up of the site. No tools, equipment, temporary structures, or parts thereof, used or maintained for the purpose of this project shall be permitted to remain at the site or enter the water after completion of the project.

9.15.3. Should dewatering be a required component of the scope of work, ensure that all construction debris is removed from the work area prior to rewatering. This may involve sweeping and hosing down the bottom of work area. All wash water is to be collected and treated.

9.15.4. Ensure that all construction debris is removed from the work area prior to rewatering. This may involve sweeping and hosing down the bottom of work area. All wash water is to be collected and treated.

9.15.5. Ensure that all construction debris and waste is removed from the work area prior to demobilization.

9.16. Floods, Extreme or Inclement Weather, and Ice Formation:





9.16.1. Undertake construction under normal weather conditions, to the extent possible, and design the project worksite to withstand variable weather conditions.

9.16.2. When there is a high probability of a rainfall event, apply wet weather restrictions on construction activities to reduce surface run-off from exposed work areas and to minimize the risk of inundation.

9.16.3. The work area shall be stabilized against the impacts of high flow/heavy rainfall events at the end of each workday.

9.17. Environmental Monitoring and Reporting:

9.17.1. Environmental mitigation measures shall be inspected daily and a daily checklist/log shall be maintained over the duration of the project.

9.17.1.1. Any deficiencies should be addressed immediately.

9.17.2. Daily Water Quality (NTU, pH, etc.) records shall be maintained by the contractor and shall be provided to PCA on a weekly basis (at minimum).

9.17.2.1. Water Quality sampling shall be collected at a minimum frequency of three times per day for regular low-risk activities (unless in-water or dewatering work activities are not occurring on site). High-risk activities shall entail higher sampling frequencies/duration and specific monitoring thresholds (PCA will advise). Testing locations and frequency shall be specified within the EMP and may be modified (with PCA acceptance) dependent of site activity and/or downstream effects (i.e. in the event of a plume release into the watercourse [turbidity, concrete fines, etc.] additional testing shall be conducted further downstream to track the movement and dissipation of the plume through the watercourse).

9.17.2.2. Water Quality parameters in exceedance of accepted water quality ranges, shall be reported immediately to PCA (i.e. Water quality <6 or >9, and/or NTU <8 above baseline).

9.17.3. SAR, Invasive species, and wildlife sightings, or lack thereof, shall be reported on the daily inspection checklist.

9.17.3.1. SAR-related incidences shall be reported immediately to PCA.

9.17.4. Environmental summary reports shall be completed monthly and provide details of monitoring work completed, the findings of all monitoring, and details of how and when issues were resolved.

9.17.5. Following completion of the project, weekly ESC monitoring or ESC monitoring following precipitation / snowmelt events, shall be completed until vegetation has become establish on all disturbed areas and ESC measures are removed.

9.17.6. Any damages should be repaired immediately and any accumulation of sediment should be removed and disposed of as required by all applicable federal, provincial, and municipal laws, regulations, and guidelines.





9.17.7. The Contractor shall provide a written checklist of for inspection for vehicle/machinery leaks and overall condition, and, for the purpose of invasive species a written record of measures taken to clean vehicles/machinery/equipment.

