

# Conception Bay South Concrete Batch Plant

## Environmental Protection Plan

Submitted by:

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Submitted to:

Government of Newfoundland and Labrador.  
Department of Environment and Conservation  
Environmental Assessment Division

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### Revision History

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## 1.0 Introduction

Pasadena Equipment Services proposes to construct and operate a Ready Mix batch plant and a single story office building in Conception Bay South, Newfoundland and Labrador within the CBS Industrial Park. The project is referred to as the 'Conception Bay South Concrete Batch Plant'.

The undertaking was registered with the Department of Environment and Conservation in October, 2015 and a decision rendered by the Minister on December 9<sup>th</sup>, 2015 releasing the project from the Environmental Assessment process, pending successful completion of an Environmental Protection Plan. This document is submitted in response to this requirement.

### **Purpose of the Environmental Protection Plan**

This Environmental Protection Plan (EPP) is a field-ready document describing applicable environmental protection measures associated with activities at the Conception Bay South Concrete Batch Plant Area. It is intended to be a reference document for project personnel for the planning and execution of project-specific activities, as well as a guidance document for contingency planning. The specific purposes of the EPP are to:

- Document environmental concerns and appropriate protection measures;
- Provide concise and clear instructions to project personnel regarding procedures for protecting the environment;
- Provide a reference document for personnel when planning and/or conducting specific activities and working in specific areas;
- Communicate changes in the program through the revision process; and
- Provide a reference to applicable legislative requirements and guidelines.

This EPP describes the procedures, responsibilities, and control actions to be taken by Pasadena Equipment Services personnel in achieving the safe and environmentally sound completion of the work described. The EPP is to be available to all relevant staff and subcontractors to ensure that each is aware of their responsibilities and of the procedures to be used in the management of this work. This will result in open communication at all levels and serve as a means to achieve continuous improvement.

"The environmental protection procedures outlined in the following subsections shall be followed, together with those detailed in the terms, conditions, provisions or reservations of all permits and approvals, licences, authorizations or other instrument issued under NL or federal legislation. In the case of a conflict between these, the order of priority shall be: 1)

permit/approval/licence/authorization or other instrument's terms and conditions, provisions or reservations; followed by 2) conditions, provision or statement outlined in the current version of the EPP. In other words: where a condition, provision, statement or any correspondence made under this EPP is inconsistent or conflicts with a provision, term or condition, provision or reservation of NL or federal legislation, policy or guidelines and a permit/approval/licence/authorization or other instrument issued under them, the provision, or condition, provision or reservation of NL or federal legislation, policy or guidelines and a permit/approval/licence/authorization or other instrument issued under them shall have precedence over the condition, provision, statement or any correspondence made under this EPP

An EPP is a living document and may not address all of the environmental situations that arise on an individual project. Revisions may be made during the course of a project to reflect unforeseen circumstances or improvements as the result of a process review.

## 1.2 Objectives

The main objectives of this EPP are to 1) identify proposed activities associated with the project that could adversely affect the environment, and 2) outline measures Pasadena Equipment Services intends to implement to prevent and/or minimize environmental impacts. In addition, this EPP will:

- Ensure environmental considerations are part of the project decision making process; and
- Ensure compliance with applicable regulatory requirements and guidelines.
- Ensure compliance with all Occupational Health and Safety Acts and Regulations in Newfoundland and no effects to human health.

## 2.0 Environmental Policy

Pasadena Equipment Services is fully committed to the protection of human health and the environment through regulatory compliance and the continuous review of our construction operations. We believe it is both good business practice and our duty to protect the natural and cultural resources of the communities we serve. We intend to meet this commitment through the application of the following principles:

- ▶ Making environmental concerns an integral part of our planning and decision making process and commit sufficient resources to implement effective environmental programs.
- ▶ Practicing sound environmental stewardship of all construction sites, company owned facilities and properties under our management.

- ▶ Educate employees to be accountable for environmental stewardship and encourage them to seek innovative ways to improve the environmental aspects of our operations and continually improve our environmental program.
- ▶ Avoid, minimize and mitigate any adverse environmental impacts caused by our operations where possible.
- ▶ Maintain open channels of communication with our customers, employees, government agencies, public officials, the media and the public to meet their information needs on environmental issues.
- ▶ Participate with government agencies and others in developing responsible laws, regulations and standards affecting the community, the workplace and the environment.
- ▶ Promote the efficient use of energy and natural resources through cost effective conservation and energy management programs.
- ▶ Ensure the proper handling and disposal of all wastes and minimize their creation while pursuing opportunities to prevent pollution and recycle and reuse waste materials.
- ▶ Evaluate our environmental performance through periodic reviews and audits to ensure that our conduct is consistent with these principals.

## 2.1 Application

This policy applies to all Pasadena Equipment Services associated staff/contractors.

## 3.0 Document Management

The EPP is a “controlled distribution” document. The Environmental Manager is responsible for EPP distribution and administration. Requests for copies and suggestions for changes to the document are to be submitted to that individual

### 3.1 Distribution

The EPP distribution list includes all those involved in the work scope of the project, management personnel, and regulators. All parties, in particular the Environmental Assessment Division will receive copies of amendments and updates as they are produced. In order to ensure that all EPP document in circulation are current, the EPP document is not to be photocopied or distributed without the prior permission of the Environmental Manager.

### 3.2 EPP Maintenance

The Environmental Manager is responsible for document control, including the following:

- Review of revision requests;
- General review of the EPP on an as needed basis;
- Determination whether EPP holders and their staff are familiar with the EPP and its procedures;

- Distribution of approved revisions to plan holders.

EPP holders are to:

- Keep a copy of the EPP current and ensure all revisions are entered on the revision control record;
- Familiarize themselves and their personnel with the EPP and any revisions; and,
- Contact the Environmental Manager to initiate changes to improve and update the plan. They can be reached at (709) 639-2303.

### **3.3 Revisions**

As this is a controlled document, revisions may only be made by the Environmental Manager. It is anticipated that most of the revisions to the EPP will arise from the operating personnel at site. Other revisions will be as required/requested from the provincial and federal government regulatory agencies and other stakeholders. Plan holders and readers/reviewers may initiate proposed revisions by forwarding recommended changes to the Environmental Manager. Recommendations will be reviewed and appropriate revisions incorporated into the EPP when required. The approved revisions will be issued to all holders of controlled copies of the EPP. Each revision will be accompanied by a Revision Control Sheet that:

- provides revision instructions; and
- lists the sections being superseded.

An updated Table of Contents will be included with each revision. A revision number and revision date will be added to each revised page. EPP holders will be responsible for inserting revision pages into their document.

## **4.0 Description of the Undertaking**

### **4.1 Project Overview**

Pasadena Equipment Services is developing a fixed concrete batch plant in Conception Bay South, Newfoundland and Labrador. The following sections outline the various stages of the project

### **4.2 Phase 1: Construction of the Administration Building and Concrete Batch Plant**

Construction will be as per approved site plans from the Town of Conception Bay South and will consist of the following main components:

- Site development
- Obtain applicable registrations/permits for activities which may require such permissions



- Installation of support infrastructure; water service, septic fields, power, telecommunications, roadways, laydown areas, and fencing.
- Installation of concrete foundations and housing for batch plant;
- Installation and commissioning of the batch plant itself and associated components, including truck wash water Containment ponds and weigh scales; and
- Installation of administrative office.
- Site finishing and clean-up

**4.3 Phase 2: Operation of Concrete Batch Plant**

The batch plant will operate year round, or in accordance with local demand. Typical best-practice batching methods will be employed where relevant. Raw materials (aggregates) will be sourced and processed offsite, trucked to site and stockpiled for use as required at the proposed location.

The operation of the facility will follow the Environmental Code of Practice for Concrete Batch Plant Operations as published by the Department of Environment and Conservation.

**5.0 Permits, Approvals and Authorizations**

The conduct of work is subject to various regulatory controls. Listed below are the applicable legislation and regulation related to the scope of work

**Table 1.0 Permits issued for activities at the Conception Bay South Concrete Batch Plant**

Department/Agency	Applicable Legislation	Permit
Town of CBS	<i>Municipal – Development Regulations of CBS</i>	Development Permit (Approved September 9 <sup>th</sup> , 2015)
DOEC- Environmental Assessment Division Department of Environment and Conservation	<i>Provincial</i>	Environment Assessment Determination (Released December 1 <sup>st</sup> , 2015)

**Table 2.0 Permits and Approval that may be required for the Conception Bay South Concrete Batch Plant**

<b>Department/Agency</b>	<b>Applicable Legislation</b>	<b>Permit</b>
Town of CBS	<i>Municipal</i>	Building Permits
Department of Environment and Conservation	<i>Provincial</i>	Approval of Undertaking
Water Resources Division	<i>Provincial</i>	Alteration to a Body of Water (Schedule A to H)
Water Resources Division	<i>Provincial</i>	Approval of Waterworks
Water Resources Division	Provincial	Approval of Sewage Work
Water Resources Division	Provincial	Certificate of Approval for Site Drainage
Government Service Centre	<i>Provincial</i>	National Building Code Approval
Government Service Centre	<i>Provincial</i>	National Fire Code Approval
Government Service Centre	<i>Provincial</i>	Building Accessibility Design Registration
Government Service Centre	<i>Provincial</i>	Certificate of Approval for a Septic System
Government Service Centre	<i>Provincial</i>	Approval for Storage and Handling of Gasoline and Associate Regulations
Government Service Centre	<i>Provincial</i>	Used Oil Storage
Transport Canada	<i>Federal</i>	Permit to store, handle and transport dangerous goods

**6.0 Contacts**

<b>Contact List</b>		
<b>Name/ Governing Agency</b>	<b>Title/Responsibility</b>	<b>Contact Information</b>
<b>Proponent</b>		
Mr. Brian Johnson	President – Pasadena Equipment Services	(709) 639 2303
Mr. Brandon MacDonald	Vice President – Pasadena Equipment Services	(709) 895 6695
Mrs. Sarah Kennedy	Environmental Manager – Pasadena Equipment Services	(709) 639 2303
<b>Emergency Contacts</b>		
<b>Environment Canada – Environmental Emergencies</b>	<b>Spill Reporting</b>	<b>(709) 772 2083 / 1 800 563 9089</b>
Department of Fisheries and Oceans	Fish and Fish Habitat Protection	(709) 772 4029
Environment Canada	Chemical Spills	(709) 722 5488
Transport Canada	Emergency Response of Dangerous Goods	(613) 996 6666
NL Pesticides Control Section	Spill Reporting	(709) 729 3395
NL Wildlife Division Office	Wildlife Interaction	(709) 637 2014
Service NL	Fuel Storage and Regulation	(709) 454 8833
Service NL	Occupational Health and Safety	(709) 729 6645 1 800 729 4444
Dept. Of Natural Resources (Avalon District)	Forest Fires	(709) 432 2940
RNC (CBS)	Accidents and Emergencies	(709) 834 6137
Ambulance	Emergency Medical Attention	1 800 801 0181
Fire Department (CBS)	Fire and Emergencies	(709) 834 6540

## 7.0 Environmental Protection Measures

An environmental impact is a change to the environment, positive or negative. For the purposes of this EPP, negative impacts resulting from project activities are the primary concern. Site staff and crew shall possess an understanding of the sensitive site components that could be impacted as a result of the construction of the Administrative office and operation of the Ready Mix Concrete Batch Plant including, but not limited to:

### Construction Phase:

- Noise Generation
- Dust Control
- Storage, handling and transfer of fuel/hazardous material
- Waste disposal
- Clearing of vegetation
- Grubbing, stripping and materials excavation
- Sedimentation and erosion prevention
- Equipment use and maintenance

### Ready Mix Operations:

- Dust Generation/Control
- Effluent Discharge
- Washing of Cement Trucks
- Containment Ponds Operation
- Noise Generation/Control
- Visual Aesthetic

As required, protection procedures can be modified to address future activities, site conditions, changes in engineering design and/or construction work methods, and overall environmental performances as work proceeds.

Please note that during construction and operation of this facility Pasadena Equipment Services will meet all requirements as deemed under the Occupational Health & Safety Act and Regulations in Newfoundland and Labrador. Pasadena Equipment Services is Cor certified and has a comprehensive safety plan that is followed throughout the company.

## 7.1 Noise Generation

During both the construction and operations phase of the project there will be an increase in noise levels due to increased vehicle traffic.

A variety of noises associated with this activity can negatively affect wildlife and fish, as well as affect human health. Noises associated with construction and operation activities may cause behavioral changes in wildlife, including avoidance behaviors, distribution changes, etc.

### **Environmental Protection Procedures**

#### **Construction**

- a) Workers and contractors will be reminded in toolbox talked to use equipment in ways that minimize noise. They will be reminded to avoid shouting, and minimize talking loudly and slamming vehicle doors.
- b) All vehicles shall follow a designated project route and shall be properly maintained to minimize noise. All vehicles and generators shall have exhaust systems regularly inspected and mufflers shall be operating properly.
- c) All construction equipment will be kept away from nearby homes whenever possible. Truck drivers will be informed of designated vehicle routes, parking locations, acceptable delivery hours and other relevant practices to help reduce noise levels
- d) Site development will be conducted within appropriate daily hours as required for municipal noise bylaws.
- e) Construction will cease at night which will avoid any night-time noise.

#### **Plant Operations**

- a) Workers will be reminded in toolbox talked to use equipment in ways that minimize noise. They will be reminded to avoid shouting, and minimize talking loudly and slamming vehicle doors
- b) The plant manager will periodically check the site, nearby residences and other sensitive receptors for noise problems so that solutions can be quickly applied.
- c) Radios and stereos outdoors and the use of public address system will not be in use
- d) The free fall height of the aggregates will be minimized
- e) Pumps and motors will be installed on rubber mounts when possible
- f) Fly ash delivery trucks will be equipped with intake and exhaust mufflers on bulk trailers

- g) All vehicles shall follow a designated project route and shall be properly maintained to minimize noise.
- h) All vehicles and generators shall have exhaust systems regularly inspected and mufflers shall be operating properly.
- f) Hours of operation will comply with municipal bylaws with normal hours from 7:00 am – 6:30 pm Monday to Saturday. Any additional work will be conducted within appropriate daily hours as required for municipal noise bylaws. Night time operations will be limited to avoid any noise disturbances at night.
- i) The grade of the site will be much lower than the surrounding properties which will reduce the line-of-sight noise transmission.

## 7.2 Dust Control

The environmental concerns associated with dust include human health effects (eg. dust inhalation) and potential effects on aquatic ecosystems, waterfowl, and vegetation (eg. contaminant uptake).

### ***Environmental Protection Procedures***

The following measures shall be taken to mitigate potential effects of dust:

#### **Construction**

- a) During the construction phase dust from the road will be controlled by using frequent applications of water during dry conditions when dust is likely to be present.

#### **Plant Operations**

- a) Air born dust at the site during the summer months shall be controlled where possible by using-applications of water.
- b) Pulse air, agitation mechanisms should be checked regularly
- c) Each silo containing cement powder will be equipped with a filtration system to capture particulate before the air is exhausted during cement unloading and will allows to operate in weather conditions that limit dust transport.
- d) Aggregate feed bins will be enclosed to minimize migration of dust from handling.

- e) The concern for Silica is minimized as we are sourcing our aggregate offsite and buildings will be equipped with appropriate ventilation system. Pasadena Equipment Services is committed to safety of our sites and operations and will meet all legislative requirements as sent out by the Occupational Health and Safety Act and Regulations of Newfoundland and Labrador which include the 2006 Silica Code of Practice that sets guidelines for the safe management of Silca exposure for employees.
- f) Stockpiles may be covered and watered to prevent dust from becoming air born.
- g) Given that prevailing winds are Southwesterly it is not anticipated that dust will migrate to other operations in the Industrial Park.
- h) The grade (elevation) of the site will be much lower than the surrounding properties which will reduce the potential for dust migration.

### **7.3 Storage, handling and transfer of fuel/hazardous material**

Hazardous substances that may be used on site include the following:

- Gasoline, diesel fuel, grease, motor oil, hydraulic fluids;
- Propane;
- Explosives;
- Acetylene;
- Paints;
- Concrete additives;
- Antifreeze;
- Cleaners and solvents.

The primary concern with respect to hazardous substances is an uncontrolled release to the environment, i.e. a spill. Subsequent adverse effects may include contamination of terrestrial and aquatic environments, as well as groundwater quality and human health concerns.

#### ***Environmental Protection Measures***

Only persons qualified in the handling of fuel and other hazardous materials as stated in government laws and regulations will handle fuel and other hazardous materials.

#### ***Transport of fuel and other hazardous materials***

- a) The transport of fuel and other hazardous materials will be undertaken in compliance with the *Transportation of Dangerous Goods Act*. All goods entering the site will be inspected to

ensure that the appropriate placards or labels and manifest are in place and the security of the product is assured. All persons handling dangerous goods must show proof of certification of training in the transportation of dangerous goods as required under the Act. Security staff and the Project Environmental Manager will be trained in the requirements of the Act.

#### *Storage of fuel and other hazardous materials*

- a) Waste oils, lubricants and other used oils shall be reused, recycled or disposed of at an approved licensed waste management facility in accordance with the provincial Used Oil Control Regulations (2002).
- b) A Certificate of Approval for Waste Oil Storage will be obtained for handling and storage of Used Oil on site.
- c) Drums of petroleum products or hazardous wastes shall be tightly sealed against corrosion and rust and surrounded by an impermeable barrier in a dry, water-tight building with an impermeable floor. These drums will have Secondary Containment of 100% of the largest container or no-less-than 100% of the largest tank and 10% of the aggregate of all remaining tank, or whichever is greater
- d) Explosives will not be manufactured or stored on site in bulk, but will be ordered as needed from reputable suppliers.
- e) Petroleum storage tanks shall be registered with Government Services and all leaks/spills shall be reported to that department.

#### *Equipment refueling*

- a) Equipment refueling is to comply with the Storage and Handling of Gasoline and Associated Products Regulations (2003).
- b) Refueling and lubrication of equipment shall occur in such a manner as to minimize the possibility of contamination to soil or water, *i.e.* 300 m from any water body and on level terrain.
- c) When refueling equipment, operators shall:
  - Use leak-free containers and reinforced rip and puncture-proof hoses and nozzles;
  - be in attendance for the duration of the operation; and
  - Seal all storage container outlets except the outlet currently in use.
- d) Regular inspections shall be made of hydraulic and fuel systems on machinery. Leaks shall be repaired immediately.
- e) Fueling attendants shall be trained in the requirements under the spill contingency plan.



- f) Refueling or servicing of equipment shall not be allowed within approximately 300 m of watercourses, waterbodies or ecologically sensitive areas. Furthermore, these activities will be undertaken on level terrain, on a prepared impermeable surface complete with a collection system to ensure oil, gasoline, and hydraulic fluids do not enter surface waters.

#### *Waste Dangerous Goods/Hazardous materials*

- a) Hazardous materials shall be used only by personnel who are trained and qualified in the handling of these materials and only in accordance with manufacturers' instructions and government regulations.
- b) Waste dangerous goods/hazardous materials will comply with the *Best Management Practices for the storage of waste dangerous goods/hazardous waste at business Site Document* (2015) issued by the Pollution Prevention Division.
- c) The Workplace Hazardous Materials Information System (WHMIS) Regulations under the *Occupational Health and Safety Act* will apply to all handling of hazardous materials. Material Safety Data Sheets (MSDS) will be readily available on site for all hazardous materials.
- d) A complete inventory of the hazardous materials on site shall be maintained according to the WHMIS and shall be made available to regulatory agencies upon request.
- e) All hazardous materials shall be removed and disposed of in an acceptable manner in accordance with government regulations and requirements

#### *Spills of fuels and hazardous materials*

- a) Precautions will be taken to prevent and reduce the spill of fuel and other hazardous materials. In the event of a spill on land or in the freshwater environment, the **Environmental Emergencies 24 Hour Report Line** will be contacted (709 – 772 – 2083 or 1-800-563-9089).
- b) Every effort will be made to immediately control the source of the leak or spill and clean up the contaminated area.
- c) There shall be appropriate spill clean-up equipment on site as required, including adsorbents and open-ended barrels. Equipment shall be readily available in the event of a spill, and personnel will be knowledgeable about response equipment location, as well as response procedures (See Section 6.1).

#### *Disposal of waste dangerous goods/hazardous materials*

- a) All hazardous waste will be handled according to the provincial *Environmental Protection Act*. Waste classified as “hazardous” or “special” that cannot be disposed of in regular landfill sites will be sent for disposal at a licensed hazardous waste management company.
- b) All necessary precautions will be taken to prevent and reduce the spillage, misplacement or loss of fuels and other hazardous materials.
- c) Waste dangerous goods/hazardous materials will only be handled by persons who are qualified and trained in handling these materials as stipulated in government laws and regulations.
- d) Waste accumulated on site prior to disposal will be confined, so that it does not pose an environmental or health hazard.
- e) Waste material will not be disposed of on-site or in a body of water.
- f) Burning of waste is not permitted.
- f) Where waste dangerous goods/hazardous materials are to be stored outdoors will comply with the *Best Management Practices for the storage of waste dangerous goods/hazardous waste at business Site Document (2015)* issued by the Pollution Prevention Division.
- g) Waste oils, lubricants, and other used oil will be retained in a tank or closed container, and disposed of in accordance with the Used Oil Control Regulations (2002).
- g) Additional waste dangerous goods/hazardous materials such as oily debris, glycol, and waste corrosive additives will be handled and disposed of in compliance with the *Best Management Practices for the storage of waste dangerous goods/hazardous waste at business Site Document (2015)* issued by the Pollution Prevention Division.
- h) Any soil contaminated by small leaks of oil or grease from equipment will be disposed of according to the *Environmental Protection Act*.

#### **7.4 Waste Disposal**

Waste (e.g., domestic wastes, paper, cardboard and wood), if not properly controlled and disposed of, will be unsightly and could cause human safety and health concerns. It could also attract wildlife leading to the potential for human-wildlife conflicts.

#### ***Environmental Protection Procedures***

- a) Sewage will be handled by an approved portable facility during operation. Disposal of sewage shall comply with Department of Health guidelines, the *Environmental Protection Act*, and the Department of Environment and Conservation Regulations. All waters disposed of on the proposed site will comply with the Environmental Control Water and Sewer Regulations (2003).
- b) All solid waste will be handled according to the provincial *Environmental Protection Act*.
- c) All solid waste materials shall be considered, prior to disposal, for reuse, resale, or recycling. Solid waste produced by site personnel and operations will be regularly collected and disposed of at an approved waste disposal facility.
- d) Waste accumulated on site prior to disposal will be confined in the appropriate containment such as a compactor bin, so that it does not pose an environmental or health hazard.
- e) Work areas will be kept clear of waste and litter to reduce the potential for attracting wildlife and reducing potential interactions with wildlife.
- f) Any organic waste that may attract animals (i.e., food) will be stored in covered, wildlife-proof containers.
- g) Burning of waste is not permitted.
- h) All hazardous wastes generated will be handled according to the procedures for handling fuel and hazardous materials (Section 5.3).
- i) Pasadena Equipment Services has a comprehensive waste management plan that is followed on all sites. Please refer to Section 9.2

## 7.5 Clearing of vegetation

Vegetation clearing (eg. trees and shrubs) will be required for site preparation activities for work areas and lay down areas. Potential environmental concerns include the loss of habitat, the sedimentation of watercourses, uncontrolled burning of slash, and stockpiling vegetation in or near watercourses.

*Due to the fact the area has been previously cleared, there will be no clearing of vegetation during the construction or operation of this project. If clearing has occur for some unforeseen circumstance the following procedures will be adhered to:*

### ***Environmental Protection Procedures***

- a) Clearing activities will be limited to required areas and will comply with applicable permits, including the Cutting Permit and a Permit to Burn from the Department of Natural Resources, Forestry Services Branch, as required.
- b) A minimum of a 10 m buffer will be left between the operation and nearby residential area.
- c) The standards set by the Industrial Park Approvals for the sloping and vegetation removal along the slope leading to the manual river will be adhered to.
- d) Clearing or removal of trees will be restricted to only those areas required and new vegetation will be placed where possible.
- e) Chain saws or other hand-held equipment may be used in clearing vegetation
- f) A 300 m buffer zone of undisturbed vegetation will be maintained between construction areas and the manual river.
- g) Disposal of cleared unmerchantable timber, slashings and cuttings by burning shall be in compliance with the *Forest Fire Regulations*, Environmental Code of Practice for Open Burning, and the Permit to Burn. At no time will fires be left unattended. All approvals will be issued before any burning takes place.
- h) Slash or any other construction material or debris will not be permitted to enter any watercourse, and will be piled above spring flood levels for later disposal.
- i) Cleared vegetation will be used to restore habitat where practical.
- j) Where possible, timber will be felled inward toward the work area to avoid damaging any standing trees.
- k) No clearing of vegetation or field burning will occur during the most critical periods of the migration bird breed season (Between April 15<sup>th</sup> and August 15<sup>th</sup>).
- l) A Migratory Bird Management Plan will be developed if it is determined that they are present and implemented to ensure there will be no disturbance to migratory birds.

### **7.6 Grubbing, stripping and materials excavation**

Grubbing is the removal of the vegetation mat and associated debris, while stripping is the removal of topsoil. All other soil material is removed by excavation.

The principal concerns associated with grubbing, stripping and excavation are the potential adverse effects on terrestrial ecosystems and water quality, including:

- Destruction of terrestrial habitat; and
- Potential for siltation, erosion and run-off
- Potential to cause a disturbance to migratory birds.

### ***Environmental Protection Procedures***

- a) Grubbing of the organic vegetation mat and/or the upper soil horizons will be restricted to the minimum area required.
- b) The organic vegetation mat and upper soil horizon material that has been grubbed will be spread in a manner so as to cover inactive exposed areas.
- c) Any surplus of such material will be stored or stockpiled for site rehabilitation and revegetation purposes. The location of the stockpiles will be recorded and accessible for future rehabilitation purposes. Any topsoil encountered shall be stockpiled separately and buried to prevent erosion and loss of nutrients.
- d) Measures will be implemented to reduce and control runoff of sediment-laden water during grubbing, and the re-spreading and stockpiling of grubbed materials. Where grubbed materials are re-spread or stockpiled, as many stumps and roots as possible will be left on the ground surface to maintain soil cohesion, dissipate the energy of runoff and promote natural revegetation. Erosion control measures will be implemented in areas prone to soil loss (Section 5.7).
- e) Where erosion into a water body is a concern, the length of time that inactive grubbed areas will be left exposed to the natural elements will be controlled and reduced to prevent unnecessary erosion.
- f) Grubbing activities will adhere to the buffer zone requirements.
- g) During grubbing, care will be taken to ensure that grubbed material will not be pushed into areas that are to be left undisturbed.
- h) Slope stabilization measures such as tracking, placement of rip rap, or erosion control nets will be used on the southwestern face of the site towards the Manuels River in a manner consistent with the remainder of the Industrial Park development. One of these measures

will be implemented in order to stabilize the slope and maintain a consistent viewscape of the Manuel's River Valley.

- i) During construction no person or vessel will deposit or permit a substances (or a combination of substances) to be deposited that will be harmful to migratory birds. Areas will go through visual inspections on a regular basis to insure migratory birds do not come into contact with any harmful substances.

## **7.7 Sedimentation and erosion prevention**

Site activities, including clearing, grubbing and excavation, have the potential to cause erosion and sedimentation problems. Eroded material may cause siltation in water bodies and, subsequently, decrease suitable habitat for aquatic and terrestrial animals.

### ***Environmental Protection Procedures***

The possibility of detrimental effects from runoff and erosion is a concern with construction site or ready mix operation is addressed by adequate planning and operation.

- a) All work in the vicinity of the site will be conducted in accordance with conditions set out in applicable permits, approvals and/or authorizations.
- b) An approximate buffer zone of 300 m of undisturbed natural vegetation between construction areas and the Manuel's River will be maintained.
- c) Siltation control structures (i.e. silt curtains, cofferdams, sediment fences, etc.) will be constructed as necessary prior to beginning any activities involving disturbance of the site.
- d) Wash water will be collected in Containment ponds to allow suspended solids to precipitate out. These ponds will be covered to prevent any sedimentation and erosion from the wastewater
- e) Wash water will be recycled from the Containment ponds back into the operations for reuse in dust suppression where feasible.
- f) Primary means for controlling erosion will be to avoid activity that contributes to erosion; the disturbance of new areas will be minimized.

- g) Slope stabilization measures and related maintenance of the southwestern face of the site will be implemented if needed to stabilize the slope and enhance the views cape of the Manuels River Valley
- h) If an environmental inspection reveals that silt is entering nearby waterbodies, further mitigative measures will be implemented, such as temporary drainage ditches, siltation control (settling) ponds, ditch blocks/check dams or sediment dam traps, to intercept run-off. The necessary or appropriate measures will be determined in the field.
- i) Existing or new siltation control structures used in this work will be monitored for excessive accumulation of sediment; accumulated sediment will be removed from control structures to ensure the effectiveness of the systems. Effluent from control structures will be released to vegetated areas to ensure appropriate filtration prior to entering any waterbody.
- j) The site will be monitored daily by the plant manager to ensure no excessive sedimentation or erosion even have occurred, particularly after a heavy rainfall. If there is excessive sedimentation and erosion the Pasadena Equipment Services Environmental Manager will be contacted immediately who will then notify the appropriate governing bodies.

## 7.8 Equipment use and maintenance

A variety of vehicles and heavy equipment will be used throughout the site, including light vehicles, heavy equipment, generators, etc. Environmental concerns associated with operating, using and maintaining such equipment includes air emissions, accidental spills, noises, and chronic leaks that may contaminate water bodies.

### ***Environmental Protection Procedures***

- a) All approvals, authorizations, and permits for project activities shall be strictly adhered to.
- b) All noise control devices will be maintained in good operating condition.
- c) All equipment will meet the requirements of the provincial *Air Pollution Control Regulations* under the *Environmental Protection Act*. All equipment will have exhaust systems regularly inspected and mufflers will be operating properly.
- d) Regular maintenance inspections for leaks will be made on all equipment. If problems are identified, the equipment will be taken out of service and corrective action taken to prevent release of hydrocarbons into the environment.

- e) All hydrocarbon leaks shall be reported to the Environmental Manager. Upon detection of a leak, the equipment is to be shut down and corrective action taken to repair the leak and clean up any contamination.
- f) Hoses and connections on equipment will be inspected routinely for leaks and drips.
- g) During operations, equipment and vehicles shall only operate on the access road and areas designated for construction activities.
- h) Equipment maintenance and fueling activities will be performed at designated sites and in compliance with applicable regulations. All heavy equipment will be maintained and operated as outlined in the Occupational Health and Safety legislation.
- i) Fuel shall not be stored near generators or located adjacent to water bodies
- j) All fuel and hazardous materials will be handled according to procedures outlined in Section 5.3
- k) Work is to be limited during the night or in poor visibility as to not prevent light attraction to Migratory Birds.

## 7.9 Visual Aesthetic

Concrete Batch Plants and related buildings can significantly alter the image of a community. To minimize the potential for negative impacts Pasadena Equipment Services will present a positive industry image by developing an engineered site that considers visual aesthetic in its approach.

### Environmental Protection Procedures

- a) Mixers will be kept clean and well maintained
- b) Truck and equipment parts, tires, empty drums, solid waste and other debris will be in a designated area and out of public view
- c) Finished landscaping will be conducted in accordance with the Town of CBS requirements and the site building permit. This shall include paving of the front yard and the provision of naturally vegetated areas to integrate with the administration office.
- d) As much as is practical, the batch plant will positioned as close to the Northeastern property edge so as to blend in with existing adjacent landscape and structures (water towers, Mega Dome etc).



## **7.10 Site Drainage Plan**

Improper drainage can lead to increased siltation or a higher risk of wastewater reaching sensitive areas such as waterbodies and wetlands. Pasadena Equipment Services will engineer the site in such a way as to prevent improper drainage. This site has two specific areas for consideration: firstly, the front yard which will house the office building will have a paved parking lot and vegetated landscaping. Secondly the rear yard which will be a gravel surface and will house the batch plant, aggregate stockpiles and equipment.

### **Environmental Protection Procedures**

#### **Administrative/Office Building – Front Yard**

- a) A Site Drainage Plan has been created outlining how Pasadena Equipment Services will engineer the site to insure proper drainage (Figure 2.0)
- b) The parking lot will be paved with an asphalt surface as well as curbed and graded to allow for all storm water run-off to be directed towards a catch basins. Catch basins will be connected to an existing man hole along the access road that will feed into the existing industrial park drainage system outlined in the detailed site plan (Figure 2.0) This will ensure the storm water from the office will not mix with any waste water from the batch plant (Figure 2.0)

#### **Concrete Batch Plant – Rear Yard**

- c) There will be a ditch line along the northeast side to collect any rain water along the rock face. This drainage will follow along the boundary and drain into the vegetative buffer. Please refer to the Site Drainage Plan (Figure 2.0)
- d) The area surrounding the batch plant and aggregate stockpiles will be gravel and will be fine graded to allow for effective capture and collection of storm water run-off and prevent any water to be mixed with wastewater. Stormwater will be allowed to flow over the environmental buffer zone through the vegetated area so that filtration can occur prior to entering the Manuels River. There is approximately 300 m of treed buffer between the Manuels River and the proposed site.
- e) Any associated wastewater from the site that has been used in concrete production or washing operations will be directed to the Containment ponds to ensure all suspended solids will be removed. Should capacity of the ponds be a concern, they will be covered during

extreme rainfall events to prevent rainwater from entering them. Site surface runoff will be directed away from containment ponds.

- f) The Containment ponds will be constructed in accordance with the Environmental Code of Practice for Concrete Batch Plant Operations (NL) and will be designed and landscaped so not to create a visual impact. All permit conditions from Water Resource Division and the Conception Bay South Municipality related to the Containment Ponds will be adhered to at all times.

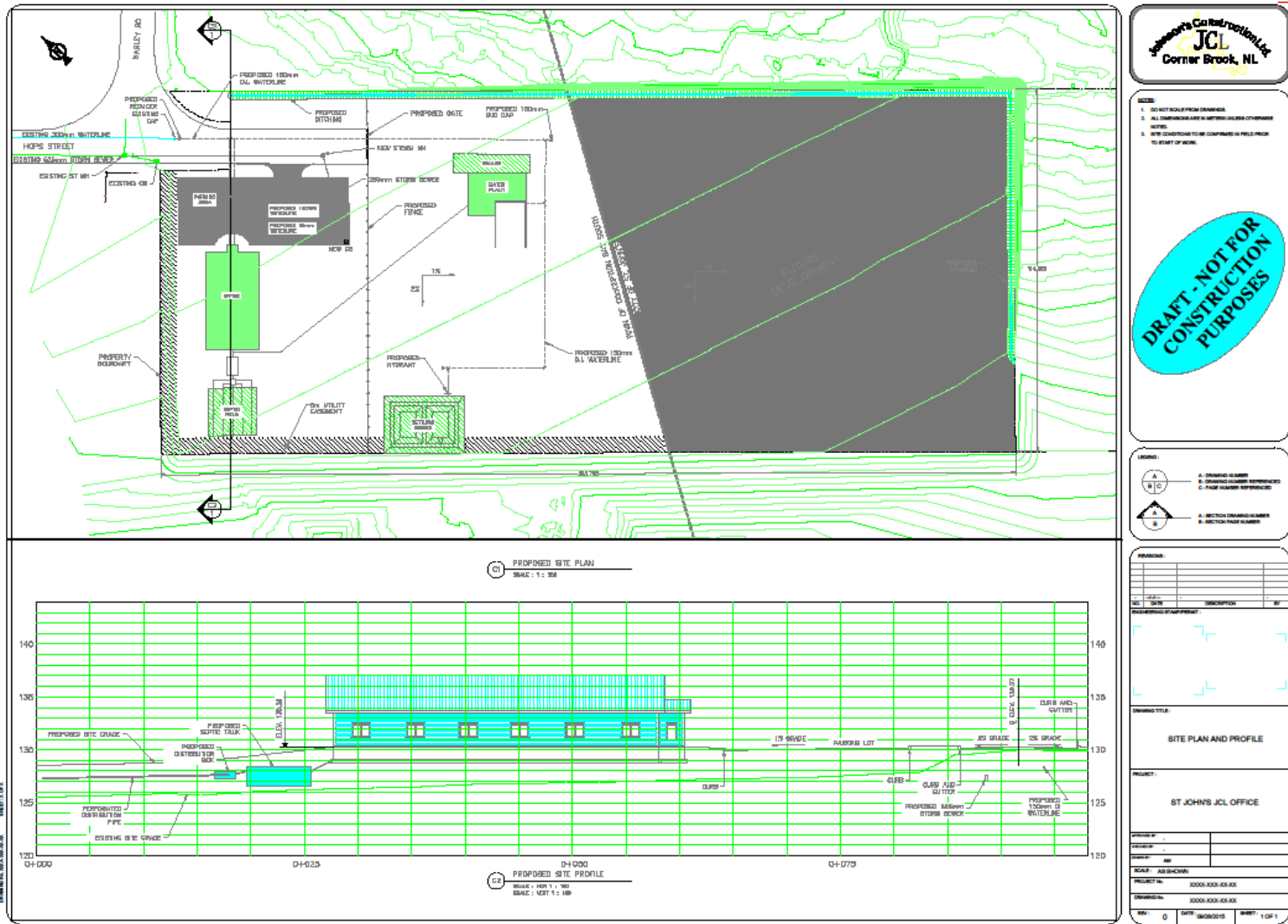


Figure 1.0: Detailed Site Plan of Office Building and Concrete Operation

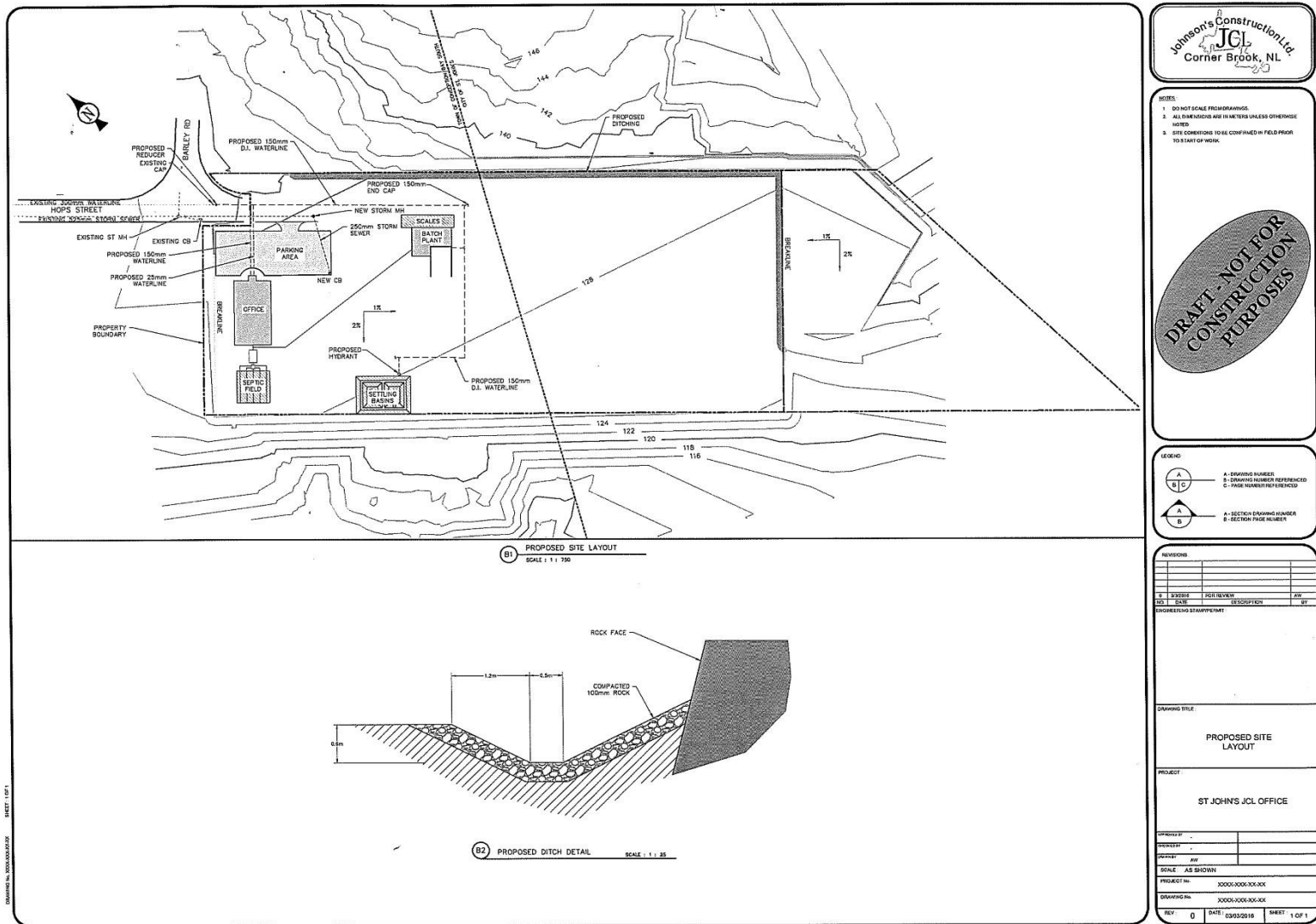


Figure 2.0: Detailed Site Drainage Plan of the Proposed Office Building and Concrete Operation





**Figure 3.0: Site Layout and Outline of Pasadena Equipment Services Land.**

*Please note: The Manuals Rive is approximately 300 m away from the site boundary*

## **7.11 Effluent Discharge**

A major concern relating to concrete production is the effects of effluent released to the environment. Liquid wastes may contain potentially hazardous materials such as cement, concrete additives, and form oil. If effluent discharged into the surrounding environment does not meet all the levels in the Water and Sewer Regulations, it may create harmful effects to the body of water or surrounding area it is being released into. Environmental concerns associated with effluent discharge include killing of vegetation and contaminating ground water if the effluent is allowed to discharge freely. If it finds its way into water bodies such as ponds and rivers, life in the water including fish will be put at risk.

### **Environmental Protection Procedures**

Pasadena Equipment Services will ensure the protection of water quality and aquatic resources through prevention as well as the containment and treatment of wastewater associated with the site. Before any containment ponds are installed Pasadena Equipment Services will go through all the appropriate permitting channels and ensure all permit conditions will be met.

### **Prevention**

- a) To help prevent any contamination, all aggregate material will be sourced offsite and where washing is required it will be washed before coming to site.
- b) Pasadena Equipment Services will utilize the unused concrete by having a supply of premade forms readily available. If any unused concrete returns to site it will be discharged into the premade forms and cast as useable construction elements such as median barrier, paving stones, and concrete block. This will eliminate the need to contain it while still in liquid form.
- c) Sewer systems and ditches will be strategically placed along the property to prevent any siltation or erosion. There is also a natural vegetative buffer (approximately 300 m wide) along the property and between the Manuels River which will help stabilize the surrounding area and filter storm water runoff.

### **Containment and Treatment of Wastewater**

- a) Other than rinsing of the chute, before any washing of any cement truck is carried out, the truck must return to the site.

- b) All criteria in the Environmental Control (Water and Sewer Regulations) will be met before discharging any effluent. Specifically the requirements for the suspended solids to have no more than 30.0 mg/l and a pH between 5.5 and 9.0.
- d) A containment pond will be constructed which is where all truck and form washing will be done. The installation and continued monitoring of the containment ponds will be discussed in more detail in Section 8.0. Whenever possible recycled water, rather than freshwater, will be used when washing the cement truck.
- e) All permit conditions from the Water Resource Division will be adhere to. These conditions will outline the sampling process and frequency. If water samples are needed to be taken it will be done by a capable individual who is familiar with the process.

## 8.0 Containment Pond Monitoring Plan

The batch plant will require the construction of a containment pond which is the preferred method of sediment removal. A Containment pond will be a permanent structure built to capture any effluent which may result from washing the concrete trucks and forms.

### Design

- When designing the structure rate of inflow, rate of outflow, particle size and gradation, contributing surface area, and the loading of suspended solids in the water were all considered.
- It will be 12.2 meters by 4.57 meters and no more than 0.9 m deep. It will be constructed in a way that water will not be able to exit freely or have any stream or brook running into or out of the pond. Surface drainage will not be permitted to enter the pond.
- Pasadena Equipment Services will use a man-made/synthetic liner to line the ponds once approval is given by the Department of Environment and Conservation

### Containment/Treatment

- Suspended solids will be removed through the evaporation process whereby water and suspended solids are separated naturally. The lining that is installed in the pond will prevent seepage of water into the substrate below.
- Ready mix trucks will be brought over to the Containment pond and all water will be directed into the pond. If possible water will be reused from the pond to wash the truck chutes.

### Monitoring/ Maintenance

- The Containment pond will undergo periodic inspections and maintenance. Inspections will occur following each significant rainfall to ensure proper drainage and to determine if structure repairs are required. If water needs to be released from the pond then water samples will be sent to an accredited facility. Water Resources Division will be consulted on all sampling procedures and all permit conditions will be adhered to.
- Periodically, any build-up of fines or silt will be removed from the Containment pond to prevent overflows and maintain operating efficiency. These fines will be placed in a recessed area or shallow hole that will be covered with course material to prevent dust due to wind. Such practice is outline in the *“Environmental Code of Practice for Concrete Batch Plant and Rock Washing Operations”* developed by the Department of Environment and Lands.



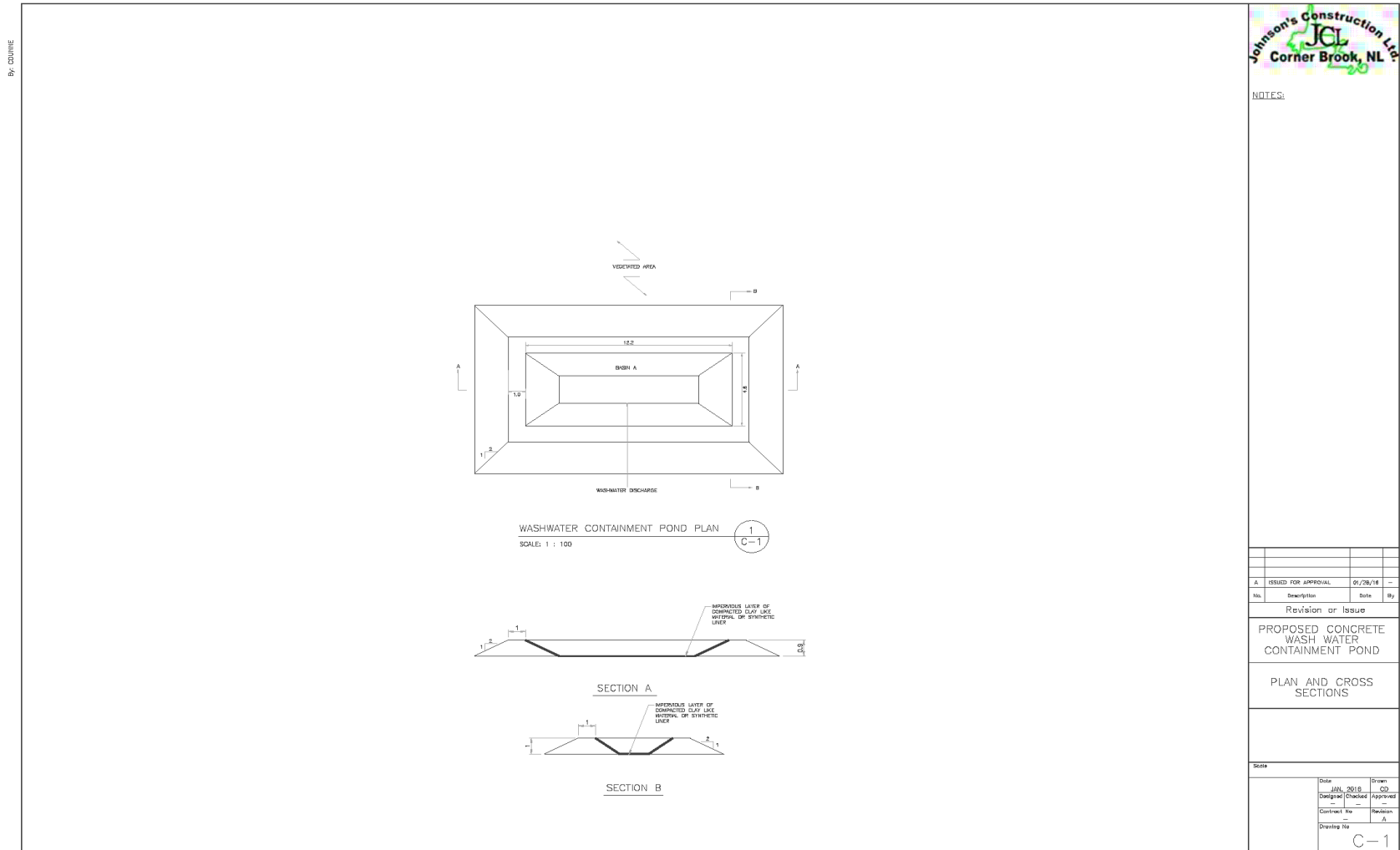


Figure 4.0: Containment Basin Plan and Cross Section

## 9.0 Contingency Plans

Contingency plans have been developed to address accidents and unplanned incidents. These contingency plans will be modified as required throughout the life of the project.

The following contingency plans have been developed for this project:

- Fuel and Hazardous Materials Spill Response Plan
- Waste Management Plan
- Wildlife Encounters

Pasadena Equipment Services supports preventive measures as the first line of defense against the possibility of accidents.

### 9.1 Fuel and Hazardous Materials Spill Response Plan

**Pasadena Equipment Services** has developed this SRP to lead and coordinate any field response to environmental incidents related to its activities, including any necessary third party involvement (e.g. vacuum truck, environmental consultant, waste disposal). Site remediation, including any required professional consultants reports, is part of Pasadena Equipment Services clean up responsibilities.

In the event of a reportable spill or leak, Johnson Construction Ltd. will promptly notify the Environmental Manager, and report the spill to government agencies, as required.

Pasadena Equipment Services shall document all incidents on a Spill Report Form (SRF) and investigate as required or directed. Forms and reports are to be provided to the appropriate personnel on site.

Pasadena Equipment Services is responsible to have appropriately trained personnel on site and provide training records upon request. This SRP will be tested and/or reviewed in order to ensure appropriate responsiveness.

## Legislation and Reporting

### Provincial Legislation

If a petroleum product is accidentally spilled or leaked onto soil or into a body of water, it is primarily within the jurisdiction of the Department of Environment and Conservation (DOEC). The provincial *Environmental Protection Act*, and its regulations, govern such incidents. Watercourses frequented by fish and low tidal zones are overlapping Provincial/Federal jurisdictions and the federal aspect of these areas is outlined in Section 7.2.

In accordance with the *Environmental Protection Act*, the Minister of the DOEC has designated officials, with Service NL., authorized to perform and exercise those duties and powers conferred by the Act upon the Minister. Service NL officials are responsible for dealing with oil spills/leaks. Services NL official also provide response capability, expertise and support for environmental emergencies on a 24 hour basis.

The *Environmental Protection Act* generally states that a person shall not release or permit the release of a substance into the environment in an amount, concentration or level, or at a rate of release that in the opinion of the Minister causes or may cause an adverse effect, unless authorized under the Act or an approval issued under the Act.

The *Environmental Protection Act* also states that the person responsible for the release (i.e. the owner or operator, or the person who has the care, management and control of the substance released) must report the release and notify any persons or property owners potentially affected by the release. A person responsible for the release must also take all reasonable measures to prevent, reduce and remedy the adverse effects of the substance, remove or otherwise dispose of the substance in a manner that minimizes adverse effects, and rehabilitate the environment to the satisfaction of the Service NL/DOEC.

The *Storage and Handling of Gasoline and Associated Products Regulations*, defines a "Spill" as any loss of gasoline or associated products in excess of 70 litres from a storage tank system, pipeline, tank vessel, or vehicle onto or into soil or water. A "Leak" is defined as any discharge of gasoline or associated products from a storage tank system, pipeline, tank vessel, tank car or tank vehicle, other than through the usual function for which the storage tank system or pipeline was designed.

In the event of a spill or leak, the person responsible shall immediately notify Service NL/DOEC, and take such steps as are necessary to abate the discharge, clean the area affected and restore

the environment to the satisfaction of Service NL/DOEC. However, it should be noted that an agreement is in place between the provincial and federal governments whereby all spills and leaks must be reported to the Canadian Coast Guard Emergency Response Spill Line.

Based on discussions with Service NL/DOEC it has been confirmed that the requirement for immediate reporting is to be applied to any release greater than 70 litres or a release, regardless of quantity, that has the potential to contaminate nearby property or enter a body of water or sewer system.

All waste oil and contaminated materials resulting from a spill or leak must be handled and disposed of in accordance with the requirements of the *Environmental Protection Act*, Service NL/DOEC is responsible for the approval of appropriate disposal facilities and procedures.

#### Federal Legislation

Under the *Fisheries Act*, where there occurs a deposit of a deleterious substance in water frequented by fish, or a serious or imminent danger thereof, any person who owns the deleterious substance or causes the deposit shall report such occurrence. As well, any person responsible must as soon as possible, take all reasonable measures consistent with safety and with conservation of fish and fish habitat to prevent the deposit. A deleterious substance is given a broad definition and generally means any substance that, if added to water, would degrade or alter the quality of the water so that it is rendered deleterious to fish or fish habitat.

The *Canadian Environmental Protection Act* governs the reporting and remedial measures that must be implemented in the event of a release into the environment, or reasonable likelihood of a release into the environment, of a substance that is identified as a Toxic Substance.

The *Migratory Birds Convention Act* and its regulations make it an offence to deposit oil, oily waste or other substances harmful to migratory birds into water inhabited by migratory birds. This act is administered by the Canadian Wildlife Service of Environment Canada.

### **Reportable Spills and/or Leaks**

Based on a review of relevant legislation, and in consultation with regulatory authorities, immediate reporting to government is required for:

- A spill greater than 70 litres on land;
- A spill or leak on land, regardless of quantity, that has the potential to contaminate nearby property or enter a water body or sewer;
- A spill or leak in the water, regardless of quantity; or
- A spill or leak from a registered stationary storage tank as per the GAP regulations.

Unless otherwise agreed onsite, the person responsible for the spill must report the spill to government as soon as practicable, preferably within 2 hours from the time of occurrence. Reporting must be made to regulatory authorities via the Environmental Emergency Report Line at **(709) 772-2083** (collect calls accepted) or **1-800-563-9089**.

When reporting the incident, the reporting party must provide any available spill information, such as that contained on the Spills Report Form (see Appendix 1). Reported information will then be relayed to all relevant regulatory agencies.

### **Recordable Spills and/or Leaks**

Spills not meeting the requirements for reporting to regulatory authorities, as outlined above, are considered recordable.

In the event of a recordable spill, the observer and/or the person responsible will ensure an effective response is carried out and that the incident is reported to their immediate supervisor as soon as possible. The supervisor will promptly report the incident to the Pasadena Equipment Services Environmental Manager and ensure the incident is documented and investigated as required.

### **Spill Report Form**

The Spill Report Form (SRF) is designed to ensure consistent documentation of information related to a spill event (reportable or recordable), including the response and remediation efforts. The SRF may be used to communicate and/or distribute information to interested personnel, both internally and to government agencies. Appendix 1 contains a copy of the SRF.

It is the responsibility of Pasadena Equipment Services on Scene Commander to ensure that the SRF is completed and provided to the Environmental Manager, including any follow-up or final versions of the report.

Initial, follow-up and final reports will be provided to appropriate responsible authorities as soon as they are available.

#### Training

Pasadena Equipment Services personnel will be trained in spill response. Workers should receive basic spill response training focused on safe work practices, response techniques and general awareness of the requirements of the SRP. Additionally, Pasadena Equipment Services will, at all times, have personnel available that are capable of fulfilling the On Scene Commander role. On Scene Commanders generally require a higher level of training and emergency response experience.

#### Plan Maintenance

##### Plan Testing

Pasadena Equipment Services will test the SRP as appropriate. Tests may include desk-top exercises and operational exercises. Upon completion of the SRP test, a brief report outlining the type of exercise performed. Any deficiencies and/or areas for future improvement will be completed and provided to the Pasadena Equipment Services Environment Manager.

##### Reviewing and Updating

This SRP will be reviewed by Pasadena Equipment Services Environmental Manager annually or as required to incorporate changes to planned activities and scope of application. The occurrence of environmental incidents and emergency situations may also lead to plan review and updating.

#### Spill Response

##### Spill Response Guide

Spill response efforts, and Pasadena Equipment Services SRP, conform to the following basic strategy in the event of an oil or hazardous material spill or leak:

- 1) Determine the type of product;
- 2) Assess the situation and determine appropriate PPE and required safety measures;

- 3) Identify priorities while considering the threat to people, property and the environment;
- 4) Initiate the appropriate response actions;
  - Stop and/or contain the source of the spill;
  - Identify the product and estimate the quantity;
  - Contact emergency personnel and request additional support if necessary;
  - Initiate the containment and recovery of any free product and/or contaminated material;
- 5) Ensure required reporting and notification is carried out.
- 6) Dispose of all waste material in the appropriate manner;
- 7) Restore the site to the satisfaction of the governing regulatory Body as required;
- 8) Document and investigate as required.

#### Control, Containment and Clean-up Procedures

In spill response, time is of the essence - the actions taken in the first few hours, or even minutes, determine the extent of the impact. Even small spills can have disastrous results under the right circumstances. Safety will be the first consideration and the response will be planned accordingly. The following procedures shall be used for stable oil type spills only. Spills of hazardous materials may require different clean up techniques.

#### Spill Control

Controlling the spill means stopping the cause or source of product, or slowing down the rate of its release. The following measures are intended to provide general guidance for effective spill control. In the event of a spill, Johnson Construction Ltd. staff will ensure that they:

- Immediately take control of the Situation.
- Identify type of spilled material via placards or other forms of identification on receptacles or otherwise.
- Wear the proper personal protective equipment (PPE). Some spill or leak Situations could involve substances that require specific PPE.
- Evaluate and implement evacuation of the immediate area if required.
- Stop the source of the spill or leak if possible and safe to do so. This may be achieved by turning off a valve, or turning a container upright, etc.
- Assess the direction and rate of flow of the spilled product. Local topography and permeability of the soil may influence the products behaviour.
- Identify potential hazards and/or environmentally sensitive areas. Search for causes of ignition. Put out any flames or turn off any equipment that may be operating in the area. Sensitive areas should be protected if possible (i.e. drinking water sources, private property, streams etc.),
- Initiate communication and notification procedures as required by the SRP. The sooner relevant personnel are identified the sooner assistance can be provided.

### **Spill Containment**

Containment of a spill limits the extent of the impacted area and minimizes the potential for environmental damage and impact to other properties. All staff has a responsibility to ensure containment of the spill is undertaken immediately and it is effective to reduce further impacts and reduce potential costs. The following measures provide general guidance for effective spill containment:

- Identify points, locations or techniques to efficiently contain as much of the spilled material as possible. This may involve the use of locally available materials (i.e. soil or snow) or traditional emergency response materials (i.e. absorbent pads, booms).
- If the incident has occurred near any type of drainage system (i.e. floor drains, catch basins or ditches) take measures to prevent product from entering them.
- The occurrence of bedrock near the surface may allow the use of trenches, dug across the direction of flow, to quickly recover the spilled material.
- If the incident has occurred in a location with existing containment (e.g. a building or a dyked area), make sure all drains are closed and/or discharge systems are stopped.
- Surround the spill with absorbent booms or socks. Enclose the area of contamination. In many situations locally available materials (i.e. soil or snow) may also be used.

### **Spill Clean-up**

Cleanup involves the removal of contaminated material (i.e. soil, water, snow, vegetation, etc.) and any free product from the affected area. The proper disposal of any waste materials is the final step in any cleanup. The Environmental Team representative will direct and ensure the clean-up is effective. The following guidance is provided for effective clean up:

- Place absorbent pads, pillows or rolls directly on the liquid. Scatter the absorbents in different areas to aid in the cleanup. Continue placing and replacing absorbents until the last drop of free product is absorbed.
- The recovery of free product may also be accomplished by using pumps or skimming devices, particularly if the volume of spilled product is large.
- As much free product as possible should be recovered from all absorbent materials prior to their final disposal.
- Any free product and contaminated material recovered may have to be temporarily stored on-site in drums, heavy duty bags, tanks or other appropriate containers.
- Additional equipment and/or personnel may have to be mobilized to site. Specialized spill response teams or consultants may be engaged, at the expense of the responsible party, to assist or collect samples for analysis.



- All waste material will be disposed of in accordance with Regulatory requirements (i.e. approved waste disposal sites and/or special waste handling companies).
- Prior to permanently backfilling an impacted site, the responsible party must demonstrate that the impacted area has been remediated to the appropriate standard. Confirmatory sampling may be required depending on the nature of the incident and direction received from the regulator and/or a Project representative. This sampling is to be conducted by a 3<sup>rd</sup> party Qualified Site Professional as require by the Province.

Excavating equipment, haul trucks, tank trucks, drums, pumps, and hoses will be requisitioned as required for the situation by the responsible party. Such equipment may be available locally from other contractors or from nearby communities. The requirement for additional personnel and/or equipment will be coordinated by the Pasadena Equipment Services On-Scene Commander

In winter, oil and other hydrocarbons do not penetrate frozen ground as rapidly and may collect in a depression where it can be easily recovered. The collected product can be pumped or absorbed with absorbent material or snow and put into suitable drums or containers to await disposal. However, if there is a heavy snow cover, the direction of flow and full extent of contamination may be difficult to determine without some investigation. In some cases, and only with approval of Regulatory Compliance Lead, additional investigation and cleanup may be delayed until the area is free of snow.

To mitigate environmental effects of fuel and hazardous material spills and leaks, Pasadena Equipment Services shall at all times maintain in good condition at least one spill kit dedicated to each piece of fuel-powered equipment. Each spill kit shall be located on the equipment and stored in a weather-proof container. Each spill kit shall have an absorption capacity of no less than 23 litres. In addition to equipment-dedicated spill kits, Pasadena Equipment Services shall at all times maintain in good condition spill response caches.

#### Disposal

All waste material will be disposed of in accordance with Regulatory requirements and Pasadena Equipment Services Waste Management Plan. Similar to other types of wastes outlined in the WMP, reasonable effort shall be made to reducing and segregating the amount of waste generated during a spill, provided that clean up and control is not compromised. Pasadena Equipment Services is responsible for proper temporary storage and disposal but may receive guidance from the Environmental Manager or other Project personnel. Where disposal requires special permission or regulatory approval, the Environmental Manager will liaise with government personnel and provide direction as required.

Any free product recovered will be disposed of via a special waste handling company with the appropriate approvals. In many areas of the province contaminated soil must be treated at a soil treatment facility prior to disposal.

Contaminated absorbent materials, oil filters and small amounts of contaminated soil will be temporarily stored on site in labeled, sealed containers. They will be transported to an appropriate waste disposal location. The barrels will be monitored by the staff to ensure containment is maintained.

In situ burning is a response alternative that can be implemented with the approval of the Service NL. Only the Environmental Manager will determine if in situ burning is appropriate to pursue. The Environmental Manager will liaise with government personnel and provide direction as required. In situ burning of spilled product is usually considered only when the spill has occurred in an isolated area where supplies and equipment are difficult to obtain.

### **Other Product Considerations**

#### **Glycol Spills and Leaks**

Under current legislation, reporting of spills involving glycol to regulatory agencies is required. Glycol is considered a petroleum derivative and should therefore be treated as an "associated product" under the *Storage and Handling of Gasoline and Associated Products Regulations*. Reporting is required in the event of a spill or leak greater than 70 litres, or a spill or leak, regardless of the quantity, that has the potential to contaminate nearby property or enter a water body.

When handling concentrated or dilute glycol, Pasadena Equipment Services staff should always refer to the MSDS for personal protection equipment to be used during clean-up.

The general control, containment and cleanup procedures described above are applicable. Note that glycol mixtures contain varying amounts of water and absorbent materials designed for hydrocarbons will not be effective, as they repel water. Universal absorbent materials (normally grey or yellow rather than white) and rags are most effective. Universal absorbent materials absorb both product and water.

### **Battery Acid Spills and Leaks**

The main component of batteries is sulphuric acid. Sulphuric acid is considered a highly corrosive material. When responding to a spill of battery acid the Pasadena Equipment Services shall ensure that personnel wear the appropriate personal protective equipment.

A spill or leak of sulphuric acid requires reporting to regulatory agencies. In the event of a sulphuric acid spill or leak, the observer should address the situation and report the incident to the supervisor. Pasadena Equipment Services will ensure the incident is documented (SRF) and information distributed appropriately. The information will then be reported to the Environmental Manager who will correspond with the appropriate government agencies.

Small spills of battery acid should be diluted with an excess of water (a minimum of twice the amount of acid spilled) and the residual neutralized with alkali such as soda ash, lime or baking soda. Alkali should be added until all the water and acid is absorbed. For larger spills, physically contain the spill and neutralize it with alkali. Pasadena Equipment Services will dispose of diluted and neutralized waste at an approved waste disposal site. The remaining battery shell can be recycled at a local recycling depot.

### **General Environmental Protection Procedures**

The General Environmental Protection Procedures below are measures implemented throughout the project to minimize the risk of hydrocarbon and hazardous material spills.

#### **Environmental Concerns**

A variety of equipment will be used on site during construction. Accidental spills and leaks of fuel and/or hazardous materials can potentially be harmful to human health and safety, vegetation, soil, surface water, ground water, wildlife, aquatic organisms, historic resources and human health and safety.

A variety of fuels and potentially hazardous materials will be used during Project construction activities. Gasoline, diesel fuel, grease, motor oil and hydraulic fluids are all needed for equipment. Other potentially hazardous materials, which may be routinely used, include but are not limited to:

- Propane;
- Acetylene (i.e. welding);

- Oxygen;
- Antifreeze; and
- Cleaners and solvents.

## Environmental Protection Procedures

### General Guidelines

- a) All equipment used during construction shall follow the environmental protection procedures outlined in the EPP. In the case of an accidental event resulting from the use of equipment (e.g., a fuel spill), this SRP will be utilized;
- b) All equipment shall be regularly maintained and inspected. Hoses and connections on equipment located near water bodies shall be inspected routinely for leaks and drips. If problems are identified the equipment shall be taken out of service and repaired to prevent release of hydrocarbons into the environment;
- c) Drip pans shall be placed underneath pumps and generators. The drip pans shall be lined with absorbent material and shall have a cover to prevent water from entering. Absorbent material shall be kept at all sites where pumps and generators are in use;
- d) Spill kits shall accompany all pumps and generators at the site;
- e) Upon detection of a leak, the equipment (i.e. pump, generator, etc.) shall be shut down immediately and corrective action taken to repair the leak and clean up any contaminated soil and/or water.
- f) All fuel, hazardous and controlled product storage areas, including temporary and permanent fueling and fuel storage facilities shall be designed in accordance with applicable codes and regulations. The *Storage and Handling of Gasoline and Associated Products Regulations, 2003* (referred to as the "GAP Regulations") under the Environmental Protection Act controls the construction, operation, and registration of "storage tank systems"<sup>1</sup> in the province of Newfoundland and Labrador;
- g) Any soil contaminated by small leaks of fuel, oil or grease from equipment (including hydraulic hose ruptures and loss of fluid) shall be disposed of as per policies and guidelines. For larger leaks and spills a disposal plan shall be developed and submitted to regulators for approval;

- h) Fuels stored inside dykes or self-dyked units shall be clearly marked to ensure they are not damaged by moving vehicles and are visible under all weather conditions. Dykes and barriers shall be designed and constructed in accordance with the *GAP Regulations*;
- i) Used oil shall be stored in an appropriate storage tank meeting the requirement of Sections 18 and 21 of the *Used Oil Control Regulations*;
- j) All fuel storage tank systems shall be inspected on a regular basis as per Sections 20 and 21 of the *GAP Regulations*. This involves, but is not limited to, gauging or dipping and the keeping of reconciliation records for the duration of the program; and
- k) Material Safety Data Sheets (MSDS) must be available on-site prior to receipt of any hazardous materials.

#### **Fuel Transfer**

The following procedures shall apply to the transfer of fuel or hazardous material:

- a) In all cases, a qualified person shall attend the transfer to storage tanks, for the duration of the operation. This person shall be trained in proper fuel handling procedures to minimize the risk of a spill. The attendant shall be trained in the requirements of the fuel suppliers approved Spill Contingency Plan, this SRP, the SRP and WHMIS;
- b) Hoses or pipes used for fuel transfer shall be equipped with properly functioning and approved check valves, spaced to prevent backflow of fuel in the case of failures; and
- c) All tanks shall be dipped before and after filling.

#### **Equipment Fueling and Lubrication**

The following procedures shall apply to the fueling of heavy construction equipment:

- a) Fueling and lubrication of equipment shall occur in such a manner as to minimize the possibility of contamination to soil or water;
- b) When refueling equipment, operators shall:
  - i) Use leak-free containers and reinforced rip and puncture-proof hoses and nozzles;
  - ii) Be in attendance for the duration of the operation; and
  - iii) Seal all storage container outlets except the outlet currently in use.

- c) Regular inspections shall be performed on the hydraulic and fuel systems of machinery. Leaks shall be repaired immediately;
- d) Fueling or servicing of mobile equipment on land shall not be allowed within 30 m of watercourses or waterbodies, except in designated areas with dewatering pumps; and
- e) Fueling attendants shall be trained in the requirements under Pasadena Equipment Services Spill Response Contingency Plan in the EPP and the SRP.

#### **Document Control**

This Spill Response Plan is a controlled document and its revisions and updates are controlled by Pasadena Equipment Services Environmental Manager. Only one version of the control document will be maintained by Pasadena Equipment Services. Copies can be made and distributed. It will be the responsibility of all parties concerned to contact the Environmental Manager of Pasadena Equipment Services to ensure the revision number in their possession is current.

**Appendix 1: Spill Response Form**



**Johnson Construction Ltd.**  
**Hazardous Material Spill Status Report Form**

<b>Report Type:</b> Initial <input type="radio"/> Follow-up <input type="radio"/> Final <input type="radio"/>		
Date (DD-MMM-YYYY) :	Time (24hr) :	Report #:
Observer (Name/Title):		
Reporter (name/title/telephone number):		
Reported to (name/title/telephone number):		
Date (DD-MM-YYYY) :		
Time (24hr) :		
Environmental Emergency Report Line 709-772-2083 or 1-800-563-9089		
Location:	Exact Location (GPS coordinates):	
<b>Date and Time of Spill/Leak:</b> Discovered: Time: Equipment type: Equipment Unit #: Equipment Owner:		<b>Material Spilled/Leaked:</b> <input type="radio"/> Gear Oil <input type="radio"/> Gasoline <input type="radio"/> Engine Oil <input type="radio"/> Hydraulic Fluid <input type="radio"/> Diesel <input type="radio"/> Coolant <input type="radio"/> Transmission Fluid <input type="radio"/> Other (Please specify)
Estimate of quantity spilled/leaked (litres):	Spill/Leak source stopped:(Yes/No) __ (Please comment)	
Source of spill/leak:		
Weather conditions at the time of the Spill/Leak:	Spill/Leak data:	



## Johnson Construction Ltd. Hazardous Material Spill Status Report Form

<p><b>Weather conditions at the time of the Spill/Leak:</b></p> <p>Air Temperature: 22 °C</p> <p> <input type="radio"/> Rain  <input type="radio"/> Snow  <input type="radio"/> Sunny  <input type="radio"/> Overcast         </p> <p>Visibility (good, poor, etc):</p>	<p><b>Spill/Leak data:</b></p> <p> <input type="radio"/> On Land                      <input type="radio"/> In fresh water         </p> <p>Description of Soil Medium: Rocky with Caribou Moss</p> <p>Snow/ice present: (Yes/No) _____</p>
<p><b>Distance to nearest features:</b></p> <p>Distance from bodies of water:</p> <p>Distance From Wetland:</p> <p>Other (Highway, Ditch, Homes):</p>	<p><b>Containment possible:</b>(Yes/No) _____ (If No please comment)</p>
<p><b>Other potential hazards:</b> (Please specify)</p>	
<p><b>Other sensitivities:</b> (Please specify)</p>	
<p><b>Specific cleanup/protection measures undertaken:</b></p>	
<p><b>Further action necessary/planned:</b></p>	





# Johnson Construction Ltd.

## Hazardous Material Spill Status Report Form

Further action necessary/planned:

SKETCH OF SPILL AREA  
(Insert Site photos if available)

Signed by:

\_\_\_\_\_  
Environmental Coordinator

## 9.2 Waste Management Plan

### Waste Management Plan

Pasadena Equipment Services Waste Management plan (WMP) is developed to establish safe, efficient and environmentally complaint waste management during any Pasadena Equipment Services construction sites. This plan outlines the roles and responsibilities that Pasadena Equipment Services must follow to ensure that the collection, storage, transportation and disposal of all wastes generated during construction is managed in an environmentally sound manner.

#### Purpose

Specifically the purposes of this *WMP* are to:

- a) Comply with the conditions and requirements of Environmental Assessment (EA) release;
- b) Manage potentially adverse impacts on the environment and protect the health and safety of site personnel (including Contractors, Subcontractors/vendors and visitors);
- c) Provide a reference to applicable legislative requirements and guidelines;
- d) Provide a reference document Johnson Construction employees and contractors to use when planning and/or conducting specific procurement, construction and commissioning activities with respect to waste management; provide a detailed summary of waste management issues and measures to be implemented during construction and commissioning;

The intent is to afford a high degree of control over the handling of waste and to implement the ideals of the three R's namely reduction, recovery/reuse and recycling of wastes. Ultimately this plan will help to minimize potential adverse environmental effects and provide a framework for those involved in the Project.

This document will be reviewed on an annual basis throughout the construction phase and updated as necessary to accommodate the dynamics of design and construction as it progresses.

#### Waste Production

Pasadena Equipment Services will communicate clearly the types and volumes of waste produced. In addition, Pasadena Equipment Services will regularly monitor waste management activities to ensure

that all required approvals are always in place and that facilities are properly licensed to accept their wastes.

### **Management Plan**

This *WMP* has been prepared, with considerations for current waste management practices in the province. That being said, waste management within the Province is changing, under the direction of the Provincial Waste Management Strategy. It can be expected that waste management requirements for the Project may need to be revised and revisited in the future as more local and regional modern waste management facilities and programs are established. Currently the most regions contains a municipal landfill that accepts domestic waste along with a privately owned soil treatment facility licensed to accept hydrocarbon impacted soil. There is no licensed hazardous waste facility in the region. In addition, initiatives and programs for waste segregation are limited in the region at this time. As a result of the limited facilities and waste programs in the region, it is anticipated that most hazardous wastes will require transportation and disposal outside of the region or Province. In the event local waste initiatives and new waste facilities are established, the *WMP* will be revised to reflect these changes. Revisions to this plan shall be made as identified in the Preface.

This *WMP* addresses all wastes expected to be generated onsite during construction, classifies waste into streams and outlines the handling and disposal options for each type of waste. A summary of potential waste treatment and disposal options is included in Table 1. All construction activities and their associated waste streams (outlined in the subsections below) are subject to appropriate regulations.

### **Waste Classification**

Pasadena Equipment Services is responsible for the handling, sorting, storage and disposal of the waste generated at the site. There are a number of strategies that Pasadena Equipment Services will use to handle wastes expected at the site. These strategies are as follows:

- **Waste segregation:** Pasadena Equipment Services is required to implement category-wise segregation of waste streams (i.e. liquid wastes, solid wastes, recyclable, hazardous, etc.) in accordance with local disposal requirements. All waste categories will be analyzed and the principals of the following three R's will be applied:
- **Reduction initiatives:** Reducing the raw material consumption is the first step to reduce waste generation. To practice this principle all processes and material used will be evaluated on the basis of possible reduction in raw material usage.

- **Recovery/reuse initiatives:** Recovery of usable material or energy as a by-product is an important part of the waste minimization process. All opportunities for onsite reuse of waste materials will be highly encouraged.
- **Recycling initiatives:** Recycling is the next option considered for the successful management of the waste streams. Wherever possible, recycling of used oil, beverage containers, tires, copper and aluminum, etc. and reuse of the material in other applications will be encouraged. A site orientation on recycling will be provided by the Company's Representative to all Contractors, Subcontractors and employees regarding recycling responsibilities.
- **Disposal:** Disposal becomes the final option when other options are not technically or economically feasible. All waste shall be disposed of according to relevant guidelines and regulations, as detailed in the following sections.

#### **Hazardous vs. Non-Hazardous wastes**

The types of solid wastes considered include inert or non-hazardous wastes of various kinds (i.e. containers, filters, belts, scrap metals, domestic garbage, etc.) or hazardous wastes (i.e. used oils, solvents, paints, used/unused chemicals, old batteries, chemical based sludge etc.).

Both hazardous and non-hazardous wastes will be generated at the site. A general description of such wastes is illustrated in Figure 1. A description of the prescribed handling and disposal methods of the anticipated materials generated at the site is provided in the following sections.

A Hazardous Waste Storage Area (HWSA) will be provided by the Project; however Pasadena Equipment Services will be responsible for construction and maintenance of any storage facilities (i.e. used oil tanks) that are placed on or off site. Pasadena Equipment Services shall arrange for transportation to a licensed hazardous waste facility for possible recovery, treatment and disposal as required. All storage, handling and disposal activities will follow applicable regulations.

**Table 1: Treatment and Disposal Plan**

Waste Type	Site Handling/Shipping Methodology	Treatment or Disposal Strategy	Applicable Regulations/Permits/Information	Primary Responsibility
Petroleum Waste Stream				
Used Oil including used Hydraulic Fluids	Collect in trays and drums. Transfer to ULC storage tanks. Ship offsite.	Ship Offsite to a Licensed Facility for recycling or destruction	<i>Used Oil Control Regulations, EPA</i> <i>GAP Regulations, EPA</i> <i>TDG Regulations</i>  <i>Reference Material for the WHMIS Requirements of the Hazardous Products Act and Controlled Products Regulations</i>  <i>Fire Prevention Flammable and Combustible Liquids Regulations under the Fire Prevention Act, 1991</i>	PASADENA EQUIPMENT SERVICES
Used Oil Filters	Store canisters in separate drums at the HWSA. Ship offsite.	Recovery/Landfill at Licensed Offsite Facility	<i>Used Oil Control Regulations, EPA</i> <i>TDG Regulations</i>  <i>Reference Material for the WHMIS Requirements of the Hazardous Products Act and Controlled Products Regulations</i>	
Contaminated Soils	Analyse Samples. Consult Regulations. Ship offsite.	Ship to Licensed Offsite Facility for Destruction or Bioremediation	<i>NL Guidance Document for the Management of Impacted Sites</i>	
Chemicals				

Acids	Store in approved containers at the designated HWSA. Ship to offsite disposal facility.	Reduce / Dispose offsite.	<p><i>TDG Regulations</i></p> <p><i>Reference Material for the WHMIS Requirements of the Hazardous Products Act and Controlled Products Regulations</i></p>	PASADENA EQUIPMENT SERVICES
Solvents	Use non-toxic solvents when feasible. Store in approved containers at the designated HWSA. Ship to disposal facility offsite.	Reduce / Dispose offsite.	<p><i>TDG Regulations</i></p> <p><i>Reference Material for the WHMIS Requirements of the Hazardous Products Act and Controlled Products Regulations</i></p> <p><i>Fire Prevention Flammable and Combustible Liquids Regulations under the Fire Prevention Act</i></p>	
Waste Batteries	Store at the designated HWSA. Ship offsite by a qualified and experienced Hazardous Waste Contractor as per TDG requirements.	Ship to Licensed Offsite Facility for recycling or disposal.	<p><i>TDG Regulations</i></p> <p><i>Reference Material for the WHMIS Requirements of the Hazardous Products Act and Controlled Products Regulations</i></p>	
Aerosol Cans	Collect cans separately in marked drums. Store at the HWSA. Ship offsite by a qualified and experienced Hazardous Waste Contractor.	Reduce / Ship contents to Licensed Offsite Facility Offsite for disposal.	<p><i>TDG Regulations</i></p> <p><i>Reference Material for the WHMIS Requirements of the Hazardous Products Act and Controlled Products Regulations</i></p> <p><i>Fire Prevention Flammable and Combustible Liquids Regulations under the Fire Prevention Act, 1991</i></p>	PASADENA EQUIPMENT SERVICES

Solvents, paints, epoxies and adhesives.	Collect cans with residual product in drums. Store at the designated HWSA.  Ship offsite. Empty containers can be collected	Dispose offsite at an offsite Licensed facility.		
Other Wastes				
Tyvek Suits/Rags	Store at the designated HWSA. Ship offsite by a qualified and experienced Hazardous Waste Contractor.	Recovery/Landfill at Licensed Offsite Facility		PASADENA EQUIPMENT SERVICES
Domestic Wastes				
Food	Collect in plastic bags. Take directly to storage bin. Do not store outside.	Landfill/Compost at Regional Waste Management Facility or approved landfill site.	<i>Waste Diversion Regulations, EPA</i> <i>Provincial Waste Management Strategy</i> <i>Waste Management Regulations, EPA</i>	PASADENA EQUIPMENT SERVICES
Paper and Cardboard	Contractors store dry materials for collection. Place in storage bin and ship offsite to a licensed recycling facility or Regional Waste Management Facility, when required.	Landfill when applicable/ Recycle		
Plastics	Plastics of non-toxic materials to be included with regular waste and transported to landfill.	Recycle/Landfill	<i>Waste Diversion Regulations, EPA</i> <i>Waste Management Regulations, EPA</i>	PASADENA EQUIPMENT SERVICES
Beverage Containers	Collect beverage containers accepted under the MMSB Beverage Container Recycling Program and make available to charitable organizations.	Recycle	<i>Waste Diversion Regulations, EPA</i> <i>Waste Management Regulations, EPA</i> <i>Multi-Materials Stewardship Board (MMSB) – Beverage</i> <i>Container Recycling Program and School Program</i>	

Tin Cans	Contractors store dry materials for collection by GRDC. Collect and store With recyclable containers.	Recycle	<i>Waste Diversion Regulations, EPA Waste Management Regulations, EPA</i>	
General Wastes	Collect and store in compactor bin. Ship offsite to a licensed facility.	Landfill		
Special Wastes				
Biomedical Wastes	Store in special waste receptacles Ship offsite.	Landfill	<i>Environment Protection Act The Occupational Health and Safety</i>	PASADENA EQUIPMENT SERVICES
Human Waste	Collected at source and removed by a licensed Septic Removal Contractor.	Treatment and Disposal	<i>Public Health Act, Sanitation Regulations</i>	



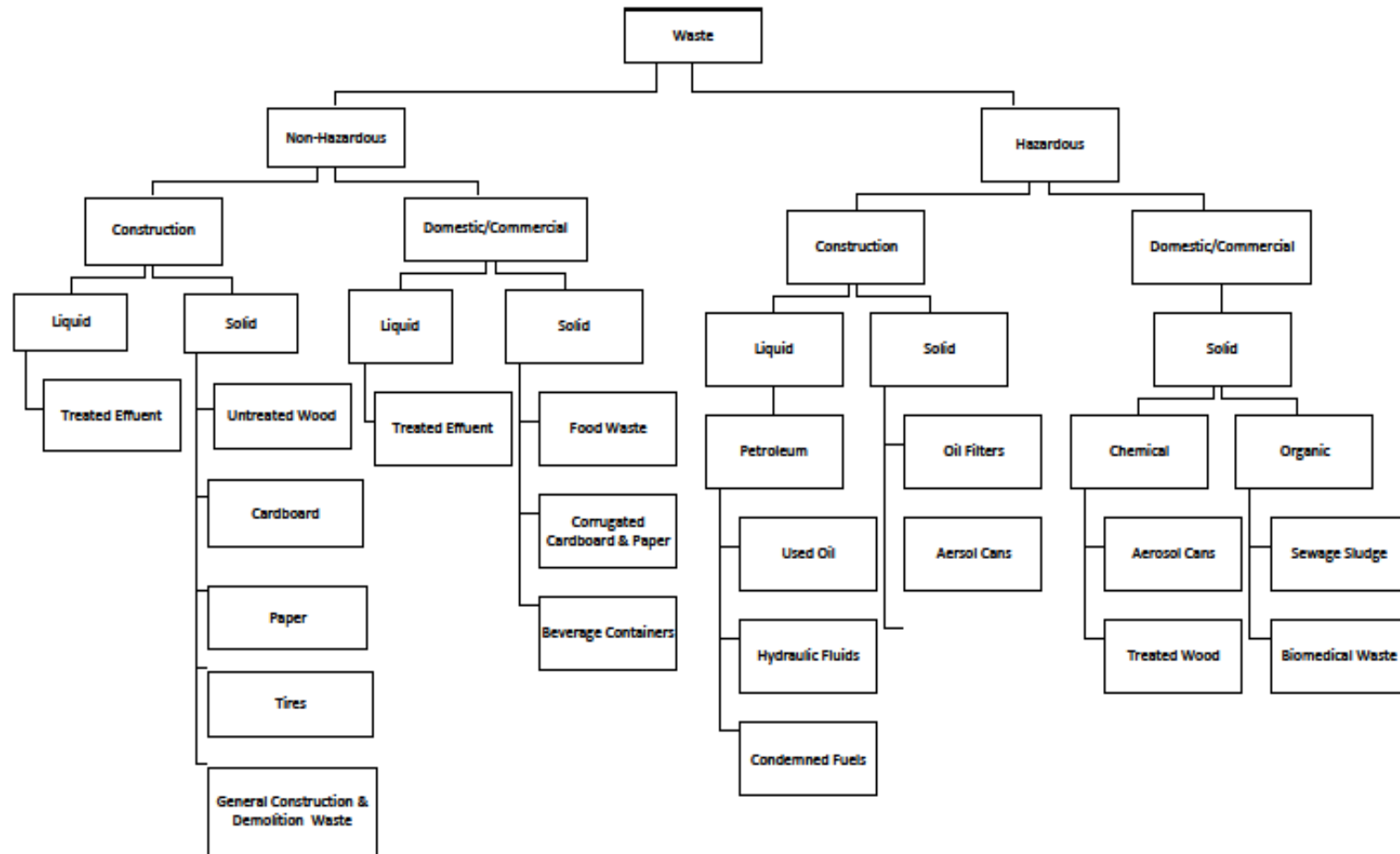


Figure 1: Potential Hazardous and Non-Hazardous Waste Generated

### Hazardous Wastes

It is expected that hazardous wastes will be generated during construction activities.

Hazardous wastes include such materials as used batteries, paint, cleaning fluids and petroleum based wastes.

Special precautions shall be exercised when handling these materials since the improper release or disposal could adversely affect the environment. Personnel handling wastes will be required to have specific training and utilize PPE to ensure safe handling and disposal.

Pasadena Equipment Services is responsible for disposal of their Hazardous waste including preparation, suitable shipping containers and transportation of the hazardous waste to an offsite licensed disposal facility. Pasadena Equipment Services shall arrange for transportation to a licensed hazardous waste facility for possible recovery, treatment and disposal as required. Regular checks will be made by the On-Site Supervisor.

All chemical and hazardous wastes generated in remote areas will be managed under all applicable guidelines and regulatory requirements and brought to a licensed hazardous waste facility on a regular basis. Processing of the various anticipated chemical wastes are described below. Approved containers for hazardous wastes stored on site and transported to licensed disposal/recycling facilities shall meet requirements of the *Transportation of Dangerous Goods Regulations* (see <http://www.tc.gc.ca/eng/tdg/moc-menu-202.htm>).

### Hazardous Construction Wastes

Petroleum-based wastes generated at the site will primarily be used engine and hydraulic oil. In addition there may be rear end/differential gear lubricants, oil from site electricity generators, used degreasing solvents, and contaminated or expired diesel. These wastes shall be segregated as necessary in order to render the individual waste streams easier to reuse for other purposes, recycle or permit recovery of by-products.

#### Used Oil and Hydraulic Fluids

Pasadena Equipment Services will be recycling used oil. Used oil will be shipped to the Corner Brook location to be used as heating fuel.

Pasadena Equipment Services shall deposit used oil in a secondary containment tank located on site. Pasadena Equipment Services is responsible for installing and maintaining these tanks. The waste oil shall be regularly collected by qualified and experienced Personnel.

The tanks will have double-containment and roof-vent connection for oil removal as defined in the *Used Oil Regulations*. All connecting pipes will be above ground, making it easier to inspect for leaks. The tank fill ports will normally be locked and the keys made accessible to designated employees only as per the *Provincial Used Oil Control Regulations*.

Regular monitoring will be carried out as per “Design, Construction, Operation, Maintenance and Inspection of Terminal and Tank Facilities Guidelines”, API-2610 and any additional provincial registration requirements and *Provincial Used Oil Control Regulations* under the *Environmental Protection Act*. PASADENA EQUIPMENT SERVICES shall provide the Engineer with two (2) copies of all permit documentation immediately on receipt from regulatory agencies.

Pasadena Equipment Services is required to maintain an active inventory of all petroleum products on site. This will ensure that reasonable balance is maintained between the amount of oil used/recovered versus amounts unused and in inventory.

### ***Hazardous Construction Liquid Chemical Wastes***

#### Solvents

During construction, solvents will be used as a degreasing agent in the maintenance shops, Generator enclosures and utility services buildings. Detergents and steam jets shall be used where feasible to minimize the use of solvents. Solvents shall not be allowed to drain onto the ground; they shall be collected in drip pans for reuse or disposal. Residual or used solvents shall be stored in leak-proof containers. The containers will be shipped offsite to a licensed recycling/disposal facility.

### ***Hazardous Construction Solid Wastes***

#### Used Filters

Used oil filters will be generated with ongoing heavy equipment maintenance. Used filters drained of oil will be stored in separate lined drums established at the HWSA by Pasadena Equipment Services for

pickup by a qualified and experienced Hazardous Waste Contractor. A final record of disposal from the licensed hazardous waste facility should be provided by the Pasadena Equipment Services upon request.

### Contaminated Soil

Effective implementation of this *WMP* should lead to a reduction of soil contamination via on-going inspection and scheduled maintenance of equipment, use of trays for draining, lining of loading and unloading zones and using secondary containment, for example secondary containment of hazardous materials storage tank areas. In spite of these measures, spills, leaks and ruptures may occur and hydrocarbon contamination of soil is a possibility. All spills and leaks shall be reported to the On-Site Environmental Monitors and immediate corrective action shall be taken. Refer to the Spill Response Plan and the EPP for contingency and response plans in the case of a petroleum spill. Contaminated soil shall be transported to a licensed Soil Treatment Facility.

### Waste Batteries

It is expected that the bulk of used batteries generated will be primarily the lead acid type.

Used batteries shall be stored at the designated HWSA. Pasadena Equipment Services will be responsible for storage/disposal/recycling of used lead/acid batteries, including draining and provision of shipping pallets and transportation of the waste batteries to an off-site licensed disposal or recycling facility. The following procedures should be used for lead acid type batteries, such as those used by vehicles and industrial equipment:

- Protect battery terminals with electrical tape to prevent short circuits;
- Wrap battery with cloth, tape, and place in a polyethylene (garbage) bag;
- Place in sturdy cardboard box, again packed with tape;
- Place packaged batteries on a pallet, ensure all batteries are covered, and wrapped in shipping wrap or strapped. Do not ship batteries in a drum.
- Batteries must be shipped in accordance with the TDG Regulations.

### Aerosol Cans

The use of aerosol cans on site will be discouraged, however; where unavoidable, aerosol cans with residual product shall be collected separately in marked containers at the various work areas. Pasadena Equipment Services employees and other site personnel will be advised to separate these cans from the general waste stream. The cans shall be transported off site by a certified Hazardous Waste Contractor. Aerosol cans that do not contain residual product can be placed with general waste for disposal at a landfill approved to accept such waste.

## **Hazardous Domestic/Commercial Wastes**

### Organic – Biomedical Waste

Small amounts of biomedical wastes will most likely be generated during construction. For the purpose of this Waste Management Plan, biomedical wastes regarded as hazardous include:

- All waste sharps (e.g. waste needles), wherever they are generated;
- All waste material generated in on-site medical clinics and mobile treatment centres that have become contaminated with bodily fluids;
- All wastes deposited in receptacles that are labeled “Biomedical Wastes Only” and which are strategically located within Company provided facilities; and
- All similar wastes collected and stored by Contractors in their own facilities.

Note that all soft waste materials contaminated with “significant amounts” of bodily fluids shall be immediately double bagged in plastic. These shall be placed in a “Biomedical Waste Only” receptacle provided by Pasadena Equipment Services. All other materials and surfaces that have come in contact with such fluids shall be immediately cleaned with a disinfectant, such as bleach.

Persons using needles to administer their own medication (e.g., diabetics) shall place their used needles in the approved sharps containers provided throughout the site.

Sharps generated in remote locations shall be collected and stored in approved sharps containers.

Biomedical wastes collected from filled sharps containers and “Biomedical Waste

Only” receptacles shall be removed from the work site and transported to a licensed facility for destruction and disposal.

### Organic – Sewage Sludge

Sewage sludge generated by sewage treatment systems shall be removed from site by the licensed Septic Removal Contractor and disposed of at a licensed waste disposal site.

## **Non-Hazardous Wastes**

The handling, storage and disposal of waste materials that are classed as Non-Hazardous and generated at the site will be managed under all applicable guidelines and regulatory requirements.

## **Non-Hazardous Construction Wastes**

### ***Non-Hazardous Construction Solid Wastes***

The discussion below focuses on solid non-hazardous waste destined to approved waste disposal sites. Written copies of the site operators' permission can be provided to the Engineer prior to disposal.

#### Conveyor Belts and Tires

Conveyor belts and tires have limited life and, when no longer usable, contribute to construction waste generation.

Pasadena Equipment Services will pursue a tire and conveyor belt exchange program with the vendors; and an investigation of alternative uses for old conveyor belts and tires shall be ongoing. Some suitable alternate uses for tires are dock protection and road protection in turning areas. However, for the most part, used conveyor belts and those tires not included under the MMSB tire recycling program (i.e. heavy equipment and industrial tires, etc.) shall be removed from the site and transported to a licensed waste disposal area. Tires included under the MMSB program, shall be taken to a MMSB authorized collection point by Pasadena Equipment Services for disposal.

#### General Construction and Demolition Waste

Waste generated during construction activities may include salvageable materials such as electrical cables and reels, cladding, piping and insulation, where possible, these will be removed from site for potential reuse. Alternatively, any useable excess materials, which might be required for maintenance and/or repairs, will be stored neatly in a warehouse or designated laydown area. Innovative use of excess materials, such as using electrical reels for stacking supports or portable bollards, will be encouraged where practical. Materials that cannot be recycled or reused will be transported directly to a landfill approved to accept such waste.

#### Untreated Wood

During the construction phase, pieces of broken untreated lumber shall be collected and disposed of in a landfill authorized to accept such waste.

#### Cardboard and Paper

Cardboard and paper wastes will be recycled collected and sent to a local recycling facility, if available, or disposed of at an approved waste disposal site.

## **Non-Hazardous Domestic/Commercial Wastes**

### **Non-Hazardous Domestic/Commercial Liquid Wastes**

Effluent from a sewage treatment system that meets all regulatory requirements and permit conditions for discharge to the environment shall be released in accordance with the appropriate approval.

### **Non-Hazardous Domestic/Commercial Solid Wastes**

#### Food Waste

The majority of the food wastes will be generated in the lunch trailer of the construction site. All food waste shall be collected and taken directly to the garbage truck.

Bag lunch wastes generated in various work areas shall be collected in plastic bags and taken directly to the garbage truck. This will then be taken to a landfill for disposal or compost.

#### Beverage Containers

Although plastic waste will be included in the garbage stream, bulk purchases and, where possible, reusable containers should be utilized to reduce the overall generation of plastic waste.

Where reuse of beverage containers at the site is not possible, and where practical, arrangements shall be made to transport those beverage containers to a local recycling depot.

#### Corrugated Cardboard and Paper

Fibre waste will be included in the garbage stream; however, where possible, paper reduction strategies will be exercised to reduce the overall generation of fibre waste. Examples of reduction strategies may include workplace initiatives promoting double-sided printing, employee training, procurement policies with respect to packaging, etc.

All cardboard and paper will be stored in a bin and be shipped off site to a licensed recycling facility, when required. Reduction in cardboard waste will be achieved by encouraging Contractors and suppliers to avoid extensive packaging.

### **Estimated Volumes of Specific Waste Streams**

Potential waste streams were identified in previous sections however the primary waste streams identified at the planning stage that are expected to be generated at the Project site include domestic, sewage and construction waste. As such, waste volumes for these waste streams have been calculated.

### **Domestic Waste**

The estimated amount of domestic waste to be generated during the project is approximately 2 tonnes. A generation rate of 1 kg/person/day was utilized to calculate this number as domestic waste directly corresponds to population or in this case the number of workers located on site.

### **Sewage Waste**

The amount of sewage generated on each projected is based on an estimated sewage generation rate of 10 L/person/day, the estimated amount of sewage waste to be generated will vary from project to project.

### **Construction Waste**

#### **Used Oil**

Pasadena Equipment Services maintains equipment and equipment fluids of any heavy equipment on site. It is estimated that every piece of heavy equipment will produce 60L/year per machine, and that light duty equipment will burn 5L/year per machine. It is estimated that a total of 175 litres of oil will be generated over the timeline of the project.

### **Waste Management Requirements**

As part of the overall waste management plan, the company is committed to ensuring that every person on site is provided with the opportunity and direction to practice responsible waste management. Waste receptacles, such as recycling and waste bins, will be strategically placed throughout the site and will be clearly labelled as to what should be placed in them. Recycling bins will be placed in locations where recyclables are typically generated.

### **Storage**

#### **Beverage Containers**

Most empty beverage containers will be generated in lunch trailer. Empty containers at the site shall be collected and contained by Pasadena Equipment Services and transported to a designated area for storage for future recycling or directly to the licensed recycling depot.

Blue bin recycling containers will be use for the collection of beverage containers due to their high visibility. The use of dedicated recycling containers will serve as a reminder for personnel to use the recycling containers instead of throwing containers into the general refuse containers. The blue bin containers will be clearly labelled BEVERAGE CONTAINERS ONLY and be placed in the following areas around the site:

- Lunch Facilities



### **Residual Waste Containers**

Waste receptacles shall be placed within all buildings and work areas for the collection of residual waste.

### **Garbage Truck**

Waste from the receptacles will be placed in a garbage truck at the end of every day to detour bears and other wildlife. The truck will be driven to the municipal landfill once full.

### **Construction and Demolition Waste Storage**

Containers containing construction waste or large construction waste materials may be temporarily stored within the construction area and must be stored according to applicable regulations. Recyclable metals shall be placed in an onsite location suitable for pick up by a licensed metals recycler. Special arrangements shall be made with the recycler for large items.

### **Hazardous Waste Storage**

A Hazardous Waste Storage Area will be provided for Pasadena Equipment Services to utilize. The storage area will be designated by the Company for storage of hazardous waste. Pasadena Equipment Services will be responsible for constructing and maintaining the site in compliance with applicable regulations and is ultimately responsible for disposal and removal of any waste management infrastructure and equipment. Individual Contractors will be responsible for providing acceptable leak proof containers within their work areas. Containers for on-site hazardous waste storage shall, as a minimum, meet requirements of the *Transportation of Dangerous Goods Regulations*, as provided in <http://www.tc.gc.ca/eng/tdg/moc-menu-202.htm>.

All Pasadena Equipment Services employees that generate handle, store, and/or transport hazardous materials and hazardous wastes shall each be required to meet all regulatory requirements that pertain to their involvement with these materials/wastes. Pasadena Equipment Services shall have all resources (including employees who have completed training programs acceptable to the Engineer), meet all licensing/permitting requirements of applicable federal and provincial regulations, and provide spill response resources and capabilities consistent with the Project's Master Spill Response Plan.

### **Future Waste Management Requirements**

Future provincial waste management requirements may dictate the separation of various waste streams at source. In the event that a regional plan is implemented, this Waste Management Plan will require revisions and operation changes will be needed.

These changes may result in the use of additional source separation techniques and equipment.

### 9.3 Wildlife Encounters

Due to the location to the adjacent forest landscape encounters with wildlife is a possibility. In order to lower the chances of animal sightings and minimize the occurrence of negative wildlife encounters the following measures will be implemented:

- Feeding of wild animals will not be permitted during construction and operation of the facility
- Regular waste disposal and careful handling of food during construction and operation of the facility will minimize the attraction of the project site to area wildlife
- All construction and other site traffic will yield right-of-way to any wildlife encounter
- Personnel at the site shall not chase, catch, divert, follow, or otherwise harass, wildlife by vehicle or on foot
- All personnel should be aware of the potential for encounters with wildlife and instructed to immediately report all sightings to the Environmental Manager, if required, the Wildlife Division will be notified.

### 10.0 Compliance Monitoring

Pasadena Equipment Services will be responsible for environmental compliance monitoring on-site and will instruct staff and contractors on project-associated environmental issues and expectations. Routine inspections and monitoring will ensure implementation of environmental protection measures specific in this document and applicable contracts, permits, approvals and authorizations.

### 11.0 Contact List

#### **Pasadena Equipment Services**

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Environmental Manager

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