



McElhanney



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**Construction
Environmental
Management Plan: Prince
Rupert Middle School –
Construction**

June 16, 2025 | Rev 2

Submitted to: Board of Education of School District No. 52
Prepared by: McElhanney

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1. Introduction

McElhanney Ltd. (McElhanney) was retained by the Board of Education of School District No. 52 (the client) to produce a Construction Environmental Management Plan (CEMP), in relation to construction of the Prince Rupert Middle School (the project). This is a living document that will be revised as works proceed and as necessary. It is anticipated that the client and their contractors will adhere to this CEMP for the entirety of the project and that it will be revised as work progresses.

This CEMP outlines environmental requirements for the project and supports compliance with regulatory guidance and best management practices (BMPs). It includes information from federal and provincial legislation and regulatory agency guidelines, industry BMPs, and standard documents for environmental management and protection. It is the responsibility of the client and the contractor to comply with all federal and provincial legislation when completing project works. In addition, the contractor shall implement all applicable mitigation measures required to meet the Leadership in Energy and Environmental Design (LEED) certification during all stages of the project.

At this time no environmental permits or approvals have been obtained for the project. For works applicable to the stormwater outfall into Hays Creek a Request for Review to Fisheries and Oceans Canada and a Notification to the provincial Ministry of Water, Lands, and Resource Stewardship have been submitted.

2. Project Description

The project involves construction works associated with the replacement of the middle school at 417 9 Avenue West, Prince Rupert, BC (the site; [Figure 1](#)). Early works began in January 2025 construction of the new school commencing in May 2025. Substantial completion for the new school is anticipated for June 2027 with demolition of the existing school and completion of the new parking lot to be completed after.

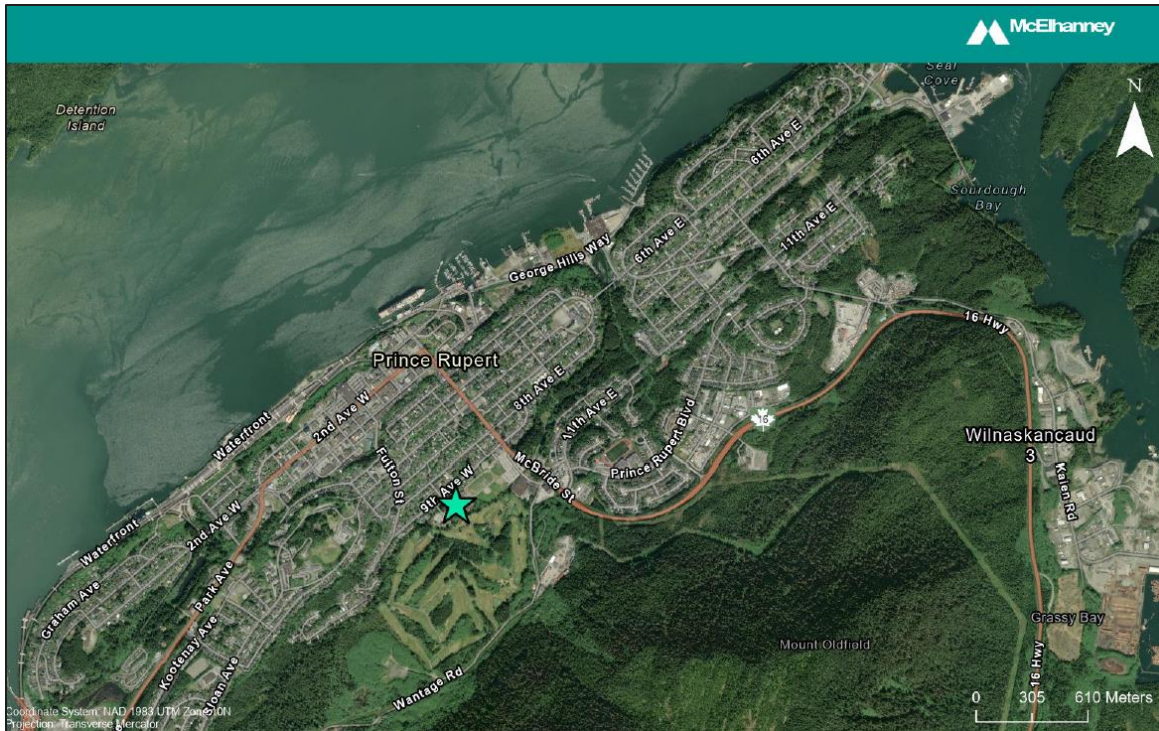


Figure 1: Project location near Prince Rupert, BC, works indicated in teal (ArcPro, 2024).

2.1. SUMMARY OF WORKS

The project construction works will include:

- Hazardous materials abatement;
- Cutting and capping of building services;
- Re-routing of site services;
- New and temporary service connections;
- New storm sewer outlet discharging into Hays Creek;
- Modifications to existing gas, water, and fire protection sprinkler lines;
- Construction of the new school and parking lots;
- Building demolition, selective and bulk, including concrete foundations;
- Miscellaneous site demolition; and
- Waste management and disposal.

3. Roles and Responsibilities

3.1. PROJECT CONTACTS

Project contact list and emergency numbers:

Table 1: Project contact list.

Position	Name	Contact
School District No. 52 / Vancouver School Board		
Owner Representative	Andrew Samoil	Email: andrew.samoil@sd52.bc.ca
Owner Project Manager	Natasha Saksman	Tel: 604-713-4859 Email: nsaksman@vsb.bc.ca
Director	Ajaz Hasan	Tel: 604-713-4849 Email: ahasan@vsb.bc.ca
Construction Manager (Yellowridge Construction Ltd.)		
Project Manager	Kirk Starr	Tel: 604-937-2089 Cell: 604-454-8174 Email: kirk@yellowridge.ca
Contractors (TBD) To be posted on-site based on the current phase of construction.		
Project Manager		
Site Supervisor		
KMBR		
Principal	Witmar Abele	Tel: 60-732-3361 ext. 124 Email: wabele@kmb.com
Lead Architect	Kate Lemon	Tel: 604-732-3361 ext. 114 Email: klemon@kmb.com
Architectural Technologist	Laura Ryan	Tel: 604-732-3361 ext. 111 Email: lryan@kmb.com
McElhanney Ltd.		
Civil Engineer	Cliff Gilker	Email: cgilker@mcelhanney.com
Environmental Representative	Jessica Volpert	Tel: 250-631-4886 Email: jvolpert@mcelhanney.com
Environmental Engineer	Sean Carlson	Tel: 250-631-4027 Email: pscarlson@mcelhanney.com
Certified Professional in Erosion and Sediment Control	Sandra Penner	Tel: 250-631-4831 Email: spenner@mcelhanney.com

Table 2: Emergency contact list.

Emergency Contacts	
Ambulance	911
Police	
Fire	
Other Contacts	
Prince Rupert Regional Hospital	250-624-2171
Prince Rupert RCMP – non-emergency	250-624-2136
WorkSafe BC accident reporting	1-888-621-7233 1-866-922-4357 (after hours)
BC Conservation Officer Service	1-877-952-7277
DFO Observe, Record, Report	1-800-465-4336
Natural Resource Violation Tips Line	1-844-676-8477
Emergency Management BC (EMBC)	1-800-663-3456
BC One	1-800-474-6886
Environment Canada Spill Reporting Line	604-666-6100

3.2. PROJECT OWNER

The Board of Education of School District No. 52 is the owner for this project and has retained a Construction Manager (CM) to manage the project's delivery. The owner's CM is responsible for the following:

- Obtaining or appointing to the contractor to obtain the necessary permits/approvals.
- Notifying regulatory authorities if the contractor's operations do not comply with the environmental protection measures set out in this CEMP.
- Reporting externally where required by applicable legislation or in the event of an environmental incident when the contractor, fails to report (e.g., Spill Reporting Regulation under the BC *Environmental Management Act*).
- Exercising their authority to direct, modify or halt any phase of construction that is considered to be causing, or have the potential to cause adverse environmental effects beyond those identified in the project's permits and approvals, if required.

3.3. CONTRACTOR

The prime contractor for the project is Yellowridge Construction Ltd. The prime contractor is responsible for the following:

- Obtaining permits and/or approvals required for construction that are not provided by the owner.
- Developing and implementing site specific CEMP measures and task specific environmental protection plans (EPPs) including but not limited to a Construction and Demolition Waste Management Plan and Waste Management Plan.
- The contractor shall confirm that all construction activities are carried out in accordance the CEMP, the Erosion and Sediment Control Plan (ESC Plan), and the Contaminated Soil Management Plan (CSMP). This includes implementing measures as prescribed in the CEMP or as required during construction to protect Environmentally Sensitive Areas (ESAs).
- Planning and scheduling construction to avoid or minimize the extent or duration of environmental impacts.
- Ensuring that their workers and subcontractors are properly trained, supervised and, have the required experience to employ the requirements of the CEMP.
- Notifying the owner immediately following any environmental incident and taking all required steps against further damage to the environment.
- Reporting externally where required by applicable legislation (e.g., Spill Reporting Regulation).

- Issuing a “Stop Work Order” during any circumstance of construction that contravenes or has the potential to contravene the project’s CEMP or the project’s permits/approvals.

3.4. QUALIFIED ENVIRONMENTAL PROFESSIONAL (QEP)

The main responsibility of the QEP is to confirm preventative measures and controls are being effectively implemented during the project and being monitored by an EM. The EM will be under the direction of the QEP and may complete on site responsibilities detailed below. The QEP is responsible for the following:

- Maintaining an updated and available copy of the CEMP on site and relevant permits/approvals for reference by construction personnel.
- Communicating the requirements of the CEMP to the contractor’s personnel including subcontractors.
- Managing and supervising the contractor’s performance and compliance with the CEMP and the project’s permits/approvals.
- Confirming all construction work activities are planned, developed, and implemented in compliance/conformance to the requirements in the CEMP and the project’s permits/approvals.
- Completing inspections and auditing compliance of construction activities against the CEMP, Environmental Protection Plans (EPPs), and environmental approvals, if required.
- Developing an ESC Plan specific to the project and completing inspections and auditing compliance of construction activities against the ESC Plan.
- Communicating with the owner on matters related to environmental management, including being present at meetings when environmental protection measures are discussed.
- Conducting full-time monitoring during high-risk activities, including work within the 15 m watercourse buffer. Conducting weekly monitoring during low-risk activities.
- Monitoring the performance of measures installed to meet the requirements in the CEMP.
- Conducting regular inventories of spill response kits and contingency supplies.
- Conducting inspections of equipment and material prior to arrival on site to confirm it is clean, leak free, contains the appropriate environmental protection equipment, and is free of invasive species plant parts.
- Recording all wildlife observations present on the project site.
- Conducting water quality monitoring in accordance with [Section 7.3](#).
- Conducting pre-clearing bird nest surveys if clearing or vegetation removal is required.

- Assisting with environmental emergency response (e.g., spill response) including follow-up, and the completion and submission of environmental incident reports as required.
- Issuing a “Stop Work Order” during any period of construction that contravenes the CEMP, the project’s permits/approvals or has the potential to be of environmental concern.
- Submitting weekly environmental monitoring reports as prescribed in [Section 4.2](#) below.
- Prepare a final post-construction environmental monitoring report for submission to the owner within 30 days of project completion. Requirements of the post-construction report are outlined in [Section 4.3](#) below.

3.5. STOP WORK PROCEDURE

On site the owner, the contractor, the EM and the QEP have the authority to issue a Stop Work Order. The EM, in consultation with the QEP, will issue a Stop Work Order when in the opinion of the EM or the QEP, environmental values are impacted or are imminently threatened due to deviations from the guidance in the CEMP and regulatory permits or identification of unforeseen risks. A Stop Work Order template is provided in [Appendix A](#).

Once work has been stopped due to a Stop Work Order, it must not re-start until the owner, and the contractor are satisfied that future work will be in compliance with the CEMP and the project’s permits/approvals.

The report requirements for a Stop Work Order include:

- Nature of the non-compliance and associated construction activity.
- Location, time, persons, and equipment involved.
- The project environmental commitment that has been contravened in relation to the CEMP or project’s permits/approvals.

4. Reporting

4.1. DAILY MONITORING REPORTING

The EM shall complete an Environmental Monitoring Report ([Appendix B](#)) for each day they are on site during high-risk works. The report shall include a summary of construction activities, a record of any communications on site, water quality measurements (if applicable) and photos. Water quality sampling information shall include the type, date, time, and location of sampling, techniques or procedures followed, the person collecting the data, and the results. These reports can be available to the owner upon request.

4.2. WEEKLY MONITORING REPORTS

The weekly environmental monitoring reports shall cover a reporting period of each calendar week (Sunday – Saturday) and shall be submitted to the owner by the following Wednesday. The weekly environmental monitoring reports shall include:

- The environmental monitoring effort applied during the reporting period as a function of risk to environmental sensitivities, and as related to the specification for environmental monitoring in this CEMP.
- Descriptions of construction activities including location, timing, and personnel involved.
- Summary of equipment inspection records.
- A tracking log of performance on environmental issues and recommendations made by the EM, including chronology of such issues and recommendations.
- Detailed description of any environmental incidents that occurred including additional actions taken by the contractor in response to the incident, water quality data, an environmental effects assessment, and root cause analysis.
- Communication with contractors and other personnel on the project.
- Photographs.
- Any inspections or field verifications related to the environment performed by the contractor representatives and the resulting communications.
- On site inspections and findings including:
 - Erosion and sediment control (ESC) measures implemented and assessed for functionality.
 - Any environmental issues, and corresponding mitigation measures implemented.
 - Results of any environmental attribute testing.
 - Waste and fuel management issues.
 - Terrestrial and aquatic habitat protection measures.
 - Air quality and noise concerns and mitigative procedures.

4.3. ENVIRONMENTAL MONITORING COMPLETION REPORTS

An environmental completion report shall be completed by the QEP and submitted to the owner within 30 days of project completion. The environmental monitoring completion report shall summarize activities

undertaken, environmental issues encountered, and preventative actions taken. The report shall include the following:

- Weekly report summaries.
- Confirmation that the contractor followed the CEMP and the project's permits/approvals to avoid adverse effects to the environment.
- Survey and water quality data collected.

5. Training

Pre-work environmental orientation training shall be provided to each worker prior to the beginning of this project. This will confirm that the workers are aware of the requirements set out in the CEMP, which are applicable to the project activities. During the initial orientation, critical components of the plan, such as emergency procedures and contingency plans, shall be reviewed. Other topics include:

- Environmental requirements of the CEMP applicable permits.
- The roles and responsibilities of the owner, the contractor, the QEP, the EM, and other project teams related to environmental aspects of the project and the communication structure.
- Review of the spill response plan, spill supplies and how to use them.
- Storage and handling of fuel and any hazardous products.
- Waste management and measures to reduce wildlife conflicts.
- A review of who is able to issue a Stop Work Order, what conditions may be applied and how it may be lifted.
- Review environmentally sensitive areas with the potential to be impacted by the project.
- Information on invasive plants in the area and measures to reduce the potential of spreading the plants.
- Procedures for what incidents and emergencies need to be reported, how quickly they need to be reported, who to report them to and what information is required.

6. Environmental Considerations

6.1. ENVIRONMENTAL SENSITIVITIES

An Environmental Overview Assessment (EOA) was completed by McElhanney in July 2020. The EOA was completed to identify environmental sensitivities and potential regulatory requirements. The assessment included a desktop and field-based review.

6.1.1. Aquatic Resources

The desktop review identified Hays Creek, a fish-bearing stream, is located along the southeast edge of the site (*Figure 2*). Hays Creek (915-789100-27000) historically supported all five species of Pacific salmon, coastal cutthroat trout (*Oncorhynchus clarkii clarkii*), rainbow trout (*O. mykiss*), and Dolly Varden (*Salvelinus malma*). Currently, chinook (*O. tshawytscha*), chum (*O. keta*), and sockeye (*O. nerka*) salmon are not known to return to Hays Creek. Only coho (*O. kisutch*) and pink (*O. gorbuscha*) salmon, resident cutthroat, rainbow trout, and Dolly Varden are known to occur currently.

Hays Creek occurs immediately adjacent to the paved parking lot within the site. A narrow buffer of riparian shrub vegetation is present. Setbacks for project activities should be a minimum of 15 m from the high-water mark of Hays Creek. Mitigation measures will be required to avoid harmful alteration, disruption, or destruction of fish habitat and the release of deleterious substances to fish habitat, as required under the federal *Fisheries Act*.

A Request for Review was submitted to Fisheries and Oceans Canada and Notification to the BC Ministry of Water, Land, and Resource Stewardship for in and near water works associated with the stormwater outfall.

6.1.2. Terrestrial Resources

As the conifer stand that was present on the site has been cleared, terrestrial resources on the site are limited. However, during the desktop review two invasive plant species records were identified at the northwest corner of the site (*Figure 2*). Species included Japanese knotweed (*Fallopia japonica*) and meadow buttercup (*Ranunculus acris*). Japanese knotweed is designated as a noxious weed under Schedule A of the provincial *Weed Control Act*. Under Section 6 of the Weed Control Regulation, no person shall move on a highway any construction machinery or recreational vehicle that has any noxious weed on it. As such, construction plans involving the removal and disposal of Japanese knotweed or the soil surrounding the infestation may require specific plans to ensure compliance.

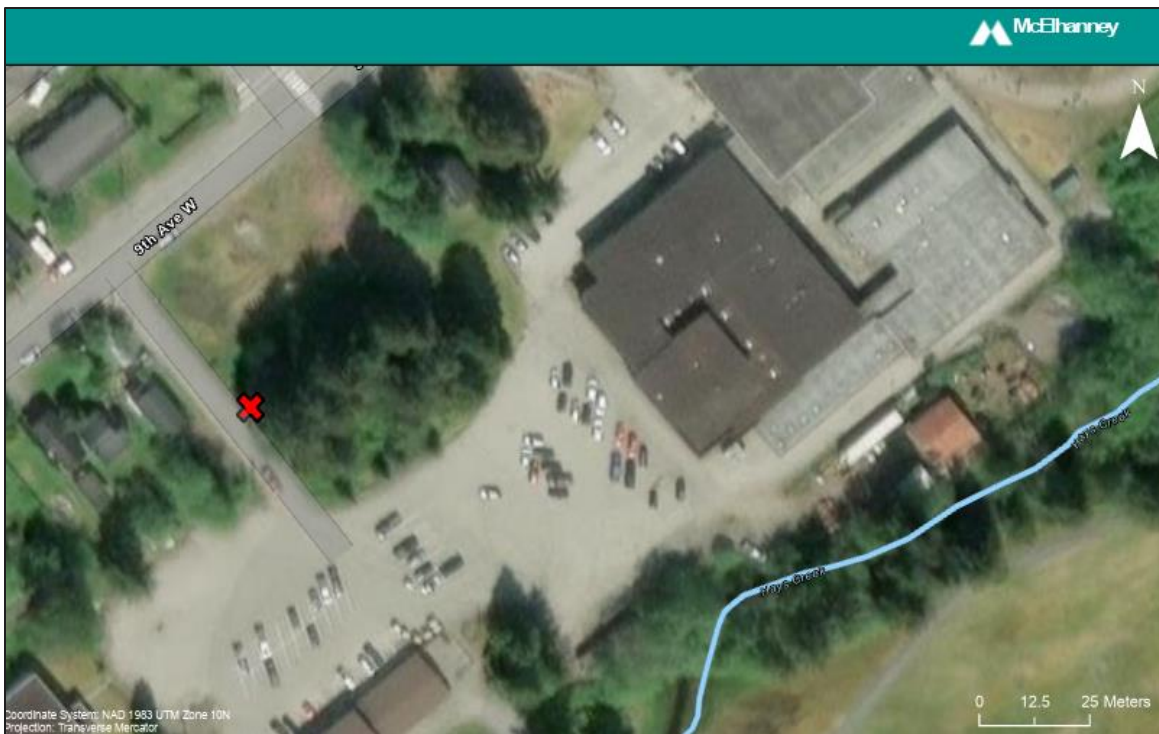


Figure 2: Environmental resources, Hays Creek identified in blue and invasive species in red (ArcPro, 2024).

6.2. POTENTIAL ENVIRONMENTAL EFFECTS

It is anticipated that adverse environmental effects to these resources is manageable and can be fully mitigated by implementing BMPs and mitigation measures described in the CEMP. A summary of the environmental effects of the project are shown in Table 3 below:

Table 3: Potential environmental effects related to the proposed works.

Biophysical Component	Potential Environmental Effect	Mitigation Measures
Riparian Habitat	Vegetation clearing	<ul style="list-style-type: none"> Minimize the amount of vegetation clearing within the riparian buffer and revegetate where feasible. Clear vegetation outside of the breeding bird window. Retain root systems until instream works.
Fish Habitat	Placement of material in Hays Creek	<ul style="list-style-type: none"> Work from top of bank. Isolate the work area. Maintain flow around the work area. Have an EM on site.
Fish Mortality	Placement of material in Hays Creek Hydraulic spills, fuel spills, sedimentation	<ul style="list-style-type: none"> Prevent any fluids from entering the water. Work from top of bank. Store fuel and equipment a minimum of 30 m from the watercourse. Implement ESC measures. Spill kits to be kept on site.
Water Quality	Spills, sedimentation	<ul style="list-style-type: none"> Implement ESC measures. Monitor water quality.

		<ul style="list-style-type: none"> • Work from top of bank.
Wildlife	<p>Mortality and/or disturbance</p> <p>Wildlife encounters and conflicts may occur during project works.</p>	<ul style="list-style-type: none"> • With implementation of BMP's and mitigation measures in place, impact is not substantial. • Noise impacts are temporary and reversable.
Plant Species & Communities	<p>Introduction or spread of invasive species resulting in decreased biodiversity.</p>	<ul style="list-style-type: none"> • Ensure equipment and vehicles are clean of debris when arriving on site. • Delineate invasive species areas on site. • Do not work in invasive species areas without implementing additional mitigations.

7. Environmental Protection Measures

7.1. ENVIRONMENTAL MONITORING PLAN

Environmental monitoring shall be conducted during project construction activities near watercourses, and environmentally sensitive areas. Frequency of environmental monitoring shall be determined by construction activity risk level, as outlined in [Table 4](#). The EM shall conduct training as outlined in [Section 5](#) and reporting as outlined in [Section 4](#) of this CEMP. The EM shall conduct regular inspections of all environmental protection measures as outlined throughout this CEMP and specifically within [Section 7](#). In addition to the responsibilities defined in [Section 3.4](#), while on site, the EM shall:

- Notify crews when they are working near sensitive areas such as streams and wildlife features (i.e. dens, wildlife trees).
- Record any wildlife sightings, especially those animals that may be rare or endangered.
- Review construction activities occurring and the implementation of associated mitigation measures.
- Review the need for ESC measures and regular weekly inspection of installed measures with any deficiencies repaired within 24 hours.
- Inspect the site for proper fuel handling and storage and document any leaks.
- Inspect emergency response and spill containment kits regularly.
- Inspect equipment and material prior to arrival on site to confirm it is clean, leak free, contains the appropriate environmental protection equipment and is free of invasive species plant parts.
- Review how waste is being contained and disposed off.
- Confirm that environmentally sensitive features have been flagged.

- Conduct water quality monitoring (outlined in [Section 7.3](#)), if required.
- Conduct pre-clearing bird nest surveys if clearing or vegetation (shrubs, trees, brush) removal is required beyond existing limits. Ongoing bird nest surveys may be required depending upon spatial and temporal extents of vegetation clearing.

Table 4: Risk level of major construction activities.

Activity	Risk Level	Scope	Required Monitoring
Near stream works, including riparian vegetation removal and stormwater outfall construction	High	Water quality monitoring, daily reporting	Full time during work
Near stream works, including hydrant replacement	Moderate	Water quality monitoring, daily reporting	Daily during active work
All other works	Low	Weekly reporting, water quality monitoring (if required)	Weekly during active work

7.2. EROSION AND SEDIMENT CONTROL

It is anticipated that the main potential sources of erosion or sedimentation for this project will be associated with the site preparation and work along the bank of Hays Creek. Introduction of sediment into Hays Creek shall be avoided or minimized. Where required, ESC measures shall be installed following the ESC Plan and BMPs as directed by the QEP or EM. Site specific details and monitoring of ESC measures are detailed within the project ESC Plan. Hydrotechnical information applicable to ESC is provided in [Appendix C](#). Erosion and sediment control measures shall be inspected regularly and described in daily environmental monitoring reports as outlined in [Section 4.1](#).

ESC measures specific to the stormwater outfall construction include:

- The Contractor shall avoid placement of excavated materials adjacent to any watercourse or storm drainage on the site.
- Erosion and sediment control (ESC) measures shall follow the ESC plan developed for the Project.
- Work within and near Hays Creek should be timed during low water conditions to prevent sediment from entering the creek.
- Unattended soils shall be protected or stabilized (covered with geotextile fabric or similar).
- Complete works during suitable weather conditions.
- ESC measures shall be monitored by a QEP during construction adjacent to and within Hays Creek to confirm that employed measures are effective.

7.3. WATER QUALITY MANAGEMENT

Construction has the potential to affect water quality on the project site including Hays Creek. When working near Hays Creek, water quality sampling shall be conducted by the EM and compared to the parameters in [Table 5](#).

Water quality shall be monitored visually for signs of hydrocarbon sheens and iron/bacteria/ochre staining and shall be sampled upstream and downstream of the site, with a focus on turbidity. Turbidity shall be used as a substitute measure for suspended solids.

Table 5: Summary of BC Water Quality Guidelines (MoE 2021).

Parameter	Maximum Allowable Level
Suspended Solids	Change from background of 25 mg/L at any one time for a duration of 24 h in all waters during clear flows or in clear waters.
	Change from background of 5 mg/L at any one time for a duration of 30 d in all waters during clear flows or in clear waters.
	Change from background of 10 mg/L at any time when background is 25 – 100 mg/L during high flows or in turbid waters.
	Change from background of 10% when background is >100 mg/L at any time during high flows or in turbid waters.
Turbidity	Change from background of 8 NTU at any one time for a duration of 24 h in all waters during clear flows or in clear waters.
	Change from background of 2 NTU at any one time for a duration of 30 d in all waters during clear flows or in clear waters.
	Change from background of 5 NTU at any time when background is 8 – 50 NTU during high flows or in turbid waters.
	Change from background of 10% when background is >50 NTU at any time during high flows or in turbid waters.
pH	6.5 - 9.0 or, when upstream (control) water quality is outside the range of 6.5 to 9.0, a change of no more than 1.0 pH unit between upstream water quality and receiving environment water quality.
Oil and Grease	The surface of the water should be virtually free of petroleum, animal or vegetable oils.

7.3.1. Water Quality Monitoring Program

The EM shall record water quality measurements in the daily report log as well as the weekly report. Information collected shall include:

- Name of the sampler and the location, date and time of the sampling.
- The water quality parameters measured, method of measurement and equipment used where applicable.
- Results of the water quality sampling.
- A summary of any mitigative measures employed to improve water quality parameters where required.

The following list describes BMPs related to water quality sampling:

- Water sampling locations shall include one upstream and two downstream. If water quality exceeds the BC Approved Water Quality Guidelines (AWQG) for the Protection of Aquatic Life (MOECCS 2021), water sampling shall occur every hour.
- All water quality instruments shall be calibrated daily.
- Water quality parameters shall include conductivity, turbidity, pH, and dissolved oxygen.
- If water quality is approaching exceedance or has exceeded the BC AWQG, the contractor's EM shall notify the site supervisor, and work shall be halted until additional mitigation measures are implemented and downstream water quality samples have returned to acceptable levels.
- If a deleterious substance is released into a waterbody, the owner shall be notified immediately. Outline protocols are outlined in [Section 7.4.1](#).

7.3.2. Surface Water Management

The following list describes BMPs related to surface water management:

- No deleterious substances such as sediment-laden water, hydrocarbons, and concrete wastewater are to enter any waterbodies.
- Prior to release of sediment-laden water, water shall be placed into a catchment pond until it reaches the BC AWQG.
- In the event that water quality exceeds the BC AWQG, sediment-laden water shall be contained until it reaches the BC AWQG or will be disposed of off site.

7.3.3. Concrete and Grout Works

If cast-in-place concrete works are located where there could be an impact to a watercourse, pH levels shall be monitored upstream and downstream of concrete works with a pH/conductivity meter and a carbon dioxide (CO₂) tank with a regulator, hose, and gas diffuser shall be on site during all cast-in-place concrete works occurring adjacent to a watercourse. Further BMPs regarding concrete works occurring near watercourses are as follows:

- Any cast-in-place concrete or grout works must be isolated from fish-bearing watercourses. The isolation shall be considered effective if pH in the watercourse does not exceed applicable water quality guidelines within in the time associated with concrete works.
- Containment shall be required to wash off all concrete delivery trucks, and any other equipment with concrete waste to prevent uncured or partly cured concrete from entering nearby watercourses.

All concrete forms shall be free of pooling water and groundwater prior to concrete pours.

- Concrete and equipment should be handled carefully to prevent spillage into the environment.

- Once all cast-in-place concrete and grouting is in place, all fish-bearing waters should be isolated for a minimum of 48 hours.
- A CO₂ tank with a regulator, hose and gas diffuser shall be present on site during all concrete and grout works near fish-bearing waterbodies.
- Excess concrete shall be removed from the site and disposed at an approved facility.
- If water quality exceeds 9.0 pH units, emergency response protocols described in [Section 7.4.1](#) shall be employed.

If the EM finds that site activities are impacting water quality, the EM shall locate the source and take actions to reduce impacts. This may include installing ESC measures ([Section 7.2](#)) redirecting wash water and/or temporarily stopping work until water quality conditions are within guidelines.

7.3.4. Groundwater Management

Construction activities shall be conducted in accordance with the Groundwater Protection Regulation. No discharge of wastewater is required for the project.

7.4. SPILL PREVENTION AND ENVIRONMENTAL INCIDENT RESPONSE

The project requires the use of chemicals, fuels and materials that could cause harm to the environment if not handled properly. Protection of human and environmental health can be achieved by complying with applicable laws and regulations, minimizing spills, and conducting appropriate spill response.

A spill, as defined by the BC *Environmental Management Act* Spill Reporting Regulation (2017), is a release or discharge into the environment, not authorized under the Act, of a substance in an amount equal to or greater than the amount listed in the Regulation. [Table 6](#) below, details the substances that may be found on site and the reportable amounts. **Any substance spilled to water must be reported.** All spills are to be reported to the owner and EM within 24 hours of occurring, regardless of the volume spilled.

Table 6: Reportable spill quantities

Substance	Quantity	External Reporting
Any Spill	Any amount in aquatic habitat	EMBC, DFO, and MFLNRO
Flammable Gas (propane)	10kg or 10 mins	EMBC
Non-Flammable Gas (CO₂)	10kg or 10 mins	EMBC
Flammable Liquids	100 L	EMBC
Corrosive Liquids (battery acid)	5kg or 5 L	EMBC
Environmental Hazards (i.e. PCBs)	1 kg or 1 L	EMBC
Oil and Waste Oil	Greater than or equal to 100 L	EMBC
Antifreeze	5 L	EMBC

Spill prevention and emergency/incident response procedures shall be communicated to all field crews at the start of work during an environmental orientation, and at regular intervals throughout the project. The EM shall provide training to confirm appropriate spill response procedures are known and understood by all employees. General guidelines and BMPs for spill prevention on site include:

- The contractor shall always maintain and supply spill prevention and emergency response equipment on site. All workers shall be trained in the use of these supplies. The following are the recommended spill kit requirements:
 - All pickup trucks and equipment with an on-board fuel capacity of 500 L or less shall have a spill kit with a minimum of the following: Goggles, PVC gloves, 10 absorbent pads, 2 absorbent socks (1 m each), 1 container of emergency sealant, and 3 heavy duty plastic bags.
 - All pickup trucks and equipment with an on-board fuel capacity of more than 500 L shall have a spill kit with a minimum of the following: Goggles, PVC gloves, 20 absorbent pads, 6 absorbent socks (1 m each), 1 container of emergency sealant, and 5 heavy duty plastic bags.
 - All pickup trucks and equipment with a portable fuel tank with capacity of more than 500 L shall have a spill kit with a minimum of the following: Goggles, PVC gloves, 20 absorbent pads, 6 absorbent socks (1 m or 3 ft long each), 1 container of emergency sealant, and 5 heavy duty plastic bags.
- Spill kits shall be kept in good working conditions and used spill kit equipment/materials shall be replaced immediately.
- Equipment arriving on site shall be in good working order, free of leaks, and clean of oil, grease, and other contaminants before working on site.
- All equipment shall be checked daily to confirm that it is free of leaks (fuel, oil, or hydraulic fluids). Repairs will be carried out immediately or equipment will be replaced.
- Equipment inspections shall be recorded in a tracking table including the following:
 - Equipment identification.
 - Name of inspector.
 - What was inspected on the equipment.
 - Deficiencies notes.
 - Corrective actions applied.
- Confirm that all chemical, fuel, and oil handling and storage is carried out in accordance with applicable regulations and guidelines, such as the Field Guide to Fuel Handling, Transportation and Storage (MWLAP 2002) and as detailed above.
- All fuels, lubricants, chemicals and toxic products shall be securely stored a minimum 30 m from any watercourse, have secondary containment and protection from the weather.

- Refuelling shall occur a minimum of 30 m from any environmentally sensitive area or feature and will be completed using a two-person system. Refuelling procedures shall be posted at each fuel storage location that includes information in the event of a spill.
- Drip trays and pans shall be used to collect excess fuel and oil to mitigate accidental releases from overfilling.
- Drip trays shall be placed under any equipment that will be parked for longer than 24 hours.
- Nozzles shall be equipped with automatic shut offs unless a drip free nozzle is used; valves shall be closed and in a locked position when not in use.
- All containers must be labelled with appropriate Transportation of Dangerous Goods Regulation (TDGR; Canada 2021) as well as Workplace Hazardous Materials Information System (WHMIS), and safety markings. Safety Data Sheets (SDS) shall be available on-site for all products.
- All waste fuel or products such as filters shall be secured in appropriate containers and discarded as per the environmental regulations.

7.4.1. Spill Response Procedure

Should a spill occur during construction, the spill response procedure is as follows:

1. Make the area safe

- a. Evaluate the risk to personal and environmental safety,
- b. Notify the EM,
- c. Don the appropriate Personal Protective Equipment (PPE),
- d. Determine what product was spilled prior to taking action,
- e. Notify all individuals in the immediate vicinity, and
- f. If the spill is a flammable material, ensure that there are no ignition sources near the spill.

2. Stop the flow (only when safe to do so)

- a. Close valves, turn off pumps or plug any holes and leaks, and
- b. Stop the flow at the source of the spill.

3. Secure the area

- a. Control access to the spill area, and
- b. Allow only authorized personnel onto site.

4. Contain the spill

- a. Block and protect all stormwater drains and culverts to prevent spilled material from entering into waterways, and
- b. Employ spill containment and sorbent materials to contain the spill.

5. Notification and Reporting

- a. The EM will notify EMBC within 24 hours of the spill, when required,

- b. The contractor must notify the owner of all available information immediately, and
- c. The EM will then report the spill to the owner in the form of an environmental incident report within 24 hours.

6. Clean-up

- a. Ascertain the best course of action for clean-up with appropriately qualified professionals,
- b. Perform spill clean-up,
- c. Dispose of all clean-up materials as per provincial guidelines, and
- d. Refill all spill response kits.

7.4.1.1. Concrete Spill Response

Should concrete works result in a spill that enters a watercourse, the following steps shall be followed in addition to the above spill response procedure:

- The onsite EM shall release or delegate the release of CO₂ through the use of gas diffuser and regulator into the contaminated water to neutralize the pH of the water.
- If possible, the water that has come into contact with the spill shall be isolated and treated until the pH is between 6.5 and 9.0 units.
- If downstream pH has changed by more than 1.0 pH units from the background pH, or is recorded to be above 9.0 pH units, emergency measures above shall be implemented.
- A spill of uncured or partially cured concrete to a watercourse must be reported to EMBC within 24 hours.

7.5. MATERIAL STORAGE, HANDLING, AND WASTE MANAGEMENT PLANS

The following mitigation measures shall be implemented to prevent or reduce impacts to the environment related to material storage, handling, and waste management:

- The contractor shall develop and implement a Waste Management Plan and a Construction and Demolition Waste Management Plan.
- The contractor shall provide site specific training for implementation of the Waste Management and Construction and Demolition Waste Management Plans.
- The contractor shall provide site specific training on the appropriate separation, handling, and recycling of waste.
- For demolition the contractor shall provide site specific training for salvage and requirements for reusing salvaged materials within the project.
- The contractor shall identify and label specific areas to facilitate separation of materials for recycling and salvage.

- Recycling and waste bins are to be kept neat, clean, and clearly marked to avoid contamination of materials.
- The contractor shall implement waste tracking including a monthly waste summary.
- Silt fencing shall be placed around the laydown areas if offsite migration into the environment is anticipated.
- General good housekeeping practices shall be maintained to provide a clean, efficient workplace and operation. Effort shall be made to reduce, reuse, and/or recycle material being disposed of. Waste shall be disposed of in compliance with the *Environmental Management Act* (MoE 2003).
- Non-hazardous materials shall be stored more than 15 m away from water sources.
- All fuels, lubricants, chemicals and toxic products shall be securely stored, have containment, and have protection from the weather. Products shall be labelled, stored and transported in accordance with the TDGR as well as WHMIS.
- Hazardous goods shall be stored, handled, and transported in a manner that avoids loss and allows containment and recovery in the event of a spill, in accordance with all applicable legislation. Containment systems shall be designed to remain effective in case of precipitation events. Storage shall be located on flat, stable ground, a minimum of 30 m from the ordinary high-water mark of any nearby streams.
- Site personnel shall be adequately trained in the handling and transportation of hazardous materials.
- Hazardous materials shall be removed from site as soon as possible in compliance with the BC Hazardous Waste Regulation under the *Environmental Management Act*.
- All waste and recycling bins shall include visible signage.
- Waste bins shall be inspected on a weekly basis to determine if waste is being segregated properly and a designated disposal area for waste shall be implemented.
- Food waste shall be contained in animal-proof containers and shall be removed from site each day.
- Safety data sheets shall be available on site for all chemicals and products and employees shall be trained in Workplace Hazardous Material Information System (WHMIS).
- No dumping or burning of waste shall occur on site.
- A portable washroom facility shall be available on site; sewage shall be removed and disposed of at an approved facility as required. The washroom facilities shall be secured and located a

minimum of 30 m from any waterbody and shall be secured to prevent tipping. The removal of sanitary waste shall be in compliance with the *BC Waste Management Act*.

- If suspected contaminated material is identified, the management of the material shall be completed following the Contaminated Soil Management Plan (CSMP).
- All workers shall be aware of the signs of suspected contaminated material which include:
 - Gray or black staining of soil.
 - Oily sheen present on soil and/or water.
 - Hydrocarbon (gas) odour.
- If suspected contaminated material is identified, the following steps shall occur:
 - Work shall stop.
 - The EM and the owner shall be notified.
 - Safe work zones shall be established.
 - Soil shall be classified as per the CSMP.
 - Suspect contaminated soil shall be excavated, under direction of the QEP, and follow all stockpile management and segregation as per the CSMP.
 - Disposal and transport of the contaminated material shall be completed in accordance with the CSMP.

7.5.1. Hydrocarbon Products

Fuel storage and handling shall be in accordance with TDGR. No long-term storage of these materials is anticipated. The following is a list of general BMPs associated with refueling and the storage of fuel to minimize the risk of spills to the environment:

- Containers shall not leak and shall be sealed with a proper fitting cap or lid will be used. Containers shall be labelled according to the TDGR. Plastic containers shall be less than 5 years old, designed for that purpose, and be CSR or ULC listed or registered products.
- Containers that are 23 L or less shall be stored and transported in an equipment box of a vehicle that is capable of containing the total quantity fuel in the container(s) should it leak or spill.
- Transport containers with hydrocarbon products shall be transported upright and secured to prevent shifting and toppling.
- Containers that are greater than 23 L with hydrocarbon products shall be stored within impermeable containment designed to contain 110% of the total capacity.

- All fuels or lubricants temporarily stored on site shall have an impermeable secondary containment capable of holding 110% volume of the largest container that is covered from the elements. A double-walled storage tank is considered secondary containment.
- All fuels shall be stored separately from corrosive materials.
- There shall be no smoking near fuel storage and refueling locations in accordance with the Occupational Health and Safety Regulations (WorkSafe BC 1998).
- Spill kits shall be located at all fuel handling and storage locations.

7.5.2. Cementitious Materials

If construction activities require the use of cementitious materials, these basic materials are toxic to fish and, as such, their use poses an environmental risk. Materials need to be isolated from aquatic life receiving environments. The following BMPs shall be employed to reduce the potential impact from cementitious materials.

- Cementitious materials shall not be deposited, directly or indirectly, into a waterbody. Water that does contact uncured or partially cured concrete or grout shall be prevented from entering a waterbody.
- Water that contacts cured, or partially cured concrete or grout shall be isolated until the EM determines that the pH is measured between 6.5 to 9.0 pH units and turbidity is measured to be less than 25 NTU (+/- 2 NTU accuracy). The EM can then approve the water to be pumped into vegetated settling areas away from waterbodies.
- The EM shall monitor pH levels downstream of the work area if cementitious material cannot be effectively isolated. If downstream pH has changed by 1.0 pH units (+/- 0.2 pH accuracy) or is either above 9.0 pH units or below 6.5 pH units, emergency measures shall be implemented.
- The EM shall direct the contractor as to whether a CO₂ treatment system is required during cementitious works. The CO₂ treatment system can be used to neutralize pH during a spill. The EM shall be present to monitor water quality while the system is required on site. All workers shall be adequately trained in the purpose and use of this equipment.
- Spills to water shall be immediately reported to EMBC 1-800-663-3456. Materials shall be removed from the water, if possible, and emergency mitigation and clean-up measures shall be immediately implemented.

7.6. FISH AND FISH HABITAT PROTECTION

One fish bearing watercourse is present, immediately adjacent to the project site. The following BMPs will be implemented to protect fish and fish habitat during works:

- Work should be completed during low flow conditions.

- Work should be completed within the reduced risk timing window for species with the potential to be present. As an inclusive reduced risk window for all species does not exist, the window for coho and pink salmon should be used (July 1 to August 15).
- All work within the riparian area and near the stream bank shall be monitored by a QEP.
- The immediate work site shall be isolated, salvaged of fish, and dewatered prior to construction works.
- Isolation shall follow the DFO Interim Standard: In-water site isolation (DFO 2023).
- If migrating salmon are identified during in and near water works, works will be halted until appropriate mitigations measures can allow for further construction.
- Existing roads, trails, or cut lines shall be used and fording watercourses avoided when possible.
- All locations where the watercourse may be within 30 m of construction activities shall be flagged.
- Sediment and erosion control measures as described in [Section 7.2](#) shall be implemented.
- Debris and deleterious substances shall be prevented from entering watercourses.

7.7. TERRESTRIAL RESOURCE AND HABITAT PROTECTION

Construction activities and site access activities may affect wildlife and wildlife habitat through disturbance (noise, dust, and vibration), temporary habitat loss (vegetation clearing if required), direct and indirect mortality, or increased wildlife-human contact. No vegetation clearing works are anticipated as clearing was completed in advance by the owner.

The EM shall work with the crews prior to starting in an area to identify potential interactions with sensitive environmental features and guide avoidance and mitigation planning. Wildlife activity near the project shall be monitored for signs of defensive or protective behaviours.

General terrestrial resource and habitat protection measures will be implemented as follows:

- Sites shall be restored as soon as possible, including disturbed riparian areas outside of the riprap bank protection, under the direction of the EM.
- Food waste or other attractants shall not be left on site overnight. Additional measures related to waste management are provided in [Section 7.5](#).
- Riparian vegetation and wildlife tree clearing shall be avoided, where possible.
- If vegetation clearing or grubbing is required between March 31 and August 12, a bird nest survey should be completed by a QEP prior to vegetation removal.

- Complete a wildlife sweep prior to construction works in the riparian area to confirm no incidental wildlife is present.
- If the removal of trees is required, trees with a DBH (diameter at breast height) of 30 cm or greater shall be avoided, if possible. Tall stumps shall be left when removing live or dead large trees, if this can be done under current WorkSafe regulations.

7.7.1. General Wildlife Measures

General BMPs related to wildlife include:

- Construction footprints should be identified and flagged prior to construction.
- All wildlife sightings shall be reported to the EM.
- Workers should be aware of the presence of tree cavities and hollows beneath trees as these have the potential to contain animal dens. Suspected nests and dens shall be reported immediately to the EM. The EM and QEP shall then determine the appropriate mitigation measures required.
- If a fawn or calf is observed without the mother present, all equipment and workers shall retreat from the site to a distance decided by the EM. Equipment and workers may return to the site once the EM has determined that the calf or fawn has not been on site for 24 hours.
- All nests should be reported immediately to the EM. If work is being completed when the nest may be active (April 1 to August 15) the EM will monitor the nest for activity and the QEP may prescribe appropriate setbacks.
- Close calls or incidences shall be reviewed and communicated with project staff through regular safety meetings.
- Any dangerous human-wildlife interactions shall be reported to appropriate authorities.
- No one working on the project shall fish, hunt wildlife, clean game, or gather plant resources in an around the project area during their time working on the project.
- Feeding of wildlife is prohibited and the contractor shall make sure that food wrappers and edible materials are contained in appropriate bins and removed from site each day.

7.7.2. Nesting Birds

No clearing activities are anticipated for the project. Should an active nest be located, a no-work buffer of at least 30 m shall be applied. The size and shape of the buffer may vary, depending on species, habitat present, sensitivity to disturbance etc. All nest buffers shall be clearly flagged in the field, and their location communicated to field crews.

7.7.3. Vegetation Management

The following mitigation measures to protect vegetation will be followed:

- All construction activities shall be performed within the project footprint and disturbance to vegetation shall be minimized when possible.
- Riparian vegetation removal shall be limited where possible.
- Vegetation shall be limbed or topped to retain established root networks.
- If vegetation clearing is to occur between April 1 through August 15 during the breeding bird window, bird nest surveys will be the responsibility of the contractor and be performed by a QEP prior to clearing and/or disturbance.
- ESC measures will be applied in response to clearing activities at the recommendation of the EM and QEP, where required.

7.7.3.1. Invasive Plant Management

Two invasive plant species were identified within the area cleared in advance by the owner. If excavation is required in this area, specific transportation and disposal requirements will need to be implemented.

The following mitigation measures to prevent the spread of invasive species will be followed:

- Prior to the onset of construction, a survey for invasive plant species within the project footprint shall be performed by the EM.
- Personnel shall be provided awareness training during project initiation and environmental orientation.
- The EM and site supervisor shall record any occurrences of invasive plants not previously recorded and report to the owner and the Invasive Alien Plant Program.
- The footprint of vegetation and soil stripping shall be minimized. The laydown area shall be deemed free of any invasive species, prior to placement of overburden material.
- All equipment, machinery, clothing and footwear shall be clean and free of soil, vegetation and seeds prior to entering and/or leaving the project area.
- Machinery shall be kept on designated routes.
- Clothing and footwear shall be checked for seeds or plant matter and, if materials are detected, remove and segregate as to not infest the area.
- The EM shall inspect and request cleaning if required equipment for soil/vegetation on a regular basis and prior to equipment being moved to another project site, onto or off the project.

- The EM shall direct the separation of cleared material containing invasive plants from other cleared material. Cleared material containing invasive plants shall be disposed of at an approved disposal facility.
- Disturbed soils shall be revegetated with native vegetation as soon as construction in an area is complete. Native re-vegetation seed should be certified free of invasive plant species.

7.8. AIR QUALITY AND DUST CONTROL

All activities, equipment, processes, and works performed shall comply with federal, provincial and local government regulations governing noise levels and air emissions. To minimize the release of emissions or other particulate including dust, the following mitigation measures shall be implemented:

- The footprint of soil disturbance, the subsequent dust source, and stockpile handling shall be reduced.
- All speed limits for public and private roads, including any conditions required in road use agreements shall be followed. The contractor shall monitor and adjust travel speeds of crews to minimize the mobilization of dust to reduce impacts to the surrounding environment and driver visibility where required.
- As required, water shall be applied on the roads to prevent dust mobilization.
- Low sulphur fuels shall be used in equipment.
- All equipment shall be maintained and operated under the manufacturer's specifications to reduce unnecessary emissions; notify the EM if black exhaust is noted.
- Burning of refuse or other material related to the work site is prohibited.
- Unnecessary idling shall be discouraged at all times and restricted to 10 minutes on equipment not required for active construction.
- All internal combustion engines, generators, compressors and other equipment shall be fitted with emission control equipment as required by the manufacturer.
- Inspections of emissions shall be performed in accordance with supplier specifications.
- Dust generating equipment (e.g., drills) shall be equipped with dust suppression systems.
- All fine particulates including but not limited to silt, cement, fly-ash storage bins and grout shall be protected from erosion (e.g., wind or rain).

8. Closure

McElhanney is please to submit this Construction Environmental Management Plan for the new school at the Prince Rupert Middle School. Should conditions change significantly, McElhanney reserves the right to amend this CEMP as we see fit. Should you have any questions or require further classification, please do not hesitate to contact the undersigned at your convenience.

Sincerely,

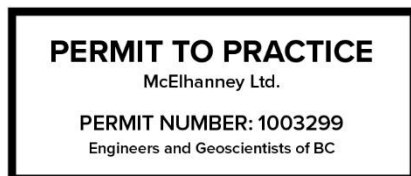
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APPENDIX A

Stop Work Order

Stop Work Order

Location:	Date:	Time:
Persons Involved:		Equipment Involved:
Non-conformance:		
Description of environmental concern:		
You are hereby instructed to stop work relating to the above non-conformance with potential environmental impacts.		
This Stop Work Order must be provided and/or communicated to the following:		

APPENDIX B

Daily Environmental Report

Environmental Monitor Report

Report No.: __

PROJECT NAME		PROJECT NUMBER		
OWNER		LOCATION		
CONTRACTOR	TIME	MM	DD	YY
WEATHER/SITE CONDITIONS	TEMPERATURE: HIGH	LOW	PRECIPITATION	
	_____	_____	_____	

ENVIRONMENTAL MONITOR:

SUMMARY OF DAILY ACTIVITIES

EROSION AND SEDIMENT CONTROL FEATURES AND MEASURES

SITE INSTRUCTIONS ISSUED

ADDITIONAL COMMENTS

PICTURES

Picture #	Comment

APPENDIX C

Hydrotechnical Information

APPENDIX D

Statement of Limitations

Statement of Limitations

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Information from Client and Third Parties. McElhanney has relied in good faith on information provided by the Client and third parties noted in this report and has assumed such information to be accurate, complete, reliable, non-fringing, and fit for the intended purpose without independent verification. McElhanney accepts no responsibility for any deficiency, misstatements or inaccuracy contained in this report as a result of omissions or errors in information provided by third parties or for omissions, misstatements or fraudulent acts of persons interviewed.

Effect of Changes. All evaluations and conclusions stated in this report are based on facts, observations, site-specific details, legislation, and regulations as they existed at the time of the report preparation. Some conditions are subject to change over time and the Client recognizes that the passage of time, natural occurrences, and direct or indirect human intervention at or near the site may substantially alter such evaluations and conclusions. McElhanney should be requested to re-evaluate the conclusions of this report and to provide amendments as required prior to any reliance upon the information presented herein upon any of the following events: a) any changes (or possible changes) as to the site, purpose, or development plans upon which this report was based, or b) any changes to applicable laws subsequent to the issuance of the report.

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McElhanney



Platinum member