

# Spill Prevention, Emergency Response, and Hazardous Materials Handling Plan Fraser Grain Terminal 11041 Elevator Road, Surrey, BC

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## 1.0 INTRODUCTION

Hemmera and CMC Engineering and Management Ltd. (CMC) on behalf of Fraser Grain Terminal Ltd.<sup>1</sup> (the “Proponent”) have jointly prepared a Spill Prevention, Emergency Response, and Hazardous Materials Handling Plan (the “Plan”) for the proposed Fraser Grain Terminal to be located on 11041 Elevator Road in Surrey, BC (the “Site”). See **Figure 1** for Site location and construction boundary. The Fraser Grain Terminal Export Facility (the “Project”) will be a new agri-products handling facility located on land adjacent to the Fraser Surrey Docks (FSD) facility. Parrish & Heimbecker currently operate an agri-products handling facility on FSD-leased property adjacent to the Site.

The Site is leased from Vancouver Fraser Port Authority (VFPA) by the Proponent and was formerly leased by Bekaert Canada Ltd. (Bekaert). Discussions will be held between CP Rail, Rabanco, and VFPA during the review period to define a lease agreement for the PARY track extension areas, as these are outside the FGT lease area. Hemmera understands that the Project will serve as a trans-shipment storage location for bulk grain products, and will include loading and unloading infrastructure, storage silos, a transfer tower and gallery, and ancillary works.

The purpose of this Plan is to provide guidance for site and non-site personnel on the required actions pertaining to the prevention of spills and response to spills of potentially hazardous materials and to mitigate, to the fullest extent possible, the risk of environmental contamination from the accidental release of deleterious materials by providing clear procedures for their storage and handling as well as clear plans of action in the case of such a release.

Given integrated shiploading operations, where appropriate, the Plan below will consider and integrate FSD procedures to improve efficiency and safety. For one exception, since the FSD terminal dock infrastructure will be operated by FSD personnel, emergency procedures for the wharf area will follow FSD plans (See **Section 5 – Emergency Response**).

The objectives of this Plan are as follows:

- Promote the safe and careful use of potentially hazardous materials;
- Promote the safe and effective recovery of spilled potentially hazardous materials;
- Minimize the environmental impacts of spills to water or land;
- Provide site-specific information on the facilities and contingencies in place;
- Identify roles, responsibilities, and reporting procedures for spill events;

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<sup>1</sup> Fraser Grain Terminal Ltd. is a Canadian family-owned and operated grain company with more than 100 years of experience in agribusiness and locations across Canada. Serving more than 10,000 Canadian farmers and producers, we market grain to over 40 countries.

- Provide readily accessible emergency information to clean-up crews, management and government agencies;
- Comply with federal and provincial regulations and guidelines pertaining to the preparation of contingency plans and notification requirements in the event of an emergency or spill; and,
- Provide information on employee training, emergency response communication plan, emergency procedures for natural events, spill tracking and reporting, and records of facilities inspections.

## 2.0 SPILL PREVENTION

### 2.1 HAZARDOUS MATERIALS REGULATIONS

Hazardous materials facilities/equipment shall meet regulatory requirements where applicable, or shall be determined through a risk assessment process. During operation, this includes appropriate application of training and safety processes to ensure hazardous materials are properly received, stored, handled, reused, removed, and recycled/disposed.

The Site is on Federal land owned by the Vancouver Fraser Port Authority, and therefore within federal jurisdiction. Discharges and wastes from the Site are under provincial and municipal jurisdiction.

**Table 2-1** summarizes the applicable regulatory and policy framework under which hazardous materials should be managed during operations:

**Table 2-1 Applicable Hazardous Materials Regulations**

Regulatory Body	Regulation
Government of Canada	<i>Transportation of Dangerous Goods (TDG)</i>
Government of Canada, Canada Labour Code	<i>Occupational Health and Safety Regulations</i>
BC Ministry of Environment	BC Ministry of Environment - <i>Environmental Management Act - Hazardous Waste Regulation</i>
WorkSafeBC, Workers' Compensation Board of British Columbia	<i>Occupational Health and Safety Regulations and Hazardous Products Act</i>
WorkSafeBC, Workplace Hazardous Materials Information System (WHMIS)	Health Canada - <i>Hazardous Products Act</i>

### 2.2 HAZARDOUS MATERIALS STORAGE

Hazardous materials storage practices for the Site will be as follows:

- Hazardous materials storage facility shall be located at a minimum of 100 m from the edge of the dock or any body of water;
- Storage facilities and associated infrastructure shall be clearly labelled to indicate contents, the nature of the stored products, and list applicable MSDS sheets;
- Incompatible materials shall be stored separately;
- All storage tanks or other containers for flammable and combustible reservoirs shall be registered as required by petroleum product regulations;
- All tanks, drums and other storage containers which contain hazardous materials shall be located within a containment structure (i.e. berm, curbs, dikes and trenches), capable of holding 110% of the largest container plus 20% of all other containers;
- Material storage areas shall be provided with impervious floors having adequate drainage, and shall be sloped towards a low point to allow for spill collection;

- Drainage or openings shall not be permitted in the impounding structure, and therefore absorbent materials shall be used to separate contaminants;
- Tanks with leaks shall be emptied and kept emptied until they are repaired;
- Tanks or drums shall be stored in one location and access to this location shall be restricted;
- Cleaning solvents shall be contained in dip tanks designed for cleaning and shall not be used out of open containers that may cause spillage;
- Tidy tanks, gasoline cans, and solvents shall be stored in leak proof secondary containment;
- Smoking shall be prohibited on the entire site;
- Portable tanks shall be equipped with emergency venting; and,
- Storage areas shall be kept free of debris and any unnecessary combustible material.

Oil and hazardous materials stored at the facility are identified in **Table 2-2**.

**Table 2-2 Petroleum, Oil and Hazardous Materials Storage**

Tank/Storage Description	Material Stored	Tank Capacity (litres)	Tank Type and Construction
Diesel Fuel Tank	Diesel Fuel	TBD	Carbon Steel
Gasoline Fuel Tank	Gasoline Fuel	TBD	Carbon Steel
Drum Storage	Lubricating and Engine Oil	208	55 Gallon Drums
Drum Storage	Hydraulic Oil	208	55 Gallon Drums
Miscellaneous	Paints, Greases and Cleaning Solvents	Varies	Cans and Pails

The list above provides a summary of materials used at the Site. The Site will contain various dangerous goods, hazardous wastes, or hazardous chemicals for use in the day-to-day facility operations. These materials are included in the **Hazardous Materials Inventory**, which is included in **Appendix A**. This inventory shall be amended and re-issued with a new date as new products are brought on-site or old products are withdrawn from use on-site. The inventory is meant to be a “living document” that, along with the Plan, is amended as required.

All hazardous materials will have hard copies and digital versions of MSDS available at site prior to implementation of this Plan. The review of all hazardous materials will be incorporated into site training and orientation sessions.

## 2.3 REFUELLING

### 2.3.1 General

Procedures for refuelling on the Site are as follows:

- Vehicles and mobile equipment shall be refuelled in an area away from the general work area and from any source of ignition;
- Fuel transfer shall not take place within:
  - A building;
  - 30 m of a watercourse;
  - 3 m of a property line;
  - 4.5 m of any opening in a building; or,
  - 10 m from any source of ignition;
- All dispensing or transferring of fuel will be attended for the duration of the operation;
- Signs must be posted at designated refuelling locations indicating that all vehicle/equipment ignition must be turned off, no smoking is allowed on-Site, and refuelling is clearly visible to approaching workers;
- The attendant must be trained in proper fuel handling procedures to minimize the risk of a spill and shall continuously scan the area adjacent to the fuelling operation for possible leaks or spills;
- During unloading of fuel, trucks shall be appropriately grounded and bonded to avoid the possibility of static charge;
- While refuelling, suspend operation of moving equipment in the immediate vicinity of the refuelling;
- When transferring fuel, place sorbent material around the fuel inlet prior to dispensing, and use pumping equipment, an approved hose and top-fill nozzle;
- Product shall not be transferred from a highway tank or mobile refuelling tank, except by means of pumping. The pump shall be equipped to prevent siphoning of the tank should a leak occur in the fuel nozzle, hose, or pump;
- Verify that there is a proper connection between the fuel fill hose and the fill pipe of the highway tank, mobile refuelling tank or the equipment being filled, and verify that the fill valve is open;
- Attendant must ensure the level of fuel into the receiving container is known and/or visible at all times. The transfer of fuel must be stopped prior to overflowing, leaving adequate room (head space) for expansion per receiving container specifications;
- Maintain regular inspections of fuel systems and their components. Check for leakage, deterioration or damage;
- Refuel marine vessels at a commercial gas dock;
- A fire extinguisher with a minimum rating of 20 B:C shall be readily available for use and spill containment kits shall be readily available during fuelling;
- No smoking shall be allowed within 10 m of a fuel transfer location; and,
- Cell phones shall be turned off during refuelling and within 5 m of a fuel pump.



### **2.3.2 Bunkering**

All vessel bunkering will adhere to the Bunkering Practices and Procedures as stipulated in the Port of Vancouver's Harbour Operations Manual. Vessel bunkering will take place primarily in Vancouver Harbour, either at designated anchorages or at berth. If vessel bunkering is required at the Project in the Fraser River, bunkering will only occur alongside at berth. A stand-by tug will be in attendance of bunker barges moored alongside or otherwise at Fraser Surrey Docks. If a towing company is used, it is the responsibility of the bunkering agent to ensure the towing company is aware of the bunkering and berthing schedule at FSD. When bunkering operations are under way, tug masters are required to maintain communication with Victoria Traffic on VHF Channel 74 to monitor for deep-sea traffic that may affect bunkering operations and advise when bunkering operations begin and complete. In the event a ship must transit past a berth within the same breakwater where a bunkering operation is underway, the barge must be removed to allow for the safe and timely transit of arriving, shifting or departing vessels. All bunkering operations will be carried out in accordance with the latest edition of International Safety Guide for Oil Tankers and Terminals (ISGOTT) and the additional information provided in these practices and procedures.

### **2.4 SPILL KITS**

The facility shall be equipped with sufficient spill response equipment (spill kits) to contain and clean-up all potential spills associated with the operation and maintenance activities. In particular, spill kits shall comply with the following requirements:

- Spill kits will be strategically placed throughout the facility. At a minimum, each spill kit shall contain sufficient hydrophobic absorbent material (e.g. oil absorbent pads and socks) to contain and clean up potential drips, leaks, or spills (e.g. ruptured hydraulic line), gloves and heavy plastic bags to contain used absorbent materials and contaminated soils or wastes;
- Spill kits shall be located in all vehicles throughout the facility, to respond to small spills from their fuel tanks and/or hydraulic equipment and shall be stored in water tight containers in easy to access areas, such as behind the seat in the equipment cabin;
- A marine-specific spill kit shall be located at the wharf structure and be furnished with sufficient absorbent material including a large spill containment boom with a watercraft of sufficient size and power available to deploy the boom;
- The locations of all large, drum style spill kits shall be clearly indicated by signage;
- All spill kits shall be labelled to identify the spill capacity for which the kits are intended;
- A spill kit shall be located where refuelling occurs; and,
- The contents of all spill kits shall be checked on a regular basis (annually at a minimum) to ensure all used contents of spill kits are replenished.

## **2.5 CLEAN-UP**

The following clean-up procedures will be employed in a timely and responsive manner:

- Place used (contaminated) sorbent materials in spill kit bag provided for that purpose;
- Used materials can be temporarily stored on-site in a clearly labelled and secure drum dedicated to that purpose – drum contents must be emptied within reasonable time with contents disposed off-site;
- Soil and/or groundwater contaminated by spill(s) of hazardous materials must be remediated; and,
- The facility Manager will be contacted immediately when a spill of hazardous or deleterious substances enters the natural environment and a spill specific clean up action plan will be developed and implemented in accordance with Contaminated Sites Regulation and other applicable regulations.

## **2.6 STORAGE AREA AND EQUIPMENT INSPECTION**

On a monthly basis, all oil and hazardous material storage areas will be inspected. This will include the inspection of storage containers, oil-filled operational equipment and the surrounding areas. The inspections will be documented. The inspection shall evaluate the following:

- Outside of tank, tank shell;
- Tank foundation and support;
- Signs of deterioration or discharge;
- Valves, piping, pumps, and fittings;
- Secondary containment; and,
- Spill kit contents.

On an annual basis, all facility employees will receive training on the content of this plan so they are familiar with the procedures for responding to an emergency or spill, and so they are familiar with the best management practices employed to prevent a spill from occurring. See Section 6.0 for more detailed information on site training.

### **3.0 ROLES AND RESPONSIBILITIES**

All workers at the Site will be expected to be involved in spill response actions in the event of a spill during regular work activities. Specific roles and responsibilities are described as follows:

#### **3.1 ONSITE MANAGER**

- Incident Commander for all incidents;
- Activates the Emergency Response Plan based on the assessment of the spill, and takes on the Incident Commander role in the event of an emergency response;
- Notifies Provincial Emergency Coordination Centre (1-800-663-3456) and to any other external organizations that require incident reporting;
- Coordinates and oversees personnel and equipment resources to conduct spill containment, recovery, clean-up and disposal;
- Documents chronology of the spill or emergency event, root causes and clean-up actions and what follow-up is needed to prevent recurrence;
- Provides liaison and maintains effective communication between FSD, regulators, personnel, stakeholders, and any other organizations throughout an emergency response (as needed);
- Ensures that all phases of the Emergency Response Plan, including training for the emergency response team, are appropriately implemented;
- Ensures that the necessary equipment is functioning and in place for a spill response or emergency to meet or exceed legislative requirements;
- Reports and provides advice/recommendations to all levels of management for the project;
- Provides appropriate documentation, follow-up, and liaison with appropriate government agencies and media;
- Reviews all spill incidents, including any injury and or property/environmental impact and ensure that appropriate containment, recovery, and clean-up is initiated;
- Provides personnel, materials, and equipment necessary for adequate response to fuel and hazardous materials spills;
- Executes the communications framework on-site in the event of an incident;
- Supports site personnel in responding to incidents and acquires additional assistance if required;
- Assesses potential for recovery of the spilled product;
- Follows all guidelines and regulations for disposal of spilled materials, impacted debris, contaminated soil and water as established by appropriate government agencies; and,
- Document all events and actions.

### **3.2 SITE PERSONNEL**

- Practices spill prevention by performing regular maintenance on all fuel/hazardous material systems located on-site, and by using proper methods for handling of fuel/hazardous materials;
- Takes part in Emergency Response training as per the Plan;
- Be familiar with spill prevention, containment, and clean-up as outlined in the Plan;
- Be aware of spill hazards, and be proactive in mitigating these hazards;
- Reports any spills to the On-Site Manager as soon as it is safe to do so;
- Knows locations of emergency alarms, communication devices, and spill containment equipment in case of a spill; and,
- Follows directions of the Incident Commander in the event of a spill, including that for isolating and eliminating all ignition sources; ensuring safety and security at the spill site; stopping or reducing discharge, as soon as it is safe to do so; and making every effort to contain the spill with appropriate means.

### **3.3 OFFSITE MANAGEMENT**

- Supports the Onsite Manager with their efforts to ensure the Plan is in effect onsite;
- Provides assistance to the Onsite Manager in the event of an incident with outside resources (as needed);
- Ensures that adequate funds are available to respond to an incident; and,
- Holds the safety of the onsite personnel, neighbours, property/equipment, and environment as a top priority in all work planned for the Site.

## **4.0 PRE-EMERGENCY PLANNING**

### **4.1 EMERGENCY ORGANIZATION AND RESPONSIBILITIES**

In the event of an emergency, the Incident Commander shall take over Site operations until the situation is under control. The responsibilities of site personnel in the event of an incident are outlined below:

1. Incident Commander – shall take control of the Site in the event of an emergency response and have final authority for strategic and tactical decisions related to the emergency, and management of the incident. All information on the incident shall be directed to the Incident Commander, who shall disseminate the information to the appropriate organizations, and ensure appropriate spill tracking and reporting is complete.
2. Emergency Response Team – a team of specialized employees who shall be required to complete the initial emergency response onsite under the direction of the Incident Commander. They shall be aware of the various hazards onsite and where to find the appropriate response equipment and supplies (e.g., spill kits, flood control equipment).
3. Site Personnel – employees or subcontractors who shall be responsible for knowing the Plan, communicate emergency situations promptly to the appropriate staff on-site and familiar with the locations of emergency response equipment and in its appropriate use as directed by emergency measures in case they are required to be the first line of response (i.e., containment) when it is safe to do so.

### **4.2 RESOURCES**

In the case of an emergency onsite, the Incident Commander will be responsible for notifying the appropriate emergency contacts, as shown in Table 5-1 below. Spill containment, clean-up supplies, equipment used for spill and emergency response will be available onsite. Identification of the locations for all applicable emergency equipment (i.e., first aid stations, alarm pulls, MSDS files, fire extinguishers, muster stations) will be designated onsite, and updated as needed within the Plan.

### **4.3 INTERNAL COMMUNICATION**

In the event of an on-site emergency, all communication shall flow to the Incident Commander. Communication of the incident shall be conducted as soon as it is safe to do so. Necessary information to be communicated to the Incident Commander includes the type of emergency, location, and identifying any impacted individuals, what happened, when did the event occur, why (if known) did it occur, quantities of hazardous fluids spilled, time of incident, who was involved, level of danger (increasing/decreasing), any injuries/fatalities, any actions taken, and recommended next steps.

The Incident Commander shall be the first point of contact for any emergency response onsite, and shall be responsible for the internal notifications onsite. Cell phones, land lines, paging system, or by voice are acceptable means of communication and the initial notification of the emergency should be completed as soon as it is safe to do so, and at a maximum within 24 hours. A fire alarm and PA system will be in place

on the site. The Incident Commander shall maintain ongoing communication for the duration of the emergency.

#### **4.4 EXTERNAL COMMUNICATION**

The Incident Commander will take responsibility for disseminating information about the emergency and associated response to external organizations (i.e., fire, ambulance, police, regulatory bodies, etc.). External communication should be completed as needed, and only when safe to do so. Information to be communicated externally will include the type of emergency, location, and response needs and will be asked for from the external organizations (see **Section 5.2.2**).

## 5.0 EMERGENCY RESPONSE

During operation there are risks of potential accidents occurring, malfunctions of equipment, spills or general environmental incidents which all may require a level of emergency response. It is important to outline and train on procedures to follow in the event of emergencies to assist in making appropriate decisions at a time when tensions may be elevated and personnel safety is of utmost concern. If accidents and malfunctions are not properly mitigated or responded to, they could have a significant impact.

Spill response activities are required for all spills. The level of response activities, including the amount of resources (equipment and personnel) required will be dependent upon the magnitude, quantity, nature of the material released, and the general characteristics of the surrounding environment.

The Project terminal is integrated with FSD terminal dock infrastructure, which will be operated by FSD personnel. Hence, the dock infrastructure will be under FSD jurisdiction, and all emergency procedures for the wharf area will follow FSD plans. The Project on-site manager should be prepared to coordinate any emergency response situations on the Project terminal with the appropriate FSD emergency response manager, and likewise support any emergency response for the FSD dock infrastructure.

### 5.1 EMERGENCY COMMUNICATION

Releases will likely be discovered and reported by individuals working in the area where the release occurred, or during routine inspections or operation of equipment. All site personnel are required to report all spills (regardless of spill size) to their Shift Supervisor. The Shift Supervisor shall report all spills to the Facility Manager.

In the event of an emergency where it is important for quick and clear communication to minimize potential impacts to workers, the public, property and the environment in emergency situations, the phone numbers of key emergency responders are provided in Table 5-1. Any hazardous material spill on land over the required spill reporting volumes (e.g. >100 L for hydrocarbons) will be reported to Emergency Management BC. Any spill to the marine environment will be reported to Emergency Management BC and the Canadian Coast Guard.

**Table 5-1 Key Emergency Contact Phone Numbers**

Authority / Company Name	Phone Number
Emergency Services	911
Shift Supervisor	TBD
Facility Manager	TBD
Health and Safety Manager	TBD
Port of Vancouver Operations Centre	604-665-9086
Local Non-Emergency Police	604-946-4411

Authority / Company Name	Phone Number
Local Non-Emergency Fire Department	604-543-6700
Surrey Memorial Hospital	604-581-2211
Emergency Management BC	1-800-663-3456
DFO Radio Room	604-666-3500
Canadian Coast Guard	604-775-8881
Tri-Arrow Industrial Response (3 <sup>rd</sup> party)	604-682-2751
Tervita Corporation Emergency Response (3 <sup>rd</sup> party) (Richmond)	604-214-7000
Safety-Kleen Emergency Response (3 <sup>rd</sup> party)	1-888-375-5336

## 5.2 SPILL RESPONSE

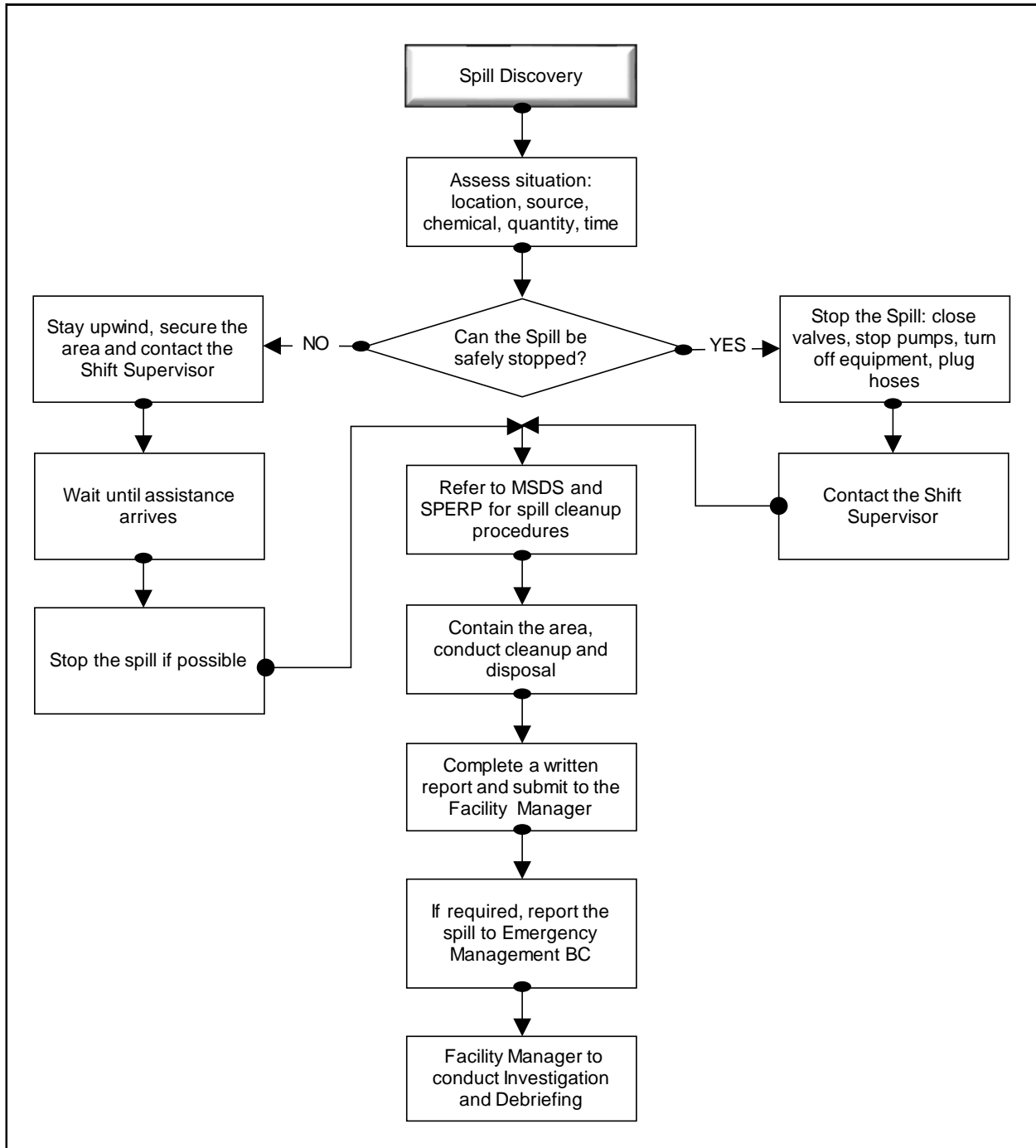
The Project will be responsible for responding to any spill to ground within the confines of the facility boundaries and for any spill to water that is sourced from Project lands, docks or ships that are at berth at the Project facility.

A spill is defined as a discharge of a pollutant into the natural environment from or out of a structure, vehicle, or other container, that is abnormal in quality in light of all the circumstances of the discharge.

The standard spill response flowchart is shown in **Table 5-2**.



**Table 5-2 Standard Spill Response Flowchart**



Spill kits are to be readily available in all work areas and provided in all site vehicles. The Environmental Team will ensure that an adequate spill response equipment inventory is kept on site at all times including adequate supplies for initial spill response to the marine environment.

The Shift Supervisor will immediately take the necessary steps, including reliance on external resources, to abate an uncontrolled discharge. They will provide the necessary labour, equipment, materials and absorbents to contain and remove the spill, clean-up the affected area, dispose of waste materials at an approved disposal site, and restore the area.

Any individual who notices a potential spill, spill, or equipment malfunction is to stop work immediately and shut down equipment. The person involved will contact the Shift Supervisor. The Shift Supervisor will respond with additional spill response equipment if necessary and notify the Facility Manager, who will also respond. All parties are to remain at the scene until required information is gathered.

Initial response to spills will be as follows:

1. Assess safety risks in the spill area;
2. Notify Shift Supervisor;
3. Stop the flow of the hazardous material if it is safe to do so;
4. Secure and isolate the spill area;
5. Assess the situation (identify product, equipment involved, affected area, spill status, time of spill);
6. Begin containing and recovering the spill with on-site emergency spill equipment if it is safe to do so; and,
7. Complete the spill notification and reporting procedure.

### **5.2.1 Incident Cleanup**

The Environment Team will remain at the scene until incident clean-up is under control. Any contaminated soil will be disposed of in the onsite contaminated soil bin, and spent adsorbent material will be disposed of in a hazardous waste bin. All fluid contained in drip trays, will be disposed of in a used oil recycling container. The Environment Team will document all clean-up activities with pictures.

Any disposable materials used to absorb, contain, and clean-up the spill shall be handled as per their MSDS requirements and disposed of at an appropriate approved receiving facility. Used spill kit materials onsite shall be temporarily stored in appropriate approved containers (as per the MSDS), and shall be removed from Site as soon as possible. The materials shall be disposed of according to the material spilled, and in accordance with applicable regulations.

As per the Environmental Management Act (EMA), the clean-up costs are the responsibility of the entity that causes the contamination (i.e. “polluter pays”). This should be kept in mind for any spill that occurs on-site and which has migrated offsite to neighbouring properties or to an adjacent water body. In the case of a major incident where active remediation is required (i.e., excavation), additional notifications are required as per the EMA, including a “Notification of Independent Remediation” and possibly a “Notification of Offsite Migration” if the spill might affect neighbouring provincial properties. Under current regulations, The Notification of Independent Remediation initiation is not required if the spill was reported during the initial emergency response or located on crown federal land.

Following clean-up of a significant spill, a debriefing will be held with all involved personnel. Debriefing will occur following any reportable spill as defined by the Spill Reporting Regulation. This debriefing will include review of the following:

- Root cause of the spill;
- Measures to prevent the spill from occurring again;
- Review with associated crew members; and,
- How the response could have been improved.

A more informal debriefing (e.g. one-on-one between shift supervisor and facility workers) may be held for lesser spills as part of ongoing on-site training in spill prevention and response.

### **5.2.2 Incident Investigation and Reporting**

An initial investigation will be implemented at the scene and will address the following questions:

- Have there been injuries?
- Who was involved?
- Is there need for outside help?
- What was spilled?
- How much has been spilled and where?
- Has the source been isolated?
- Has the area in which the spill occurred been contained?

The Shift Supervisor will determine the amount of fluid released from the equipment or vessel. Witnesses statements will be gathered from all parties involve. Both the Maintenance and Environment Department will identify action items to reduce the risk of similar incidents occurring in the future.

A complete “Environmental Incident Report” will be completed by the Facility Manager in order to communicate the incident accurately with the Port of Vancouver and any outside regulatory agencies.

An “Environmental Incident Report” will also be required when any of the following activities occur:

- Hazardous material spill to land or marine environment;
- Work beyond established boundaries or timing windows;
- Work resulting in direct harm or death to wildlife including birds or fish (negative wildlife/human interaction);
- Improper heritage resource mitigation;
- Improper hazardous materials management;
- Water quality issue;
- Flooding or earthquake;
- Air quality issue; and,
- Work occurred without proper permit or authorization.

### **5.3 ENVIRONMENTAL EMERGENCY**

#### **5.3.1 Earthquake**

In the event of an earthquake, the following steps will be followed:

- If outdoors, move to an open area away from overhead dangers.
- If indoors, take cover under a heavy table or solid furniture and hold on to and protect your head and face.
- Keep away from overhead fixtures/objects, electrical power, windows, and large objects with potential of falling.
- Remain in a protected place until the shaking stops.
- Stay calm and await instructions from the Incident Commander or designated official.
- If in mobile equipment, pull over (away from buildings or large objects), remain in vehicle and stay as low as possible.
- Wait to be rescued if there are downed power lines.
- Listen to a radio for instructions from emergency officials.
- Be prepared for aftershocks.

#### **5.3.2 Tsunami**

A tsunami may occur after an earthquake. Following any earthquake, the on-site manager should take the following steps:

- Immediately notify on-site personnel of earthquake and possible tsunami risk.
- Turn on a radio and follow instructions for any tsunami bulletin/notices for the area.

- If uncertain or if no information is available, inform personnel to move immediately to higher ground at least 20 m above sea level at a designated muster station.
- Warn personnel to not go to the shoreline or beach to watch; not all areas will be affected equally, and water levels will be erratic and dangerous.

### 5.3.3 Floods

A flood vulnerability study (Northwest Hydraulic Consultants Ltd. 2016, see **Attachment 23**) has identified that the Project terminal is largely above the predicted flood plain, while the dock infrastructure as part of the FSD terminal may be vulnerable. Given the integrated operations between the Project and FSD, the Project will obtain and integrate appropriate elements of the FSD terminal flood emergency plan into this Plan. Note that the dock infrastructure will be under FSD jurisdiction, and all emergency procedures for the wharf area will follow FSD plans. This will include the following elements.

#### Flood Level Based Actions

FSD considers three critical areas along the Fraser River where the height of the river and rates of discharge are measured to forecast conditions downstream. These three locations in order from East to West (i.e. upstream to downstream towards the Project terminal) are:

1. South Fort George (Prince George) (latitude 53° 54' 04" N, longitude 122° 44' 00" W)
2. Hope (latitude 49° 22' 50" N, longitude 121° 27' 05" W)
3. Mission (latitude 49° 07' 39" N, longitude 122° 18' 08" W)

These locations play different planning roles for flood protection. South Fort George is used to predict what might occur three to five days later in the lower Fraser River. Hope discharge rate is used by hydrographic numerical models for forecasting water levels, which Pilots for Fraser River use as information in their vessel operations. Mission is usually used by FSD to determine flood management activity levels and actions. The water levels at these three locations are being recorded daily and plotted on a graph. Information on the water levels at these three locations for the last three years will be entered as soon as the information can be located.

During predicted flood risk periods, the Project will integrate communications with FSD for monitoring the height of the river and rate of discharge at these three locations on a daily basis to provide advanced notice of possible high water at the Project operations. Flood planning information from FSD as follows:

- A three meter rise in the level of the water at the Mission gate will generally equal a one meter rise in water levels at FSD. 1999 was the largest snow pack on record. Peak discharge at Hope was 11,000 m<sup>3</sup>/s and peak water level at Mission was 6.2m. Flood of record (200-year flood) requires a discharge at Hope of 17,000 m<sup>3</sup>/s. Discharge during the freshet has met or exceeded 12,000 m<sup>3</sup>/s at Hope only on two (2) times since records began in 1912 (1948 & 1972). Ninety-four years of data

for Hope indicates that water level has reached 10,000 m<sup>3</sup>/s approximately 20% of the years and 11,000 m<sup>3</sup>/s approximately 10% of the years. Water level at Mission is typically around 6.0 m when flow at Hope is 10,000 m<sup>3</sup>/s, 6.5m when flow is 11,000 m<sup>3</sup>/s and 7.0m when flow at 12,000.

## **Flood Plan**

As noted above, the Project will integrate with the FSD flood planning process. As Fraser River water levels reach critical action levels, the Project operations manager will oversee execution of the flood plan over the days/weeks of rising and falling flood heights, depending on the rate of snowpack melt and precipitation within the Fraser River watershed. The plan will include the following components:

- Checklist and procedures will be established to temporarily protect vulnerable equipment/operations, installation of flood protection equipment, and evacuation of staff. This includes safe and appropriate operational levels for the Project terminal, protocols for protection of access and egress to the property and facilities, evacuation of critical equipment, files and/or operational documents, emergency response procedures for staff.
- Coordination and communication protocol will be implemented both on-site and off-site to minimize impacts to personnel, stakeholders and contractors.
- Advanced storage of flood protection equipment on-site in concert with FSD plan and stored supplies. This may possibly include empty sandbags, concrete lock-blocks, poly sheet, sump pumps, duct filler and denso-tape to block areas and protect critical infrastructure. Additional flood protection equipment and labourers will be brought in when appropriate during flood actions to fill the sandbags and provide additional support.

## **Training**

Site workers will be trained in the following flood protocols:

- Severe weather may increase water levels during flood events;
- Flood protection (sandbags, megabags, berms, etc.) will first be placed at priority vulnerable locations (e.g., electrical shed);
- All site workers should be prepared to evacuate the site following the designated route;
- Be cautious while driving and do not drive in water where the ground surface is not visible, and avoid crossing over bridges due to compromised supports;
- Watch for downed powerlines on roads; and
- Listen for information on a radio.

#### 5.3.4 Fire Emergency

Firefighting equipment locations are shown in Drawings 1419-G-05-413 and 414 (Rev 1) (see **Attachment 4** of the Application), and includes:

- Type of fire suppression system and sensor/emergency trigger locations;
- Extinguisher locations (including site vehicles); and
- Muster Areas

Refer to **Attachment 22** of the Application for information on process related fire and explosion related matters.

The site and its workers are prepared for a fire. All workers and contractors will:

- Know the location of all emergency response equipment (fire extinguishers and fire alarm pulls), and facilities (muster stations);
- Know the location of the first aid equipment/room, and who the first aid attendants are during any given shift and how to reach them;
- Know emergency response protocols through regular training exercises (see below);
- When fighting fire try to wear long pants, long sleeve shirt, and all necessary PPE (fire repellent clothing/hard hat, mask, oxygen); and
- First aid room/kits should be appropriately stocked. If a first aid kit is used for anything, notify the first aid attendant so they can replace the missing or used components.

When a fire is discovered, immediately report to the Incident Commander. The fire will only be fought if it is small and not spreading to other areas and if escaping the area is possible by retreating to the nearest exit. If the fire cannot be controlled, site evacuation will be initiated and a fire pull station will be used to activate the fire alarm. In case of fire:

1. Do not panic. Call for assistance.
2. Do not attempt to fight the fire alone, unless it is small enough that it can be extinguished by a portable fire extinguisher. Never approach a large or uncontrolled fire if there is a potential risk to your safety.
3. To operate a portable fire extinguisher:
  - i. Pull the pin
  - ii. Approach the fire from the upwind side
  - iii. Aim at the base of the flames
  - iv. Squeeze the trigger lever and spray the fire in a sweeping motion until the flames have been extinguished.

4. If the fire appears too large to control and/or a portable fire extinguisher fails to put the fire out, call the fire department immediately.
5. DIAL 911 or get a designate to do so.
6. Contact the person designated as the Incident Commander.

Keep others back from the fire, account for all personnel and direct fire crews to the fire. Fire drill tests verify that equipment is operational and that site workers/ employees and contractors are familiar with response requirements and plans. Compressed firefighting equipment such as extinguishers will be tested at least annually. Tests can be completed in various ways such as:

- Full mock exercises/drills;
- Review of procedures;
- Employee interviews; and,
- Equipment testing (at least annually).

### **5.3.5 Explosion**

Explosions at Site could occur from combustion of dusts, increased pressures of compressed gases, or ignition of accelerants. During an explosion, the following procedures will be followed:

- Employees will protect themselves by taking shelter against a sturdy object, i.e., desk or table.
- If inside, exit the building/structure as soon as possible and be aware of additional hazards such as fires, falling debris, etc.
- If there is a fire, use a wet cloth to cover the nose and mouth and crawl underneath the heavy smoke.
- Once out of a building, never return to a burning building.
- If outside during an explosion, find an area to stay that is clear of debris.

If personnel become trapped in or under debris, trapped personnel should take the following actions if possible:

- Cover nose and mouth with one's shirt or piece of material and try to breathe through it;
- Avoid sudden or unnecessary movements to reduce stir up of harmful dusts;
- Use a flashlight or whistle to signal to rescue workers of location. Or tap/bang on a pipe or wall to make noise for rescuers; and
- Shout only as a last resort, to avoid inhalation of dangerous dust or smoke particles.



### 5.3.6 Response Action

The level of response action on-site will be dictated by the severity and potential impact of the emergency. The following levels will be utilized onsite for all incidents, and will dictate the level of action required by the Incident Commander, Emergency Response Team, and Site personnel:

Level 1 – minor spills requiring minimal effort to contain and clean up. There is little risk to worker health or safety, or for impacts to reach the environment. These would include, for example, hazardous liquid or solid wastes that are limited to a small surface area and do not have a reportable volume.

Level 2 – intermediate level spills onsite that require the response of the Emergency Response Team. The incident is confined to the Site and there is no impact to offsite properties, and no potential for offsite migration. These would include, for example, hazardous liquid or solid wastes that are release over a larger surface area and has a reportable volume.

Level 3 – A major incident that requires the use of the full Emergency Response structure onsite and possibly off-site organizations. There is potential for secondary incidents that could complicate the emergency response (e.g., fire or explosion). Level 3 incidents could immediately threaten life, property, and the environment both on- and off-site. These would include, for example, hazardous liquid or solid wastes that are release over a large surface area and volume, potentially migrating off-site, fire, explosions or earthquakes.

Upon discovering an incident onsite, the first person at the scene is responsible for notifying the Incident Commander, who will determine the appropriate level of response, except where there is an immediate threat to life, property, or the environment. In such a situation, the first person on-scene must inform the Incident Commander who will begin the appropriate emergency response.

If deemed necessary, the Incident Commander shall invoke the Emergency Response Plan and take command of the Site until the incident is contained and it is safe to resume regular operations. The Incident Commander will refer to the EMA's Spill Reporting Regulation (BC Reg. 263/90 including amendments up to BC Reg. 376/2008, December 9, 2008) schedule for reportable levels of certain substances, as described in **Appendix C**.

### 5.3.7 Evacuation

In the case of an extreme incident (Level 3) onsite, an evacuation may be required. When a Level 3 has an imminent threat to life, the Incident Commander shall sound an evacuation order throughout the Site. This can be achieved through the use of a fire alarm or PA system. If the fire alarm is sounded all Site personnel must immediately, and calmly, cease their activities and head for the designated muster station. The Incident Commander shall assume command of the site until it is deemed safe for regular operations to resume.

## 6.0 TRAINING

All personnel onsite, including external contractors, shall be formally trained by the Onsite Manager or their delegate, regarding their roles and responsibilities in implementing the Plan, the locations of emergency response equipment and communications (on and offsite) during an emergency. All site personnel shall be familiar with the spill prevention, containment, and clean-up components of the Plan. Training in pertinent spill emergency response issues shall include, but not be limited to:

- Applicable environmental legislation;
- Company policy;
- Internal/external communication networks and required spill reporting and notification procedures;
- Response procedures including the initial response, clean-up, and disposal;
- Organization of the emergency Response organization team;
- Individual spill action plans;
- Available internal/external resources (spill clean-up equipment);
- Dealing with seasonal and adverse weather conditions in the context of spill response;
- Personal protective equipment;
- Properties of hazardous materials handled, stored, and used onsite;
- Evacuation procedures and designated muster stations; and,
- Fire safety equipment training.

Specific training will be provided to all site personnel for emergencies specific to fires, explosions, and earthquakes. Training will be provided at least annually and in the following situations:

- For new employees during their orientation period;
- For existing employees when there is a change in their duties;
- When new equipment or materials are introduced;
- When emergency procedures are revised; and,
- When a drill indicates need for improvement.

The development of employee skills and the effectiveness of emergency procedures will be evaluated by practise drills / simulation exercises. The objectives of the practise drills are to evaluate:

- Practicality of the plan (structure and organization);
- Adequacy of communications and interactions among parties;
- Emergency equipment effectiveness;

- Adequacy of first aid and rescue procedures;
- Adequacy of emergency personnel response and training;
- Public relations skills; and,
- Evacuation and personnel count procedures.

Training records shall be maintained at the Site office, and shall be reviewed annually to confirm that all Site personnel are up-to-date on required training. Site supervisors shall ensure all employees have received required training and that the training program contents are up-to-date. If Site personnel have outdated training, renewal of training will be scheduled as soon as possible.

## **7.0 PLAN EVALUATION AND UPDATES**

The Plan is intended to be a living document, with regular revisions and updates. These changes shall take place at a minimum annually. Potential changes include but are not limited to the following:

- Relevant legislation or policy;
- Best industry practices;
- Project scope;
- Procedures based on post-incident evaluation; and,
- New hazardous materials that are brought to the Site.

Updates or revisions to the Plan shall be logged on the Plan cover sheet and signed off by the Onsite Manager and the Health and Safety Manager. The new information shall be highlighted and all relevant Site personnel shall be briefed on the changes to the Plan.

A detailed procedure of record keeping will be initialized to capture all training sessions, plan changes/updates, and environmental/emergency incidents and will be regularly audited.

## 8.0 CLOSURE

This Work was performed in accordance with Contract 403B Environmental Engineering Services for Permit Applications between Hemmera Envirochem Inc. (“Hemmera”) and Parrish & Heimbecker c/o CMC Engineering and Management (“Client”), dated September 9, 2015 (“Contract”). This Report has been jointly prepared by Hemmera and the Client, based on fieldwork conducted by Hemmera, for sole benefit and use by the Client and Fraser Grain Terminal Ltd. In performing this Work, Hemmera has relied in good faith on information provided by others, and has assumed that the information provided by those individuals is both complete and accurate. This Work was performed to current industry standard practice for similar environmental work, within the relevant jurisdiction and same locale. The findings presented herein should be considered within the context of the scope of work and project terms of reference; further, the findings are time sensitive and are considered valid only at the time the Report was produced. The conclusions and recommendations contained in this Report are based upon the applicable guidelines, regulations, and legislation existing at the time the Report was produced; any changes in the regulatory regime may alter the conclusions and/or recommendations.

Report prepared by:  
**Hemmera Envirochem Inc.**

***ORIGINAL SIGNED BY***

Robin Taylor, MRM, EP  
Senior Environmental Assessment Manager

Report peer reviewed by:  
**Hemmera Envirochem Inc.**

***ORIGINAL SIGNED BY***

Michael Choi, B.Sc., P.Chem  
Physical Sciences Business Leader

## 9.0 REFERENCES

- B.C. Guidelines for Industry Emergency Response Plans, B.C. Ministry of Environment, Updated July 2002
- Canadian Standards Association (CSA-Z731-M91), Emergency Planning for Industry, May 1991
- Contaminated Sites Regulation, British Columbia Regulation under Environmental Management Act (B.C. Reg. 375/96)
- Environmental Management Act, British Columbia, Spill Reporting Regulation (BC Reg. 263/90 including amendments up to BC Reg. 376/2008, December 9, 2008)
- Environmental Management Act, British Columbia [SBC 2003] Chapter 53
- Emergency Program Act, British Columbia [RSBC 1996] Chapter 111
- Hazardous Waste Regulation, British Columbia Regulation under Environmental Management Act (B.C. Reg. 63/88)
- Northwest Hydraulic Consultants Ltd.- Fraser Grain Terminal Flood Inundation Assessment. 2016
- Occupational Health and Safety Regulation (Part 5 Chemical Agents and Biological Agents), WorkSafe BC.
- Port Metro Vancouver Project Permit Application – G3 Terminal Vancouver – Appendix O Spill Prevention and Emergency Response Plan.
- Project & Environmental Review, Guidelines – Construction Environmental Management Plan (CEMP), Port Metro Vancouver, July 2015
- Spill Reporting Regulation, British Columbia Regulation under Environmental Management Act (B.C. Reg. 263/90);Transportation of Dangerous Goods Act, 1992, Government of Canada

**FIGURE**



Construction Permit Application  
Fraser Grain Terminal  
11041 Elevator Road, Surrey, BC

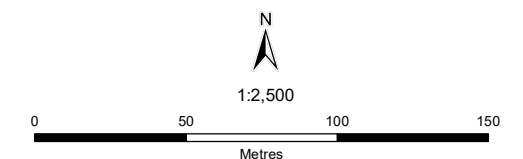
**Project Location and Construction Boundary**



**Legend**  
 Site Boundary for Construction Works

**Notes**  
 1. This map is not intended to be a "stand-alone" document, but a visual aid of the information contained within the referenced Report. It is intended to be used in conjunction with the scope of services and limitations described therein.

**Sources**  
 - Aerial Image: City of Surrey, 2014



NAD 1983 UTM Zone 10N  
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1866-001.01    Production Date: Jun 19, 2017    Figure 1



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**APPENDIX A**  
**Hazardous Materials Inventory**



## APPENDIX A – HAZARDOUS MATERIALS INVENTORY

In order to perform on-site operations, different chemicals will be brought to the Site. These products are associated with normal activities, including the operation and maintenance of vehicles, and cleaning of equipment.

All materials brought to the Site will have a specific task to perform, and unnecessary products will not be brought or stored on-site. All materials brought to the Site will be packaged and transported according to the *Transportation of Dangerous Goods Act and Regulations*, depending on the type of material to be transported.

The anticipated hazardous material inventory for the work is included in **Table A**, below, and will be updated as the Project progresses and new materials are brought to Site.

**Table A Hazardous Materials Inventory**

Item	Chemical Name/ Common Name	Hazard Classification		Anticipated Volume (L)	Recovery Equipment
		TDG Class	UN No.		
1	Diesel Fuel	3	1202	200-450 (Tidy Tanks)	<ul style="list-style-type: none"> <li>• Absorbants (pads/booms)</li> <li>• Extinguisher</li> <li>• Shovel or heavy equipment</li> </ul>
2	Gasoline	3	1203	25 (Jerry Cans)	

In addition, based on products used at similar grain facilities on the lower mainland, the following mainly non-hazardous products such as lubricants, oil and grease, and cleaners are likely to be used during Project operations. While specific product names are listed below, they may be substituted with a similar product from a different manufacturer. All materials will be stored appropriately on-site when not in use.

### Cleaning Substances:

- Swish Disinfectant Spray
- Avmor Germalin Cleaner/Degreaser/Disinfectant
- Ecolution Neutral Floor Cleaner
- Ecolution All Purpose Cleaner
- Ecolution Bath & Bowl Cleaner
- Formula 362 No-Rinse cleaner/Sanitation
- Ecolution Glass Cleaner
- Fix Tergocide
- Mr. Muscle Mildew Cleaner

- SFR Baseboard Stripper Cleaner
- Fix Foam Disinfectant Cleaner

**Rodent Control:**

- Contrac Blox

**Lubricants:**

- EP 220 for gearboxes
- EP 150 for chain cases
- EP 2 for bearings
- Hydrex 36 hydraulic pumps
- Roto Xtend for compressor oil
- Miscellaneous fluids for maintenance of fork lifts and top pick container handlers
  - Engine oil
  - Engine coolant (antifreeze)
  - Windshield washer fluid
  - Brake fluid
  - Dexron III hydraulic fluid

**Other items:**

- Petro Canada Environ MV hydraulic fluid
- Diesel fuel (reserve supply for fork lifts and top pick container handlers)
- Solvents for parts cleaning
- Paints for touch up purposes
- Galvacon or Zinga touch up paint (zinc rich products for galvanized steel parts)

**APPENDIX B**  
**Emergency Contact List**

## APPENDIX B – EMERGENCY CONTACT LIST

<b>Project:</b>	P&H Fraser Grain Terminal
<b>Location:</b>	11041 Elevator Road, Surrey, BC
<b>Hospital:</b>	Surrey Memorial Hospital 13750 96 <sup>th</sup> Ave, Surrey, BC Non-Emergency: 604-588-3381
<b>Ambulance:</b>	911 Non-Emergency: 604-660-6897
<b>Police:</b>	911 Non-Emergency: 604-599-0502
<b>Fire:</b>	911 Non-Emergency: 604-542-6700
<b>Local Authorities (Provincial Emergency Coordination Centre/MOE):</b>	1-800-663-3456
<b>Canadian Coast Guard Spill Reporting:</b>	1-800-889-8852
<b>WorkSafeBC:</b>	Monday to Friday, 8:30 am -4:30 pm : 604-276-3100 or 1-888-621-7233 After Hours: 1-866-922-4357
<b>Emergency Water Problems – City of Surrey:</b>	Monday to Friday, 8:30 am -4:30 pm : 604-591-4152 After Hours: 604-591-4431
<b>Emergency – BC Hydro:</b>	1-888-769-3766
<b>Emergency – Fortis BC:</b>	1-800-663-9911 (24 Hour Emergency Line)
<b>Emergency – Telus:</b>	604-310-2255
<b>CMC Engineering Project Manager:</b>	Michael Balasescu – 604-294-6483
<b>CMC EHS Manager:</b>	To be determined
<b>P&amp;H Project Manager:</b>	Casey McCawley – 604-686-1069
<b>P&amp;H EHS Manager:</b>	To be determined
<b>Site Supervisor:</b>	To be determined
<b>Site Foreman:</b>	To be determined

**APPENDIX C**  
**Reportable Levels of Certain Substances**

## APPENDIX C – REPORTABLE LEVELS OF CERTAIN SUBSTANCES

In the event of an incident on-site, the first task is to ensure that all site personnel are safe, then follow the Containment and Clean-up strategy as outlined within the Plan. Determine the material spilled and quantity then reference the following table, **Table A**, for the reportable levels for various substances to the Provincial Emergency Coordination Centre (1-800-663-3456).

**Table A Reportable Levels for Certain Substances**

Item	Column 1 Substance Spilled	Column 2 Specified Amount
1	Class 1, Explosives as defined in section 2.9 of the Federal Regulations	Any quantity that could pose a danger to public safety or 50 kg
2	Class 2.1, Flammable Gases, other than natural gas, as defined in section 2.14 (a) of the Federal Regulations	10 kg
3	Class 2.2 Non-Flammable and Non-Toxic Gases as defined in section 2.14 (b) of the Federal Regulations	10 kg
4	Class 2.3, Toxic Gases as defined in section 2.14 (c) of the Federal Regulations	5 kg
5	Class 3, Flammable Liquids as defined in section 2.18 of the Federal Regulations	100 L
6	Class 4, Flammable Solids as defined in section 2.20 of the Federal Regulations	25 kg
7	Class 5.1, Oxidizing Substances as defined in section 2.24 (a) of the Federal Regulations	50 kg or 50 L
8	Class 5.2, Organic Peroxides as defined in section 2.24 (b) of the Federal Regulations	1 kg or 1 L
9	Class 6.1, Toxic Substances as defined in section 2.27 (a) of the Federal Regulations	5 kg or 5 L
10	Class 6.2, Infectious Substances as defined in section 2.27 (b) of the Federal Regulations	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
11	Class 7, Radioactive Materials as defined in section 2.37 of the Federal Regulations	Any quantity that could pose a danger to public safety and an emission level greater than the emission level established in section 20 of the "Packaging and Transport of Nuclear Substances Regulations"
12	Class 8, Corrosives as defined in section 2.40 of the Federal Regulations	5 kg or 5 L
13	Class 9, Miscellaneous Products, Substances or Organisms as defined in section 2.43 of the Federal Regulations	25 kg or 25 L
14	waste containing dioxin as defined in section 1 of the Hazardous Waste Regulation	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
15	leachable toxic waste as defined in section 1 of the Hazardous Waste Regulation	25 kg or 25 L

Item	Column 1 Substance Spilled	Column 2 Specified Amount
16	waste containing polycyclic aromatic hydrocarbons as defined in section 1 of the hazardous Waste Regulation	5 kg or 5 L
17	waste asbestos as defined in section 1 of the Hazardous Waste Regulation	50 kg
18	waste oil as defined in section 1 of the Hazardous Waste Regulation	100 L
19	waste containing a pest control product as defined in section 1 of the Hazardous Waste Regulation	5 kg or 5 L
20	PCB Wastes as defined in section 1 of the Hazardous Waste Regulation	25 kg or 25 L
21	waste containing tetrachloroethylene as defined in section 1 of the Hazardous Waste Regulation	50 kg or 50 L
22	biomedical waste as defined in section 1 of the Hazardous Waste Regulation	1 kg or 1 L, or less if the waste poses a danger to public safety or the environment
23	A hazardous waste as defined in section 1 of the Hazardous Waste Regulation and not covered under items 1 – 22	25 kg or 25 L
24	A substance, not covered by items 1 to 23, that can cause pollution	200 kg or 200 L
25	Natural gas	10 kg, if there is a breakage in a pipeline or fitting operated above 100 psi that results in a sudden and uncontrolled release of natural gas

**APPENDIX D**  
**Emergency Action Checklist**



## APPENDIX D – EMERGENCY ACTION CHECKLIST

The Emergency Action Checklist is a tool to assist the site personnel in the event of an emergency response. The list helps to organize the emergency management and response plan for each incident on-site. The Emergency Action Checklist provided below in **Table A** is an example referenced from the Canadian Centre for Occupational Health and Safety, and can be customized for each response.

**Table A Emergency Action Checklist**

Element	Documented		Functional Ability Proven		Comments
	Yes	No	Yes	No	
Statement of policy on emergency response					
Plan given appropriate authority by highest management level					
Plan is distributed to all that need to know					
Plan establishes the emergency organization					
The authority to declare a full evacuation is designated					
The authority to declare the emergency is "over" is designated					
All response personnel are medically fit to perform their duties					
The following functions have been clearly defined and assigned to individuals:					
- Plan administration					
- Operational control					
- Coordination of support					
- Plan maintenance					
- Regular risk assessment					
- Training					
- Drills and exercises					
- Maintenance of equipment					
- Specific response functions					
- Coordination of off site plans					
Alternates for all key positions exist					
Plan is based on risk assessment					
Plan provides for annual drills and exercises					
Plan establishes various levels of emergencies with levels of response					
Plan includes basic elements:					
- Evacuation procedures					
- Shutdown procedures					
- Employee roll call procedures					
- Rescue and medical duties					

Element	Documented		Functional Ability Proven		Comments
	Yes	No	Yes	No	
- Reporting procedures					
- Fire prevention plan					
All types of risks are considered:					
- Natural					
- Man-made					
- Civil disorders					
All hazardous materials are listed					
Assessment includes adverse impact off-site					
Comprehensive accident investigation procedures exist					
Good housekeeping procedures exist					
Procedures exist for inspection or testing of critical equipment					
Procedures call for the review of all new processes and equipment for compliance with:					
- Occupational Health and Safety Act					
- National Fire Code					
- National Electrical Code					
- Environmental Protection Act					
- Other applicable legal requirements					
Fire protection equipment is inspected per fire code					
Contractors are briefed about Emergency Response Plans					
The plan establishes a command post and ensures:					
- Command post locations provide protection from hazards					
- The command post is adequately equipped					
- Provisions have been made for emergency power, light, utilities, etc.					
Plan provides for emergency response training and covers the following:					
- Emergency response training is based on specific hazards and response duties					
- Testing of knowledge and skills is required					
- Plan specifies type and frequency of training for each response function					
- Adequate training records are kept					
- Minimum training levels are defined					
- Training of first aid responders complies with standards					
A current inventory list of all equipment and supplies exists:					
- Maintenance and decontamination procedures are included					
- Equipment is tested as specified by the manufacturer					

Element	Documented		Functional Ability Proven		Comments
	Yes	No	Yes	No	
- Equipment and supply needs are reviewed when changes occur					
- Contact lists for suppliers of emergency equipment and supplies maintained, updated and readily available					
- Respiratory equipment selection, use and maintenance comply with current standard					
Mutual aid agreements are in place:					
- Call lists and letters of agreement are up-to-date					
- Drills involving mutual aid have been held					
- Capabilities of community organizations have been reviewed and considered					
Communication procedures include:					
- Telephone					
- Two-way radios					
- Intercom					
- Runners					
- Emergency numbers are posted at telephones					
Effective detection systems are installed, such as:					
- Smoke detectors					
- Heat detectors					
- Remote substance monitors					
- Leak detectors					
- Process control alarms					
Detection devices undergo regular testing, inspection, maintenance and calibration					
Regular tests of the alarm systems are conducted					
Evacuation details involve:					
- At least two evacuation routes exist from each area					
- All emergency exits are properly marked					
- All employees are instructed in evacuation procedures					
- Maps and procedures are posted					
- Assembly areas consider safe distances					
- All employees and visitors can be accounted for					
- Procedures address special needs of person(s) with disabilities					
- Temporary shelter or transportation is considered					
- The security function is defined					
- Facility access is controlled during an emergency					

Element	Documented		Functional Ability Proven		Comments
	Yes	No	Yes	No	
- Traffic control has been considered					
- Pilferage and theft have been considered					
- High security risk areas have been identified					
- There are physical security devices					
The plan includes media relations before, during and after the emergency:					
- Public information documents exist					
- Those dealing with the media/public are trained					
- Contacts with the media are established and maintained					
- Media information is reviewed annually and updated					
- Procedures control the release of information to the public during an emergency					
- Names and information regarding the injured are restricted					
- Regular media releases are made during an emergency					
Other:					
- Emergency shutdown procedures exist					
- Responsibility for shutdown is assigned					
- Procedures and checklists have been developed					
- Diagrams and maps indicating critical components are available					
- All critical components are clearly identified					
- Persons with special technological knowledge are available to emergency personnel					
- An alternative location for continuing operations management is identified					
- Resource list has been developed for sources of equipment, supplies, services or contractors					
- Agreements have been made with other facilities to continue production of products					
- Procedures are adequate to document all compensable losses					
- Procedures provide for preserving the accident scene for investigations					
- A safety plan is required prior to re-entry into affected areas					

**APPENDIX E**  
**Spill Kit Requirements**

## **APPENDIX E – SPILL KIT REQUIREMENTS**

As per the Plan spill kits will be available and readily accessible on-site in the case of a spill or emergency response. It is the responsibility of the Site, and the On-Site Manager, to ensure that the spill kits are adequately stocked, and workers are properly trained in the use of them for the control and disposal of hazardous substances.

The following list is the minimum that must be maintained on-site at all time in well-marked spill kits for use during an emergency response:

- 100 Absorbant Pads (Hydrocarbons)
- 50 Universal Absorbant pads (Antifreeze and Non-Hazardous Materials)
- 6 – 3" x 4' Absorbant Booms (Hydrocarbons)
- 4 – 3" x 8' Absorbant Booms (Hydrocarbons)
- 1 – 36" x 36" Neoprene Drain Cover
- 8 – HD Hazmat Disposal bags
- Nitrile Gloves
- Laminated Emergency Response Instruction Sheet
- Laminated Emergency Contact List
- Laminated List of Contents

**APPENDIX F**  
**Spill Report Template**

## APPENDIX F – SPILL REPORT TEMPLATE

<b>A</b>	REPORT DATE (MM-DD-YYYY)	REPORT TIME:	<input type="checkbox"/> ORIGINAL SPILL REPORT, OR <input type="checkbox"/> UPDATE # _____ TO THE ORIGINAL SPILL REPORT	
	<b>B</b>	INCIDENT DATE (MM-DD-YYYY)		
<b>C</b>	SPILL LOCATION DESCRIPTION AND SURROUNDINGS:		WEATHER CONDITIONS AT TIME OF SPILL:	
	ADDRESS:			
	CITY:		PROVINCE:	
<b>D</b>	REPORTED BY:	REPORTED TO:		
<b>E</b>	RESPONSIBLE PARTY (IF KNOWN):	RESPONSIBLE PARTY ADDRESS:		
<b>F</b>	ANY CONTRACTORS INVOLVED:	CONTRACTOR ADDRESS:		
<b>G</b>	PRODUCT SPILLED:	QUANTITY SPILLED:	U.N. NUMBER:	
	SECONDARY PRODUCT SPILLED:	QUANTITY SPILLED:	U.N. NUMBER:	
<b>H</b>	SPILL SOURCE:	SPILL CAUSE:	AREA OF CONTAMINATION IN SQUARE METRES:	
<b>I</b>	FACTORS AFFECTING SPILL OR RECOVERY:	DESCRIBE ANY ASSISTANCE REQUIRED:	HAZARDS TO PERSONS, PROPERTY OR ENVIRONMENT:	
<b>J</b>	ADDITIONAL INFORMATION, COMMENTS, ACTIONS PROPOSED OR TAKEN TO CONTAIN, RECOVER OR DISPOSE OF SPILLED PRODUCT AND CONTAMINATED MATERIALS:			
<b>K</b>	REPORTABLE QUANTITY: <input type="checkbox"/> YES <input type="checkbox"/> NO	REPORTED BY:	POSITION:	DATE AND TIME:
	AGENCIES REPORTED TO (MM-DD-YYYY):			