

**Appendix 1**

**Environmental Construction Management Plan – Cape Roger Curtis Lands,  
Bowen Island, BC (May 2009)**

# Environmental Construction Management Plan

## Cape Roger Curtis Lands Bowen Island, BC



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## List of Acronyms

<b>BIM</b>	-	Bowen Island Municipality
<b>CBCDL</b>	-	The Cape on Bowen Community Development Ltd.
<b>CRCL</b>	-	Cape Roger Curtis Lands
<b>DFO</b>	-	Fisheries and Oceans Canada
<b>ECMP</b>	-	Environmental Construction Management Plan
<b>EM</b>	-	Environmental Monitor
<b>MOE</b>	-	Ministry of Environment (formerly BC Ministry of Water, Land and Air Protection)
<b>PEP</b>	-	Provincial Emergency Program
<b>PGL</b>	-	Pottinger Gaherty Environmental Consultants Ltd.

## 1.0 INTRODUCTION

This report describes the Environmental Construction Management Plan (ECMP) for Cape Roger Curtis (CRC). This ECMP will be used as the primary management plan for all present and future development at CRC. As development proceeds, the ECMP will be updated as necessary to address specific issues.

The intent of the ECMP is to define:

- The role of the **Environmental Monitor** (EM) in ensuring environmentally responsible construction practices, the mechanisms to achieve that goal, and methods the EM uses to perform and report monitoring efforts; and
- The **Environmental Construction Specifications** that must be adhered to during construction of the above described works.

The terms Owner, EM, and Contractor are used throughout this document in the same sense as the construction contract. The EM can refer to a number of people in the Environmental Consultant's offices, rather than one dedicated employee. A list of contacts is provided in Appendix 1.

### 1.1 What is Environmental Monitoring?

Environmental monitoring is a process that provides an independent environmental assessment of activities outlined in a contractual agreement between Contractors, Agencies, Owners, and Consultants. The EM inspects for compliance with environmental aspects of the contract. Findings are recorded and reported to the Owner or other designate through which the monitor is contractually bound. The EM is familiar with the regulatory and contractual requirements of the project, and has the authority to report all non-compliant activities and halt work if necessary. Penalties may be levied for non-compliance with municipal, provincial and federal regulations.

**Note:** The involvement of an EM in the projects does not relieve Contractors from their responsibility of implementing and maintaining environmental protection measures.

### 1.2 Benefits of Environmental Monitoring

The EM supervises project construction to see that it proceeds in compliance with contractual obligations. Furthermore, as an unbiased, contractually-bound participant in the project, the monitor can provide quick detection of problem areas or potentially problematic events. Early detection equates to better control of environmental impacts and associated costs of clean up.

## 2.0 ENVIRONMENTAL MONITOR

This section provides an outline of the responsibilities of the EM.

## 2.1 General Requirements

1. To inspect the work for compliance with the ECMP Contract Specifications, specifically:
  - the Environmental Construction Specifications found in Section 3.0;
  - all proposed construction mitigation measures;
  - all relevant federal, provincial, and municipal regulations (including adhering to works windows for fish and wildlife); and
  - construction practices described elsewhere in the ECMP.
2. To identify and assess actual and potential conflicts between the construction activities and environmental features.
3. To identify, monitor, and promptly report any situations of ongoing or potential damage to the environment.
4. To recommend to the Contractor(s) additional preventative and mitigation measures, should project activities have the potential to damage the environment.
5. To regularly inform the Owner and relevant regulatory agencies of environmental issues that arise during construction. It is intended that a representative of the Owner will play a significant onsite role on an ongoing basis to ensure that environmental concerns are dealt with in a timely and responsible manner.

## 2.2 Communications

Figure 1 outlines the general paths of communication on a job site. The following summarizes the specific communication requirements in relation to the EM:

1. The EM is a key member of the inspection team and will simultaneously report the findings of inspections to the Owner and the appropriate regulatory agency as deemed necessary.
2. The EM will be informed through the Owner of any revisions or changes to the construction specifications or design.
3. The Owner or the design engineer will communicate any major changes to the design or contract specifications to the appropriate parties. Minor day-to-day modifications or variances will be reported through the EM's weekly reports.
4. The EM will deliver an environmental briefing and awareness program to construction staff through regular briefings and an initial pre-construction meeting.
5. The EM will be responsible for field communications with regulatory agencies. Environmental concerns are to be passed on to the EM for resolution between all affected parties.
6. In the event of an environmental emergency, the EM will immediately notify the appropriate regulatory agencies listed in the Emergency Response Plan (Section 4, Appendix 2). The EM will also maintain a list of the Contractor's staff to contact in the event of an environmental emergency.
7. The EM can be responsible for field communication with the public, if the Owner is not present to do so. All discussions would be noted in the weekly report.

## 2.3 Work Standards

1. The EM will provide onsite inspection as outlined in Section 2.4.
2. The EM will attend pre-construction meetings.

3. The EM's liaison with Bowen Island Municipality (BIM) will include:
  - Communication regarding construction progress, environmental concerns, design or mitigation modifications, or environmental damage.
  - Organizing and/or documenting onsite meetings.
  - Informing them on:
    - the progress of work being carried out in environmentally sensitive areas, and
    - construction mitigation activities.
  - Contacting them in the event of an environmental emergency, as outlined in the attached Spill Response Plan, and assisting in resolution of environmental problems associated with construction activities.
4. The EM is an integral part of the Owner's inspection team, which inspects Contractor activities for compliance with the Environmental Construction Specifications. The EM will have the authority to initiate a stop work procedure. The EM must be approved by regulatory agencies involved prior to commencement of construction.
5. The EM will be required to take soil or water samples, either as part of routine construction monitoring activities, or as a result of an environmental emergency.

## 2.4 Inspection

1. Prior to any site works, the EM together with the Owner and the Contractor, will meet onsite and review site specific environmental requirements and areas of potential concern.
2. The EM will review and/or help mark-off any sensitive areas in the proximity of construction activities in advance of initiation of work.
3. The Monitor will inspect the work for compliance with the Environmental Construction Specifications, specifically:
  - All proposed construction mitigation measures;
  - All relevant federal, provincial, and municipal environmental regulations; and
  - Any other aspects of the work which has the potential to impact the environment.
4. The frequency of inspections will reflect the activities underway onsite and the contractual obligation to regulatory agencies. The EM will conduct random inspections while construction activities with the potential for environmental impacts are occurring. At a minimum, random inspections will take place once a week. Additional inspections may be completed at the sole discretion of the EM.
5. The EM must be present onsite for the duration of any work conducted during the instream works window, within environmentally sensitive zones, and during the removal or decommissioning of sediment control measures. The EM must be given an advance warning if any of the aforementioned activities are scheduled.
6. Inspection/supervision will include all areas of the work site including: pits, excavations, waste areas, access roads, ramps and other project structures. The inspection will include, but not be limited to:
  - Inspection of past work carried out for compliance with the Environmental Construction Specifications;
  - Inspection of construction area for signs of environmental spills or emergencies;
  - Inspection of sensitive and "no construction" areas for disturbance;
  - Inspection for potential problems such as storage of material (i.e., excavated soil piles) that may permit the escape of material into the drainage system;
  - Inspection of the markers used to fence off sensitive and no disturbance areas;

- Inspection of onsite Spill Response equipment to confirm sufficient supply and appropriate type of supplies; and
- Inspection of the fuel handling practices for compliance with Section 3.6 of this report.

## 2.5 Sampling

1. The EM may be required to collect samples during site inspections. A sampling protocol set out by the environmental consultant and/or regulatory agencies should be adhered to. Appendix 3 outlines PGL's sampling requirements for suspended solids.
2. In the case of an Environmental Emergency, the EM shall collect samples as required or as directed by the Owner and/or regulatory agencies.

## 2.6 Non-compliance with Specifications

1. The EM will inspect the Contractor's activities for compliance with Environmental Construction Specifications, acts and/or regulations.
2. The EM will, as the first step after identifying non-compliance, notify the Contractor and Owner. If the Owner is not onsite, then the EM shall advise the Contractor to promptly rectify the non-compliance.

The EM has the authority to stop work in the immediate area if:

- Construction activities unexpectedly and significantly affect environmentally sensitive areas or features;
- An environmental emergency has occurred, or has the potential to occur, if activities continue unmodified;
- A regulatory agency has ordered the work halted; or
- Water quality results exceed specified federal, provincial or municipal standards and guidelines.

If the non-compliance is of a magnitude sufficient to warrant it, the EM has the authority to halt all work on the site until the non-compliance is dealt with.

3. If work is halted, the EM shall submit a report to the Owner and relevant regulatory agencies and notify them via phone as required. The report (Appendix 4) will include:
  - Details of the events leading to the halting of work including date, time, location, staff involved, and construction activities undertaken;
  - Reference to the specific section of Environmental Construction Specifications (Section 3.0), required mitigation measure or environmental regulations that prompted the work to be halted;
  - Features of the environment that were of concern or at risk;
  - Extent of environmental effect or damage incurred, if any;
  - Details and analysis, if available, of any samples taken in conjunction with the halted work;
  - Remedial and due diligence actions undertaken by the Owner, EM, other Inspectors, and agencies (steps to prevent recurrence of the problem should also be outlined);
  - The EM and the Owner's actions and communications;
  - Other Site Inspector's actions and communications;
  - Contractor actions and communications;
  - Agencies notified and their actions taken;
  - Details of how issue(s) were resolved and steps taken to rectify the emergency; and

- Detailed colour photographic record, with time and date stamped photos, of the subject area before, during and post-emergency.

## 2.7 Reporting Requirements

1. The EM will be responsible for documenting and maintaining a detailed record of all communication and correspondence he/she had with the Owner, other Site Inspectors and Contractor including discussions, letters, and meetings.
2. The EM will be responsible for documenting and maintaining a detailed record of all conversations (written or verbal) with BIM and other regulatory agencies.
3. The EM will be responsible for documenting and maintaining a detailed record of all public liaison activities including discussions, letters and meetings.
4. The EM will be responsible for developing and maintaining a detailed record of site visits. For each site inspection the EM will detail: date, time, location, weather conditions, inspection activities, construction activities observed, contacts made, recommendations, and required follow-up.
5. The EM will be responsible for developing and maintaining a time and date stamped, colour photographic record of construction activities, mitigation measures, environmental emergencies and halted work.
6. The EM shall submit a separate report if work is halted (Section 2.6).
7. A weekly Inspection Summary Report will be submitted to the Owner. The report can be copied to regulatory agencies and BIM as required. The weekly report will include:
  - General progress of the project with emphasis on work in environmentally sensitive areas (i.e., instream activities, work in riparian areas);
  - Routine mitigation measures being used and monitoring of mitigation effectiveness;
  - Environmental concerns encountered, recommendations made, and new mitigative measures taken, if any, including a list and record of all parties notified of any changes; and
  - Relevant conversations regarding work completed or planned.
8. A Final Report will be prepared by the EM, and will be submitted to the Owner. If required, the report can be copied to regulatory agencies and BIM. The report may include:
  - A summary of all work in environmentally sensitive areas, including procedures used, and success of the procedures;
  - Routine mitigation measures used and mitigation effectiveness;
  - An explanation of all design changes implemented for environmental reasons and/or recommended design changes;
  - A summary of environmental concerns encountered, new mitigative measures taken, and comments for avoiding these concerns on future project phases;
  - A copy of the weekly reports for the entire project;
  - A copy of all reports for halted work or for Environmental Emergencies; and
  - A colour photographic history of work in environmentally sensitive areas, with emphasis on mitigation measures, environmental concerns encountered, and design changes

If a final report is not required, the EM will submit a letter indicating work has been completed and no further monitoring required to the necessary project proponents, regulatory agencies, and municipalities.

### 3.0 ENVIRONMENTAL CONSTRUCTION SPECIFICATIONS

#### 3.1 Regulations and Guidelines

All work undertaken shall be in accordance with the most recent revisions or latest editions of the following documents, so far as they are applicable. This includes, but is not limited to:

- Fisheries Act (Canada);
- Canadian Environmental Protection Act (Canada);
- Transportation of Dangerous Goods Act (Canada);
- Navigable Waters Protection Act (Canada);
- Guidelines for the use of Explosives in Canadian Fisheries Waters (Canada);
- Explosives Act R.S. 1985, c.E17;
- BC Fisheries Act BC Reg 140/76;
- BC Wildlife Act RSBC 1996 Chapter 488: General Regulation BC Reg 340/82;
- BC Environmental Management Act Bill 57 - 2003;
- BC Forest Act RSBC 1996 Chapter 157;
- BC Waste Management Act;
- BC Local Government Act ;
- BC Transportation of Dangerous Goods Act;
- BC Heritage Conservation Act;
- BC Soil Conservation Act;
- BC Water Act; BC Water Amendment Act; BC Regulations under the Water Act; Section 9;
- Hazardous Waste Regulations, BC Reg. 63/88 (includes amendments up to BC Reg. 319/2004);
- National Fire Code (National Research Council, 1990);
- BC Fire Code (1992);
- *Land Development Guidelines for the Protection of Aquatic Habitat* (Department of Fisheries and Oceans (DFO) and BC Ministry of Environment, Lands & Parks (BCE), 1992) including updates;
- *British Columbia Approved Water Quality Guidelines (Criteria) 1998, updated August 2001;*
- *Archaeological Impact Assessment Guidelines* (Minister of Tourism and Minister Responsible for Culture, 1992); and
- Cape Roger Curtis Development Permit Area Guidelines.

#### 3.2 Permits and Approvals

The Contractor shall comply with the conditions of all permits, approvals and licenses previously acquired by the Owner, or his agents. The Contractor shall acquire all other permits, licenses and approvals, including the costs related thereto. Permits, licenses and approvals to be acquired by the Contractor may include, but are not limited to, the following:

- **Waste Management Permit (Effluent) (Waste Management Act, BC).** The Contractor shall obtain appropriate permits to dispose of waste generated as a result of the construction activities, as proposed by the Contractor.
- **Waste Management Permit and Approvals (Hazardous Waste Regulations) (Waste Management Act, BC).** The Contractor shall, as required for the proposed construction methods or in the event of a Spill or Environmental Emergency, obtain permits required to store, transport, and dispose of special waste generated at the site.
- **We further assume the general contractor will prepare a Health and Safety (H&S) plan pursuant to current WCB standards.** As the general contractor is responsible for all staff

onsite, the EM must receive a copy of the H&S plan. PGL will prepare an additional H&S plan, if required, which deals specifically with tasks the EM will perform outside of the general contractors' normal duties. Such tasks may include obtaining water samples from a watercourse, conditions under which the EM may work alone onsite, or traversing a forested area.

PGL will provide the BC Ministry of Environment (MOE) with notifications for bridge crossings and in areas where works could potentially impact riparian zones.

### **3.3 Construction Timing**

1. The following Sections of this document may impact construction timing: 2.4, 2.6, 3.2, 3.4, 3.5, 3.8, 3.9 and 3.11.
2. Refer to Contractor schedule(s) of proposed construction activity.

### **3.4 Spill Contingency and Response Plan**

1. Within 15 days of Contract Award, the Contractor shall prepare and submit to the EM a Spill Contingency and Response Plan (Section 4.0). Written authorization to proceed with work will not be given by the design engineer until the EM has received and reviewed the Spill Contingency and Response Plan.
2. The Contractor shall provide onsite, at all times, readily accessible spill response materials such as containment booms, absorbent sweeps and pads.
3. The Contractor shall review, monthly, the Spill Contingency and Response Plan (Section 4) for its appropriateness and shall ensure that all required response materials are onsite and in adequate supply and site staff, including subcontractors are familiar with the requirements of the Plan.
4. In the event of a spill or emergency, the Contractor shall, at his cost, restore the site to the current Waste Management standards. The Contractor will be responsible for removal and appropriate disposal of (offsite), all waste and clean-up materials, equipment, and goods, including soils and water deemed to be contaminated by Ministry of Environment (MOE) or Environment Canada.

### **3.5 Clearing**

1. Prior to any riparian clearing activity (if absolutely required) for road construction or bridge installation, the Contractor shall mark off the construction and clearing area with highly visible barriers.
2. If clearing activities are scheduled during the bird-nesting season (April 1–July 31), the EM must co-ordinate an active nesting bird survey of the area to be cleared. This inspection must be undertaken within two weeks prior to clearing activities. Due to nesting activity, some areas may have to be cleared at a later date, as specified by the EM.
3. If watercourses are disturbed, subject to the approval of other agencies having jurisdiction, compensation equal to 100% of the disturbed area shall be provided.
4. An approved runoff, sediment and erosion control plan must be in place prior to any clearing activity. Refer to Section 3.12.
5. Clearing shall be kept to a minimum.

6. Cleared debris shall be disposed of offsite or within the boundaries of the property as described by Section 3.7.

### **3.6 Fuel Storage**

1. There will be no fuel storage onsite.
2. The Contractor will refuel machinery with a drip-free nozzle from a tank located in the bed of a pickup truck.
3. No petroleum products, including fuel and oil, shall be disposed of on the site. Waste oil shall be contained and stored in approved containers onsite and disposed of offsite regularly.
4. No equipment refuelling or servicing will be undertaken within 15m from any watercourse or surface water drainage.

### **3.7 Materials Storage and Disposal**

1. Organic debris and topsoil shall be separately stockpiled in a designated area, or as directed by the engineering consultant or EM, and shall be a minimum of 30 metres away from the high water mark of any watercourse. Organic debris and topsoil will be used during site restoration/revegetation wherever possible.
2. Stockpiles should be appropriately covered to reduce wind and water erosion (Section 3.9) and protect soil matrix integrity.
3. Stored material shall be graded to ensure proper drainage during storage.
4. The Contractor shall store construction waste in a designated spoil area or within the boundaries of the Owner's property. The Contractor must remove all waste and unused material from the site prior to the completion of the work.

### **3.8 Concrete**

1. There will be no use of freshly cast concrete during this project.

### **3.9 Runoff, Sediment and Erosion Control**

1. The main objective of the runoff, sediment and erosion control plan (Webster May 2009 Report) is to ensure that site runoff entering watercourses does not exceed suspended solid levels as specified by DFO, MOE and/or municipal regulations. This erosion and sediment control plan has been designed in accordance with the Land Development Guidelines for the Protection of Aquatic Habitat.
2. The runoff, sediment and erosion control plan for construction of roads, bridges and services includes, but is not necessarily limited to:
  - Scheduling construction activities during dry weather to minimize risk of erosion;
  - Retaining existing vegetation where possible;
  - Covering temporarily exposed slopes and spoil stockpiles immediately with suitably anchored polyethylene sheeting;
  - Protecting disturbed areas from erosion by revegetating with plant species native to the area;
  - Providing silt fences around spoil stockpiles and along the toe of slopes in environmentally sensitive areas;

- Minimizing runoff and diverting runoff away from environmentally sensitive areas via temporary swales and interceptor ditches;
  - Providing check weir and filter berms on temporary and permanent swales and ditches; and
  - Maintaining an inventory of erosion and siltation control materials for emergency purposes (Sections 3.4 and 4.0).
3. The runoff, sediment and erosion control measures will be in place before any clearing activity.
  4. The Contractor shall be responsible for the continued effectiveness, maintenance and stability of erosion control devices. These devices will be monitored regularly by the EM. Periodic samples may be collected and analysed for TSS, and the results included in the EM's report.
  5. The Contractor shall halt construction and vehicle activity during excessively heavy periods of precipitation when the potential for erosion is unacceptably high. The EM will advise the Contractor if these conditions are occurring.
  6. Disturbed areas shall be revegetated with species native to the area as soon as possible to minimize the potential of soil erosion (Section 3.10).

### **3.10 Reclamation and Revegetation**

1. The Contractor shall restore the work area to pre-construction status as much as possible. This will include removal of equipment, wastes, construction materials, fencing, boundary markings, construction mitigation facilities, etc. prior to completion of the work.
2. The Contractor shall grade and contour any disturbed areas to promote drainage and conform to adjacent topography prior to completion of the work. These areas shall be seeded with the prescribed native seed mix.
3. The Contractor shall be responsible for leaving the site in compliance with all Acts and Regulations (Sections 3.1 and 3.2).

### **3.11 Archaeological Resources**

Should the Contractor discover any unanticipated archaeological finds during the course of construction, the Contractor shall, in accordance with the Archaeological Impact Assessment Guidelines (1992), cease construction activities in the affected area immediately and notify the EM. Work in the area shall be suspended pending investigations and recommendations by a qualified archaeologist retained by the Owner.

### **3.12 Animal Awareness**

1. Contractors shall note the types, numbers, locations, and behaviour of wild animals sighted in and around work areas. Observations shall be brought to the attention of the EM.
2. The EM, or the Contractor if the EM is unreachable, shall report all bear and cougar sightings to the local police immediately. Depending on the circumstances, coordination with Conservation Officers may be sought.
3. Contractors shall properly store or remove all materials that may serve to attract animals and shall under no circumstances attempt to attract animals.

## 4.0 SPILL CONTINGENCY AND EMERGENCY RESPONSE PLAN

### 4.1 General

1. Prior to construction commencement, the EM shall review the Spill Contingency and Emergency Plans the general Contractor and any sub-contractors have prepared specific to the construction activities, location of construction and equipment to be used. Modifications and/or revisions will be agreed upon by the design engineer and the Contractor.
2. The Contractor shall provide sufficient and appropriate spill response equipment such as absorbent pads, oil booms, empty oil drums etc.
3. During the pre-construction briefing of Contractor staff, the Contractor will review and summarize the Emergency Response Plan.
4. The Contractor shall ensure that the Emergency Response Plan and the emergency contact numbers are visibly posted in a number of key locations throughout the construction area for the duration of construction activities.
5. In the event of an environmental emergency, the Contractor, will provide the site labour and ensure the Spill Contingency and Emergency Response Plan is being followed (Appendix 2). Response steps are:
  - **Ensure safety** of personal, public and other dangerous site materials. Determine whether or not 911 is to be called.
  - **Stop flow** or stabilize/control the emergency.
  - **Secure the area** – limit access to only those involved in control or clean up.
  - **Notify the EM**, if he/she is not at the site at the time of an environmental emergency. The EM, once notified, will visit the site as soon as possible and then continue with onsite Spill Contingency and Emergency Response Plan monitoring as described herein.
  - **Contain the emergency (spill)**. The Contractor may consult the EM for specialist guidance.
  - **Protect** the surrounding environment (i.e. contain/control the emergency if possible).
  - **Report the emergency to the Provincial Emergency Program (PEP) 1-800-663-3456 if quantities warrant notification.**

### Spill Quantities that Warrant Notification

Substance		Amount	PEP Notification 1-800-663-3456
<b>Flammable liquids and Oil</b>		>100 litres onto soil	PEP
		Any amount to water	DFO & MOE
		Any amount offsite	MOE
<b>Special Waste</b>	Miscellaneous (oil with PCB >50ppm)	> 1 litre	PEP
	Hazardous	> 5 litres	PEP
	Corrosive (Class 8)	> 5 kg or 5 litres	PEP
<b>Other Substances</b>			
Antifreeze		200 litres	PEP

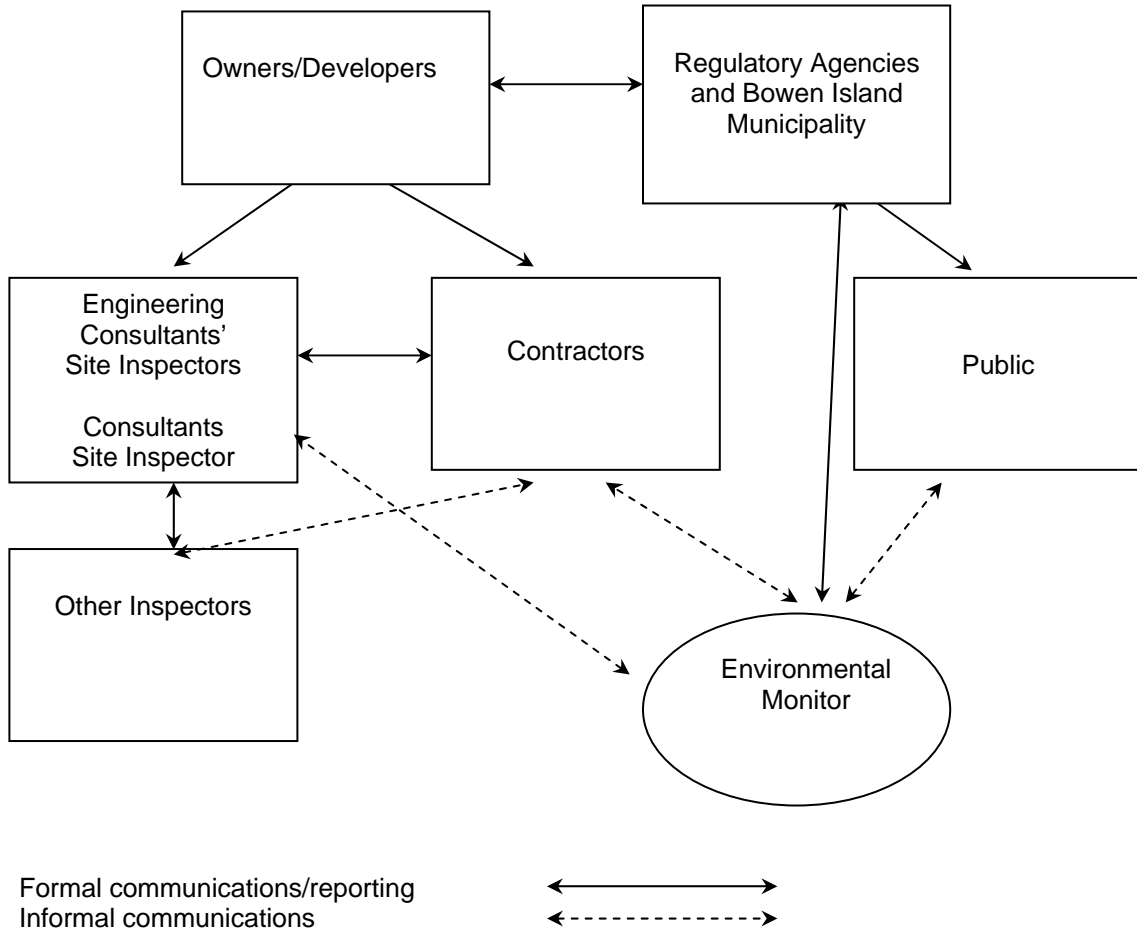
- Subsequently notify the EM (if not onsite) and the Owner.
- **Clean up** as appropriate. In consultation with the EM, the Owner, the engineering consultant and the appropriate environmental agencies, the Contractor shall remediate the environmental emergency (i.e., cleanup). The Contractor will be responsible for disposal of clean-up materials, equipment, and contaminated liquids or solids (soils), in accordance with MWLAP requirements.
- The EM will **take samples** for analysis, as appropriate and as instructed by the Owner and/or regulatory agencies prior and post-cleanup.

## 4.2 Reporting

After cleanup, the EM will prepare a detailed report concerning the environmental emergency including:

- Details of the events leading to the environmental emergency including date, time, location, staff involved, construction activities undertaken and weather conditions.
- Details of the type of material spilled, the quantity spilled, and surface area impacted by the spill.
- Details of the extent and nature of the immediate damage for all spills.
- Features of the environment that were of concern.
- Containment and due diligence actions, including steps taken to prevent recurrence, taken by the Contractor, EM, Owner and agencies.
- Any samples taken including methodology and analytical results.
- Chain of communication or notification.
- EM actions and communications.
- Contractor(s) staff actions and communications.
- Agencies notified and their actions taken.
- Remedial actions to clean up the emergency and the site.
- Detailed colour photographic record of during emergency and after cleanup.

Figure 1: Environmental Monitoring Communications



**Appendix 1**  
**List of Contacts**

## LIST OF CONTACTS

**Development:** Cape Roger Curtis Lands

**Project Number:** 3026-01.02

<b>Owner</b>		
The Cape on Bowen Community Development Ltd. Eanson Ho	Tel: 604 488-0988	Fax: 604 488-0982
<b>Site Inspector</b>		
<b>Environmental Monitor</b>		
Pottinger Gaherty Environmental Consultants Ltd.	Tel: 604-628-3707	Fax: 604-682-3497
Bruce Nidle	Tel: 604-895-7609	Cell: 604-657-2756
Keven Goodearle	Tel: 604-895-7646	
Elyse MacDonald	Tel: 604-895-7635	Cell: 604 785-6726
<b>Regulatory Agencies</b>		
Ministry of Environment	Tel: 604-582-5200	
Fisheries and Oceans Canada	Tel: 604-607-4160	
Bowen Island Municipality	Tel: 604-947-4255	
Jason Smith		
<b>Site Contractors</b>		
Randy MacIntosh	Cell: 604 786-8708	

**Appendix 2**  
**Emergency Response Numbers**

## EMERGENCY RESPONSE NUMBERS

Emergency	Agency	Number
Vandalism, Serious Accidents	Police	Emergency: 911
Serious Injury	Ambulance	Emergency: 911
Hazardous Discharge, Fish Kills	Fisheries and Oceans Canada	1-800-465-4336
Hazardous Discharge into Stream, Wildlife Kills	Ministry of Environment	1-800-663-9453
Hazardous Chemical, Oil Spills	Environment Canada	604-666-6100
Erosion, Sediment Release, Flooding	Provincial Emergency Program (PEP)	1-800-663-3456
Hazardous Discharge/Spill (including into stream), Fish/Wildlife Kills, Erosion, Sediment Release and Flooding	Environmental Monitor (cell) Direct Office Line	604-682-3707

### **Appendix 3**

**Samples of: Environmental Monitoring Inspection Report  
Environmental Emergency/Spill Report  
Halt Work Order**



**PGL**

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## ENVIRONMENTAL MONITORING INSPECTION REPORT

Project: _____	Date: _____
Project Number: _____	Time: _____
Prepared By: _____	Weather Conditions: _____

Activities/Discussions/Recommendations:	Action:



**PGL**

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## ENVIRONMENTAL EMERGENCY/SPILL REPORT

Project: _____	Date of Incident: _____
Project Number: _____	Time of Incident: _____
Prepared By: _____	Weather Conditions: _____
Location: _____	

**Nature of Incident, including cause:**

**Who Responsible for Spill and Contact Information:**

**Affected Environmental Features:**

**Remedial Action Taken (equipment, who, when finished and what):**

<b>Samples Taken: Y/N</b>	<b>Type of Samples Taken: Water Soil Air</b>	<b>Photos: Y/N</b>
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**Recommendations to Prevent reoccurrence:**

<b>Any Injuries: Y/N</b>	<b>If yes, what:</b>
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**Who was Notified (Agencies/client, etc):**

<b>Jurisdiction:</b>	<b>Personnel Involved:</b>
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# HALT WORK ORDER

Project: _____	Date of Incident: _____
Project Number: _____	Time of Incident: _____
Prepared By: _____	Weather Conditions: _____
Location: _____	

**Events leading to order:**

**Non-Compliance with:**

**Environmental Features at risk/damaged:**

**Resolution:**

<b>Photos: Y/N</b>		
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**Recommendations to Prevent reoccurrence:**

**Who was Notified (Agencies/client, etc):**