

# BRADY ROAD RESOURCES MANAGEMENT FACILITY OPERATING PLAN

## 16.0 Maintenance

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### 16.1 GENERAL HOUSEKEEPING

Regular maintenance is a necessary requirement of day-to-day operations at the Brady Road landfill and shall be undertaken to ensure that the facility functions efficiently. The Site Manager and the Landfill Supervisor shall schedule maintenance and assign maintenance duties to staff on an as-required basis.

Fixed facilities at the site that require regular maintenance include:

- Maintenance and Equipment Building
- Scale House/Office
- Recycling Area Equipment
- Community Resource Recovery Facility

The facility shall be maintained properly and be kept clean and free of litter outside the containment areas. Building interiors shall be cleaned on a regular basis. Building exteriors shall be kept in good repair and painted (where needed) to extend the life of the structures. Refer to the general housekeeping directives posted in each building.

The Site Manager and Landfill Supervisor shall establish and maintain litter controls (refer to Section 11.0) to minimize escape of litter from the facility and to develop procedures to retrieve litter that is either washed or blown onto adjacent properties or that may accumulate on the site.

### 16.2 BUILDINGS AND UTILITIES

#### 16.2.1 Water Supply

Potable water is delivered to the facility under contract.

#### 16.2.2 Sewage Disposal

A holding tank is provided for sewage pump out.

#### 16.2.3 Electricity

Electrical power is provided to the following facilities:

- Scale house/office.

- Other structures as needed.

Problems shall be reported to the Site Manager immediately.

#### **16.2.4 Oily Waste from Site Operations**

Oily wastes or oil drained from field maintenance of equipment shall be contained and disposed on an as-required basis.

Oily waste from on-site spills shall be contained and handled in an appropriate manner.

#### **16.2.5 Signs / Lighting**

Site signage and lighting shall be maintained and damages repaired promptly and in a workmanlike manner.

The Technologists/Foreman shall develop a regular program of maintenance including cleaning the signs. Cleaning shall be undertaken by the City staff.

Temporary signs shall be repositioned as necessary during progressive filling of the active area and to direct traffic to other areas of the site.

Lights and light standards shall be maintained and kept in good working condition.

#### **16.2.6 Scale House / Office Building and Scale**

Mud and snow shall not be allowed to accumulate in and around the scale so as to prevent constraints on the accuracy of weighing. Regular maintenance including steaming of the scale shall be carried out in accordance with the manufacturer's recommendations.

### **16.3 SITE INFRASTRUCTURE**

#### **16.3.1 Roads and Parking Area**

On-site and nearby offsite roads will be maintained and cleared of litter and debris daily. In order to minimize depressions, ruts, and potholes, access roads and parking areas will be re-graded as necessary. The site-access roads will be extended or modified, and/or resurfaced as new cells are developed.

Roads and parking areas shall be maintained to allow access to the active fill area and other facilities during all weather conditions, with gravel added and roads graded as required.

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#### **16.3.2 Drainage Systems**

Culverts shall be inspected on a regular basis to ensure that litter, silt and debris do not accumulate in the culverts. Culverts shall also be inspected to ensure that erosion is controlled. When necessary, riprap shall be placed to reduce velocity and erosion, and to protect culvert inlets and outlets.

Ditches shall be kept free of debris and accumulated soil to allow water to flow unimpeded to the storage pond.

#### **16.3.3 Fencing / Gates**

Fences shall be maintained in good order for security reasons to avoid occurrences of unauthorized access to the site and to avoid the potential for illegal dumping of both illegal and legal wastes.

Fences shall be maintained and any required repairs undertaken promptly. Where possible, the repairs will be completed by the City staff. Fences and gates shall be checked on a monthly basis and inspections recorded in the Operations Log.

Evidence of any intentional damage shall be recorded and reported to the local law enforcement authority.

Litter shall be removed from the fences (refer to Section 11.0).

### **16.4 FIRE EXTINGUISHERS**

Fire extinguishers shall be catalogued by type and location. Annual maintenance must be undertaken. Fire extinguisher inventory and maintenance records shall be maintained (Form No. 16.1, Appendix G).

### **16.5 OTHER AREAS**

#### **16.5.1 Buffer Area**

Refer to site Master Plan drawing for site separation from property lines.

The primary purpose of the buffer zone shall be to provide a zone free of normal wastes disposed at the site, allowing an area for remediation should any contaminants be found by the monitoring program at the fill limits, and a buffer against encroachment of private property.

The buffer zone will be vegetated with grasses and shrubs, along with a complete and continuous rank of native trees around the site perimeter. Trees may also be planted in some areas as final grades are achieved to provide visual screening of site activities.

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All of the buffer area shall be maintained during operations to keep it free of wastes and to keep vegetation down to a level would minimize any spread of fire. Once the area is grassed, or planted with additional trees and shrubs, these will be watered and the grass mowed as required.

#### **16.5.2 Landscaped Areas**

Entryway landscaping and plantings shall be maintained at the Brady Road Landfill. Landscaped areas shall be maintained by the City staff, to keep the grassed area clean of litter and mown on a regular basis. Vehicular traffic shall be precluded from these areas, except for mowing and watering. Vegetation shall be maintained to help mitigate windblown dust and to ensure a neat and aesthetically pleasing entrance to the site.

#### **16.5.3 Storage Areas**

Storage areas shall be reviewed on a monthly basis or after periods of heavy rain or snow. Maintenance may include regrading, addition of gravel and cleaning out ditches.

#### **16.5.4 Off-Site Maintenance**

Litter identified along site access roads and adjacent property shall be retrieved on an ongoing basis (refer to Section 11.0). Litter complaints shall be documented by the Technologists/Foreman and addressed in a courteous, friendly, and efficient manner.

### **16.6 LANDFILL SYSTEMS**

#### **16.6.1 Leachate Collection and Removal System**

The leachate collection and removal system was designed to require minimal maintenance but waste subsidence, biogeochemical reactions within accumulated leachate, and other factors have contributed to constrained operation and effectiveness of the system. Engineering studies and operations trials shall continue to be undertaken from time to time to assist in development and installation of an improved system.

Periodic inspection of the temporary sumps, manhole chambers and sumps shall be carried out on a regular basis. Maintenance shall be completed by the City staff as directed by the Landfill Supervisor.

As a general goal, leachate shall be pumped from manhole sumps to ensure that the head at the lowest point of the liner does not exceed 0.3 m. Accumulated quantities of leachate shall be disposed at the North End Water Pollution Control Centre.

Leachate collection pipes shall be cleaned on a regular basis, not to exceed three years between cleaning.

### **16.6.2 Final Cover Maintenance**

Erosion of cover or settlement (subsidence) of the waste may result in a need to apply additional soil and regrade the cover as required to avoid formation of low spots that could trap rain and runoff water, thereby promoting leachate generation.

The final cover shall consist of a one meter of clay with sufficient topsoil or compost to facilitate vegetative growth.

The final cover will be revegetated with a cover suitable for pasture land or to harvest as a hay crop of sufficient density to prevent erosion.

It is possible that some maintenance of the cap will be necessary. Low areas or cracking as a result of settlement shall be repaired as necessary until the fill has stabilized.

## **16.7 POST-CLOSURE MAINTENANCE**

### **16.7.1 Cap System**

Physical inspections shall be conducted in the spring and fall to ensure that the integrity of the final cover system and overland drainage is maintained. Repairs shall be made to defects resulting from differential settlement, subsidence and/or erosion or other events that may contribute to the degradation of the final cap.

### **16.7.2 Surface Water Drainage System**

The surface-water drainage system shall be inspected during the same period as the inspections for the final cover to ensure that drainage ditches, wetlands and structures are functioning as intended. Corrective measures shall be undertaken when problems are identified.

### **16.7.3 Groundwater Monitoring System**

The groundwater-monitoring system shall be maintained to ensure representative groundwater samples can be collected. Groundwater-monitoring events shall be conducted semi-annually in the spring and fall.

### **16.7.4 Permanent Benchmark**

Permanent benchmarks shall be protected and maintained at or near the landfill facility. The site plan shown in Figure 16-1 shows the location(s) of existing benchmark(s).

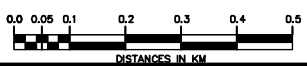


# BRADY ROAD LANDFILL




**LEGEND**

▲ BENCHMARK



B.M. ELEV.	FIELD BOOK #
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1	11/11/25 KB
NO. REVISIONS	DATE BY


**THE CITY OF WINNIPEG**  
 WATER AND WASTE DEPARTMENT  
**BRADY ROAD LANDFILL**  
**SURVEY BENCHMARKS**  
**GUIDING LANDFILL GRADING**

SHEET 1 of 1  
**FIGURE 16-1**





# BRADY ROAD RESOURCES MANAGEMENT FACILITY OPERATING PLAN

## 17.0 Equipment

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Operation and Maintenance (O&M) Manuals for equipment at the facility shall be maintained by the Landfill Supervisor. The manuals shall be located on-site in the Brady Road Landfill Maintenance facility office.

### 17.1 VEHICLE WEIGH SCALES

The vehicle weigh scale is referred to as a pit-less type scale as the scale surface is above grade. The scale is 27 m long and 3 m wide. It has a certified capacity of 60 tonnes and is interfaced with the on-site computer system to produce weigh tickets and statistical data.

The scale requires certification by the federal department of Weights and Measures. Refer to the certificate located in the Scale Building.

The Supervisor of Finance and Administration is responsible to have training provided in the operation of the equipment and software. Should additional training be required for operations or maintenance, the Supervisor of Finance and Administration shall arrange for on-site training by a representative of the scale supplier or manufacturer.

All inbound lanes shall be equipped with radiation detectors. Weighmasters shall follow manufactures protocol to verify any alarms. In the event of an alarm the weighmaster shall contact the Foreman/Technologist who will contact the Special Waste Control Technician.

### 17.2 SBRADY ROAD LANDFILL EQUIPMENT

#### 17.2.1 General

The City will provide sufficient equipment to adequately conduct site operations in accordance with the design and any relevant conditions of the site's future *Environment Act* licence. Equipment requirements may vary in accordance with the method of operations or the waste acceptance rate at any given time. Additional equipment shall be provided as required for increasing volumes of incoming solid waste. Other equivalent types of equipment may be substituted on an as needed basis. The following equipment shall be routinely available for use at the facility:



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Equipment Type	Number (minimum)	Function
Dozer(s)	2	Waste and soil spreading and compaction, firefighting support
Scrapers	2	Transportation of daily cover, firefighting support
Compactor(s)	1	Waste and soil spreading and compaction
Water Truck(s)	1	Dust control, firefighting support
Diesel Tank	1	Equipment fuel
Temporary Litter Fencing	1	Active face litter control
Loader	1	Cleaning of paved on-site roads and compost turning
Portable Litter Screens	2	Active face litter control
Backhoe	1	Digging trenches
Grader	1	Road maintenance

In addition to the above list, miscellaneous pickup trucks and light utility vehicles as well as various water pumps, vacuum trucks, instruments, safety and training equipment shall be on-site as necessary for operational efficiency.

Additional equipment, either City-owned or rented, may be utilized from time to time to manage waste, as required.

The landfill equipment has three main functions during a normal working day, as follows:

- Movement of wastes to the landfill face.
- Compaction of wastes.
- Covering of wastes at intervals.

In addition, the equipment may be required to move large objects and perform general duties such as plowing snow and road maintenance, and maintaining other surface areas.

Large-scale earth-movement and -placement programs will be undertaken on a regular basis. These material placement tasks may include:

- Obtaining and placing intermediate and final cover (either by direct haul from offsite, or from on-site storage areas).

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- Obtaining daily cover material from borrow areas, or from on-site storage and stockpile near the face, for use in daily operations.
- Preparing new waste-disposal area for acceptance of waste.

The compactor is more effective for compacting wastes as it pushes wastes up-slope in the cell. This also allows a thinner lift of wastes to pass under the blade as it climbs the cell slope compacting.

Covering of wastes is accomplished by utilizing soil stockpiled for that purpose, or using direct-haul loads accepted at the site for disposal from construction sites.

#### **17.2.2 Maintenance and Equipment Safety**

Facility staff shall follow the recommended equipment-maintenance schedules and safety checks. Problems shall be reported immediately to the Technologists/Foreman.

The facility staff that operates site equipment shall be familiar with maintenance requirements of the equipment. The Landfill Supervisor is responsible to ensure that the equipment is regularly and properly maintained in a good and safe working condition.

Daily maintenance requirements are listed in Appendix H.

At the end of the operating day, the machine's wheels or tracks shall be cleaned of wastes and mud or dirt. The Technologist/Foreman will assign that duty.

Identified problems shall be reported immediately to the Technologist/Foreman.

#### **17.2.3 Tools**

The Foreman/Technologist shall maintain an adequate inventory of tools.

### **17.3 SURVEY EQUIPMENT**

Survey equipment will be maintained at the site for use in undertaking quick checks of location and elevation, and to aid in maintaining a record of the approximate location of wastes placed each week.

As mentioned in other sections of the operations plan, periodic third-party topographic surveys will be carried out as needed as fill-development proceeds.

#### **17.3.1 Survey Equipment Onsite**

- GPS Instruments (Base and Rover Units and Tripods)

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- Level and Tripod
- Hand Level
- Rod
- Tapes

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# BRADY ROAD RESOURCES MANAGEMENT FACILITY OPERATING PLAN

## 18.0 Closure and Reclamation

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### 18.1 GENERAL

When final grades are reached over an area, final cover will be placed to effect closure of that area. And, when the entire site is filled and covered to design grades, the operation of the site shall be discontinued.

#### 18.1.1 Regulatory Requirements

As guided by the provisions of the *Waste Disposal Grounds Regulation* and the prescriptions of the site's future *Environment Act* licence, the City shall fulfill the regulatory requirements for landfill reclamation and closure as follows:

- Prior to the closure of the site, the City will notify Manitoba Conservation in writing of the intent to close the landfill.
- The City, or a qualified consultant selected by the City, will prepare a final Reclamation Plan for the closure of the landfill and will submit the plan to Manitoba Conservation.
- The City shall conclude closure no later than 365 days following the date that the landfill reaches its final design elevation.
  - The City may apply for an extension of the closure by providing written information to Manitoba Conservation indicating the reasons why closure will take longer than 365 days, and indicate the steps the City plans to take to prevent adverse effects arising due to such delay.
- Following closure of the landfill, the City shall notify Manitoba Conservation in writing, verifying that:
  - Closure and reclamation are complete in accordance with the approved Reclamation Plan.
  - A Closure and Reclamation Report containing the following information has been completed and filed in the Operating Record, including:
    - A description of the final cover system, and the installation methods and procedures used.
    - An estimate of the maximum quantity of waste placed in the fill over the active life of the landfill.

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- A description of how the following elements have been, or will be dealt with:
  - The final use of the reclaimed areas
  - Drainage restoration
  - Soil replacement
  - Final cover slopes
  - Erosion control
  - Revegetation and conditioning of the site
  - Subsidence remediation
- Annual reclamation and closure reports will be completed and submitted to Manitoba Conservation by the City for the facility by March 31 of the year following the year in which any reclamation or closure occurs. Refer to Section 10.5.8 for details on reporting.

## **18.2 RECLAMATION AND CLOSURE PLAN**

The City will submit a Reclamation Plan to Manitoba Conservation prior to closure of the landfill that shall include the following:

- A final cover system adequate to:
  - Isolate waste from the surface environment
  - Support a native vegetative cover
  - Limit infiltration for groundwater protection
  - Achieve the requirements for control of landfill gas
  - Provide for support of the intended end-use of the site
- The final design slopes for the landfill cells shall:
  - Prevent ponding of surface water resulting from precipitation
  - Account for settlement and subsidence of the landfill
  - Ensure the stability of completed landfill slopes
  - Allow for maintenance and care of the vegetative cover

## **BRADY ROAD RESOURCES MANAGEMENT FACILITY**

### **OPERATING PLAN**

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- Fulfillment of all regulatory requirements existing at the time of closure.
- Closure will be completed within 365 days of closure commencement.

### **18.3 FINAL COVER SYSTEM**

At the time of closure of the landfill cells, a final cover system will be designed and constructed, having the following components:

- The final cover system shall include a barrier layer of:
  - 0.60 m of earthen material with a maximum permeability of  $1 \times 10^{-5}$  cm/sec, or
  - Alternate material that must achieve equivalent permeability.
- A layer of subsoil will be placed over the barrier layer and salvaged topsoil applied to complete the final cover as follows:
  - Required subsoil shall be spread evenly over the barrier layer.
  - Topsoil, supplemented as required to support growth of vegetation, shall be spread evenly over the subsoil.
- The depths of the replaced topsoil and subsoil will be equal to the depths determined at the landfill site prior to its construction, or meets the following minimum requirements:
  - For pasture and recreational uses, 0.20 m of topsoil and 0.35 m of subsoil.
- After the subsoil and topsoil are replaced:
  - Water permeability and rooting in topsoil or subsoil shall not be restricted.
  - Vegetation shall be established with suitable native species compatible with the intended land use.
- The landfill may have a landfill gas control system incorporated into the final cover. If this is instituted in the future, the details will need to be recorded in the final closure documents.
- The final cover system shall have a final topography that ensures water does not pool over the landfill area. It shall have a minimum final grade of 5 percent and a maximum final grade of 30%.

Should an alternative final cover system be proposed, the design will be submitted to Manitoba Conservation for approval prior to final closure.





# BRADY ROAD RESOURCES MANAGEMENT FACILITY OPERATING PLAN

## 19.0 Post-Closure Care

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### 19.1 POST-CLOSURE RESPONSIBILITIES

The City must notify the Director in writing within 30 days of permanently ceasing operations.

The post-closure period of a landfill is defined as the period following the final closure of a landfill.

Post-closure care of the facility shall include:

- Maintaining the integrity of final cover system.
- Maintaining surface water drainage system.
- Maintaining and operating the groundwater-monitoring, leachate-collection and -removal, and any other systems.
- Protecting and maintaining survey benchmarks.
- Establishing and maintaining security of the site.
- Undertaking monitoring as per 19.2.

During the post-closure care period, the final cover shall be inspected at least once per year. Any identified requirement for corrective actions will be implemented within the same season that a deficiency is detected.

### 19.2 POST-CLOSURE MONITORING

The groundwater, surface water, leachate, landfill gas, and final cover system will continue to be monitored during the post-closure period.

### 19.3 POST-CLOSURE RECORD AND REPORTING

During the post-closure period, the following information will be compiled and recorded in the Operating record:

- Annual groundwater-monitoring results.
- Annual landfill-gas monitoring results.
- Summary of leachate-management activity.
- A record of the maintenance and repairs carried out.
- A report of any remedial or corrective action taken.





# BRADY ROAD RESOURCES MANAGEMENT FACILITY OPERATING PLAN

## 20.0 Remedial Action

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### 20.1 ASSESSMENT OF CORRECTIVE ACTION AND DEVELOPMENT OF REMEDIAL PROPOSAL

In the event that monitoring results indicate significantly greater magnitude of down-gradient parameter levels than up-gradient levels or significant changes from prior results are evident down-gradient, resampling and analysis will be undertaken by the City.

Landfill gas readings in excess of 20% of the lower explosive limit (L.E.L) for methane at facility structures on the site boundary are considered significant.

When a resampling and analytical program confirms and verifies monitoring data, an assessment of the results shall be undertaken to determine the nature and extent of the problem.

The assessment shall include a determination of the extent of the problem. This may involve conducting additional monitoring, installing additional monitoring wells, conducting geophysical or other surveys, or using other appropriate methods to identify:

- Source of the problem.
- Extent of any contaminant migration.
- Immediate or potential risk for off-site migration.
- Immediate or potential risk to public safety and health.

An evaluation of alternative corrective measures shall be undertaken to prevent exposure of harmful levels of contaminants that may exceed performance standards or action levels, and to develop recommendations for remedial action to reduce, minimize or prevent off-site migration of contaminants.

The evaluation of alternative remedial actions shall be based on the ability of the remedy to protect public health and safety, neighbours' property and the environment. This may be achieved through containment, recovery, treatment, or attenuation of contaminants to ensure compliance with performance standards or action levels.

The evaluation will present:

- Expected level of performance of alternative approaches.
- Timeframe for the realistic implementation of alternatives.

- Anticipated timeframe to complete the recommended remediation approach.

## **20.2 IMPLEMENTING CORRECTIVE ACTIONS**

An interim plan for corrective measures shall be implemented immediately when:

- An actual potential, or imminent risk, of a fire or explosion exists.
- Contamination of a water source might occur.
- Immediate or potential risk of human exposure to hazardous constituents or to environmental receptors.
- Further degradation of groundwater or surface-water quality may occur unless corrective actions are undertaken.
- A contaminant(s) has/have migrated off-site.

When required for the protection of public health and safety, an interim plan for corrective action shall be developed and implemented to include:

- Establishment of objective(s) for implementation of interim corrective measures.
- Identification of approach(es) and method(s) for implementation.
- Establishment of a timeframe for implementation and duration of interim corrective measure(s).
- Assessment of results of monitoring program to evaluate effectiveness of the interim corrective measure(s).

The final corrective action plan shall be developed and must include:

- Establishment of performance objectives for implementation of corrective action(s).
- Identification of methodology and approaches for implementation.
- Establishment of a timeframe for implementation of corrective action(s).
- Assessment of monitoring results to evaluate effectiveness of the final remediation plan.

The final corrective action plan will be implemented in accordance with the approved schedule that shall be identified and maintained until the performance objectives are achieved.

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#### **20.3 RESPONSIBILITY FOR CORRECTIVE ACTIONS**

Responsibility for corrective actions shall reside with the City of Winnipeg, Water and Waste Department, Solid Waste Services Division as the operational entity





# BRADY ROAD RESOURCES MANAGEMENT FACILITY OPERATING PLAN

## 21.0 References

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KGS. 1991. Detailed Site Evaluation Four Mile Road Site. Report prepared for the Manitoba Hazardous Waste Management Corporation. Winnipeg, MB.

KGS. 2009. Brady Road landfill. Definition of general site leachate conditions. Final report to City of Winnipeg, Water and Waste Department. Winnipeg, MB.

UMA Engineering Ltd. 1987. Brady Road Landfill Hydrogeologic Study. Report prepared for the City of Winnipeg, August 1987. Winnipeg, MB.

# **APPENDIX A**

## **SAFE WORK PROCEDURES AND JOB HAZARD ANALYSES**

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Approaching Heavy Machinery</b>	<b>Task ID:</b>
<b>Job:</b>		<b>Date Developed: July 15, 2009</b>	
		<b>Date Revised:</b>	
<b>Hazards Present</b>	<b>Applies To: (Department/Division/Branch/Section)</b>	<b>Training Requirements:</b>	
<ul style="list-style-type: none"> <li>• Large mobile equipment traffic</li> <li>• Uneven/ Unstable ground</li> <li>• Low visibility</li> <li>• Shifting machinery</li> <li>• Trips/ slips/ twisted ankles</li> </ul>	Water and Waste/ Solid Waste/ Disposal/ Approaching Heavy Machinery	<ul style="list-style-type: none"> <li>• Traffic Director training</li> </ul>	
<b>Tools/Equipment Required</b>	<b>Materials Required</b>	<b>Personal Protective Equipment</b>	
<ul style="list-style-type: none"> <li>• Shelter hut</li> <li>• Transport Vehicle</li> </ul>	<ul style="list-style-type: none"> <li>• One watchperson</li> <li>• Functional two-way radio</li> </ul>	<ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle-high steel toe footwear</li> </ul>	
<b>Step #</b>	<b>Sequence of Steps</b>	<b>Potential Accidents or Hazards</b>	<b>Recommended Safe Job Procedure</b>
1	Step out from the shelter hut/ transport vehicle, and begin walking to heavy machinery direction	<ul style="list-style-type: none"> <li>-Being hit and fatally/ seriously injured by mobile equipment traffic.</li> <li>-Twisting ankle/ trip/ falling on uneven ground.</li> <li>-Machinery backing over worker.</li> </ul>	<ul style="list-style-type: none"> <li>-If outdoor visibility is low, do not venture away from the transport vehicle, attempt to reach operator on their radio.</li> <li>-Always have one other worker watch this process from the shelter hut/ transport vehicle.</li> <li>-Walk a route with the least activity of dumping vehicles.</li> <li>-Ensure eye contact with all dumping vehicle drivers.</li> <li>-Never walk behind ANY vehicle while on route to large machinery.</li> <li>-Do not approach large machinery from behind.</li> <li>-Watch for objects protruding in ground, but keep a steady pace when walking to avoid from blending in with background garbage.</li> <li>-High visibility vest must be worn and other PPE must be worn.</li> <li>-Don't walk down hill off of dumping cell at any time.</li> </ul>

2	<b>From a significant distance, wave arms to signal the operator in the machine.</b>	<ul style="list-style-type: none"> <li>-Being hit by large dumping truck.</li> <li>-Being hit by large machinery from standing too close</li> <li>-Failure to get operators attention resulting in unknown whereabouts of worker.</li> </ul>	<ul style="list-style-type: none"> <li>-Stay a minimum of 15 meter away from the machine when approaching.</li> <li>-Ensure the operator has signaled back to acknowledge the workers presence.</li> <li>-If unable to get operators attention, keep 15 meters back or return to shelter hut/ transport vehicle.</li> <li>-If visibility is low, attempt to reach the operator on their radio.</li> </ul>
3	<b>Allow machinery to position itself on stable ground and for the operator to shut off and exit machinery.</b>	<ul style="list-style-type: none"> <li>-Being hit by large dumping traffic from standing out in dumping cell for extended period.</li> <li>-Assuming the driver knows of worker's position, resulting in being run over by machinery.</li> </ul>	<ul style="list-style-type: none"> <li>-Keep checking the surrounding area for traffic</li> <li>-Avoid standing out in the open for an extended period of time, unless transport vehicle is in close vicinity.</li> <li>-Ensure the operator knows your position by keeping eye contact with the operator.</li> <li>-If unsure that operator has seen you, keep 15 meters back or return to transport vehicle/ shelter hut.</li> </ul>
4	<b>Once machine is off, walk towards machine to speak with operator</b>	<ul style="list-style-type: none"> <li>-Operator staying in cab with machine on, resulting in injury if machinery shifts and hits worker.</li> <li>-Trips/ twisting ankle on uneven ground.</li> </ul>	<ul style="list-style-type: none"> <li>-Notify operator to shut machine down before approaching machine (use a hand signal).</li> <li>-If fallen, attempt to get back up as quickly as possible and signal for help with arms to anybody if injured.</li> </ul>
5	<b>Walk back to transport vehicle or shelter hut.</b>	<ul style="list-style-type: none"> <li>-Being hit and fatally/ seriously injured by mobile equipment traffic.</li> <li>-Twisting ankle/ trip/ falling on uneven ground.</li> </ul>	<ul style="list-style-type: none"> <li>-Walk a route with the least activity of dumping vehicles.</li> <li>-Ensure eye contact with all dumping vehicle drivers.</li> <li>-Never walk behind ANY vehicle while on route to large machinery.</li> <li>-Watch for objects protruding in ground, but keep a steady pace when walking to avoid from blending in with background garbage.</li> </ul>

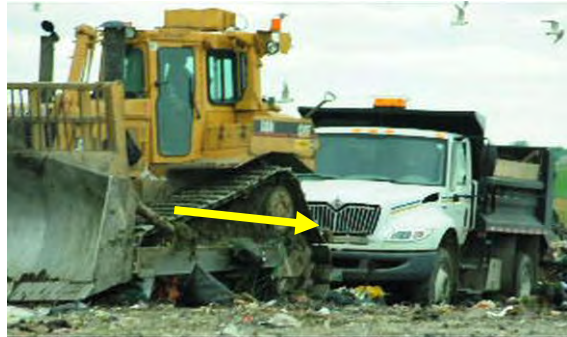

Developed By:	Brian Roach	Ken Taylor	Jim Rose
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.



<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Pulling Stuck Vehicles with Large Equipment</b>		<b>Task ID:</b>	
<b>Job:</b>				<b>Date Developed: July 15, 2009</b>	
				<b>Date Revised:</b>	
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Steep slopes(30 degrees or more)</li> <li>• Large mobile equipment traffic</li> <li>• Slippery stepping surfaces</li> <li>• Unstable/ uneven walking ground</li> <li>• Extreme cold/ hot temperatures</li> <li>• Vibration from bulldozer</li> <li>• Continuous neck and back twisting</li> <li>• Potential low visibility (snow, dust)</li> <li>• Neck/ Back strain when reversing</li> </ul>		<b>Applies To: (Department/Division/Branch/Section)</b> Water and waste/ Solid Waste/ Disposal/ Pulling Stuck Vehicles with a Bulldozer		<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• Bulldozer training</li> <li>• Mechanics of equipment</li> <li>• Loader Training</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Fire extinguisher (as per Manitoba Fire Code)</li> <li>• Two-way radio</li> </ul>		<b>Materials Required</b> <ul style="list-style-type: none"> <li>• Towing Chain</li> </ul>		<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• Appropriate clothing for temperature</li> <li>• Seatbelt or restraint device</li> <li>• Leather Gloves</li> </ul>	
<b>Step #</b>	<b>Sequence of Steps</b>	<b>Potential Accidents or Hazards</b>		<b>Recommended Safe Job Procedure</b>	
1	<b>Drive equipment to stuck vehicle.</b>	-Being struck by large mobile equipment traffic -Equipment sliding downhill, or tipping from unstable/ un-solid ground.		-Wear seatbelt or restraint device. -Constantly check surrounding area for traffic (use shoulder checks, and machinery mirrors).	

		-Bulldozer falling into camouflaged, pre-dug holes	-Survey surrounding area for previously dug holes before shift.
2	<p><b>Reverse to stuck vehicle.</b></p> 	<ul style="list-style-type: none"> <li>-Bulldozer striking stuck vehicle/ equipment.</li> <li>-Bulldozer falling/ tipping from incline or camouflaged holes.</li> </ul>	<ul style="list-style-type: none"> <li>-Constantly check surrounding area for traffic (use shoulder checks, and machinery mirrors).</li> <li>-Use evasive driving if a hole is encountered.</li> <li>-Leave approximately 3 meters between the bulldozer and the stuck vehicle to attach chain.</li> <li>-Use spotter with constant contact to operator.</li> </ul>
3	<p><b>Attach tow chain to equipment and stuck vehicle.</b></p> 	<ul style="list-style-type: none"> <li>-Pinch to hands from chain</li> <li>-Back or muscle strain from lifting/ attaching chain</li> <li>-Dropping chain on legs or feet causing injury</li> <li>-Being crushed or caught under moving/sinking equipment</li> <li>-Being struck by other moving equipment in surrounding area.</li> </ul>	<ul style="list-style-type: none"> <li>-Always have operator of stuck vehicle/ equipment attach chain to both vehicles.</li> </ul> <p><b>IF LANDFILL HELPER ATTACHES CHAIN:</b></p> <ul style="list-style-type: none"> <li>-Wear leather gloves, steel toe footwear, and high visibility vest when handling chain.</li> <li>-Ensure there is supervision from another landfill helper in case of emergency.</li> <li>-Ensure operators of equipment and stuck vehicle know where you are at all times by visual direction and communication.</li> <li>-Never climb or bend under any vehicle to attach chain to undercarriage.</li> <li>-Leave the area immediately after chain is attached.</li> </ul>
4	<p><b>Pull the stuck vehicle/ equipment.</b></p>	<ul style="list-style-type: none"> <li>-Severe/ fatal injury to persons in surrounding area from chain snapping.</li> </ul>	<p><b>IF PEOPLE ARE STANDING IN SURROUNDING AREA:</b></p> <ul style="list-style-type: none"> <li>-Do stand in an area where the chain is visible to surrounding persons.</li> <li>-Stand at least 30 meters away from the equipment pulling vehicle.</li> <li>-Equipment operator must survey area and ensure no persons are within close vicinity to the bulldozer prior to pulling the stuck vehicle.</li> </ul>

5	<b>Remove tow chain after vehicle/ equipment is free.</b>	<ul style="list-style-type: none"> <li>-Pinch to hands from chain</li> <li>-Back or muscle strain from lifting/ attaching chain</li> <li>-Dropping chain on legs or feet causing injury</li> <li>-Being crushed or caught under moving/sinking equipment</li> <li>-Being struck by other moving equipment in surrounding area.</li> </ul>	<ul style="list-style-type: none"> <li>-Always have operator of stuck vehicle/ equipment remove chain from both vehicles.</li> <li><b>IF LANDFILL HELPER REMOVES CHAIN:</b></li> <li>-Wear leather gloves, steel toe footwear, and high visibility vest when handling chain.</li> <li>-Ensure there is supervision from another landfill helper in case of emergency.</li> <li>-Ensure operators of equipment and stuck vehicle know where you are at all times by visual direction and communication.</li> <li>-Never climb or bend under any vehicle to attach chain to undercarriage.</li> </ul>
6	<b>Drive equipment back to previous work area.</b>	<ul style="list-style-type: none"> <li>-Being struck by large mobile equipment traffic</li> <li>-Equipment sliding downhill, or tipping from unstable/ un-solid ground.</li> </ul>	<ul style="list-style-type: none"> <li>-Wear seatbelt or restraint device.</li> <li>-Constantly check surrounding area for traffic (use shoulder checks, and machinery mirrors).</li> </ul>

Developed By:	Brian Roach	Jeff Atto	Duncan Menzies
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.



**SAFE WORK PROCEDURE**

**Title: Removing and Installing Pumps to Leachate Manholes**

This task applies to technologist II and technical assistant positions

<b>Facility:</b> Active and Inactive Winnipeg Landfills	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> September 17 <sup>th</sup> , 2009	<b>Date of last Revision:</b> September 29, 2011
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Falling into manhole</li> <li>• Back/ Muscle strain or injury</li> <li>• Leachate (corrosive/ toxic liquid)</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• Fall Protection (Harness, lanyard and anchor point)</li> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Fall protection training</li> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/ preferred)</li> <li>• Defensive driving</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who remove and install pumps.

This procedure is to be followed when removing and installing pumps to leachate manholes.

All employees will be trained properly before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for removing and installing pumps to leachate manholes shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. When exiting the vehicle with tools walk slowly to the manhole. Take small steps when walking in tall grassy areas to avoid stepping into a hole.
2. Before unlocking and removing the manhole grate, ensure fall protection is correctly worn and secured to a reliable anchor point. Wear leather gloves when removing and replacing the manhole grate. 2 workers must always be on site at this point to lift and remove the

- grate as well as in case of an emergency. If a worker falls into a manhole, do not attempt to rescue them on your own, contact emergency services or get help immediately.
3. Step into an area of fresh oxygen in the event you feel nauseous/headache and do not smoke, use any sources of heat or use any tool that may create a spark when in or around the manhole area.
  4. With help from another worker lift the pump out of the manhole using a wide firm stance outside of the manhole pipe. When lifting, keep the pump hosing close to your body and bending at the knees with your back straight and arms stationary lifting with a pulling motion with your arms.
  5. Allow the pump to drain the leachate out and dry before transporting it.
  6. With help from a co-worker, lift and close the manhole grate using proper lifting techniques (bend at the knees, back straight). Wear nitrile gloves when removing and replacing the manhole grate.
  7. Carry and transport the pump to the next location or manhole. Always transport the pump in the bed of a half-ton truck (use a foreman's truck if necessary) and lift with a co-workers help. Neoprene gloves must be worn when handling the pump. Avoid touching your eyes, face or mouth during the entire process. Ensure you sanitize and wash your hands and arms after removing the gloves and always wear a new pair of gloves before lowering the pump into another manhole.
  8. Unlock and remove the next manhole grate. Ensure fall protection is correctly worn and secured to a reliable anchor point. Wear leather gloves when removing and replacing the manhole grate. 2 workers must always be on site at this point to lift and remove the grate as well as in case of an emergency. If a worker falls into a manhole, do not attempt to rescue them on your own, contact emergency services or get help immediately.
  9. With help from a co-worker lower the pump into the manhole until it reaches the bottom using a wide firm stance outside of the manhole pipe. Keep the pump hosing close to your body and bending at the knees with your back straight and stationary.
  10. With help from a co-worker, lift and close the manhole grate using proper lifting techniques (bend at the knees, back straight). Wear nitrile gloves when removing and replacing the manhole grate.
  11. Remove nitrile gloves after handling the pump and before entering the transport vehicle. Any clothing that has become contaminated with leachate should be changed before re-entering the transport vehicle and placed in a quarantined casing or bag until they can be washed or sanitized. The same is recommended for any contaminated tools or materials

**First aid**

Every employee will be trained in First Aid Level 1(CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be available at all times.

**Work requirements when removing and installing pumps to leachate manholes:**

1. All safety equipment as stated above.
2. Qualified and trained technologist II and technical assistants
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

<p><b>Guidance Documents/ Standards / Applicable</b></p> <p style="text-align: center;"><b>Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"> <li>• The Manitoba Workplace Safety and Health Act W210</li> </ul> <p><b>Manitoba Workplace Safety and Health</b></p>	<p style="text-align: center;"><b>Supervisor Responsibility</b></p> <ul style="list-style-type: none"> <li>• Supervisors are responsible to provide all staff with proper instruction, equipment, and tools.</li> <li>• Supervisors are responsible to ensure that all safe work practices are followed.</li> </ul>
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<p><b>Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"><li>• 2.1 Safe Work Procedures</li><li>• 5 First Aid</li><li>• 6 Personal Protective Equipment</li><li>• 8 Musculoskeletal Injuries</li><li>• 14 Fall Protection</li><li>• 15 Confined Spaces</li><li>• 20 Vehicular and Pedestrian Traffic</li><li>• 35 Workplace Hazardous Information Systems</li><li>• 36 Chemical and Biological Substances</li></ul>	<ul style="list-style-type: none"><li>• This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</li></ul> <p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <ul style="list-style-type: none"><li>• Follow Safe Work Procedure</li><li>• Wear appropriate PPE</li></ul>
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**SAFE WORK PROCEDURE**  
**Title: Methane Sampling**

This task applies to technologist II and technical assistant positions

<b>Facility:</b> Active and Inactive Winnipeg Landfills	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 12 <sup>th</sup> , 2009	<b>Date of last Revision:</b> September 29, 2011
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Leachate (corrosive/toxic liquid)</li> <li>• Off-road driving</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<p><b>Personal Protective Equipment (PPE) Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Fire extinguisher</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/preferred)</li> <li>• Defensive driving</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who operate a chain saw.

This procedure is to be followed when sampling methane.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for sampling methane shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Report departure and whereabouts to the city main office
2. Bring minimum of one functional cellular device.
3. Check in with the city office every hour of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.
4. When exiting vehicle with sampling equipment and walking to methane sampling area:

Never stray too far from the transport vehicle when on foot, bring telecommunications device, wear articles of clothing appropriate for the temperature conditions, do not continue work if animals/ insects become violent, return to vehicle immediately and return to the site when these hazards are no longer apparent, and drink lots of water on hot days, wear a hat and minimum 30 SPF sunscreen.

5. Unlock sampling post and open it, then remove the protective cap and insert the tip of the methane monitor into the sampling hole.
6. Step into an area of fresh air if nausea/ headache set in, do not smoke, use a heat source, or utilize anything that might create a spark when in the sampling area.
7. Ensure possession of an epinephrine injection if allergic to insect bites, administer the shot if allergic reaction begins, then call the city office immediately for help, if possible call the city immediately if bitten or attacked by wild animals/ insects.
8. When inserting syringe needle into rubber tubing and take a sample of methane (indoors only): leave room immediately if the smell of methane becomes overwhelming, and dizziness sets in, wear puncture proof gloves when inserting and removing syringe from rubber tubing, and ensure there is good ventilation throughout the room before opening the methane cap from its tank.
9. Walk to the next methane sampling post and repeat the monitoring process, or walk back to the vehicle.

**First aid**

Every employee will be trained in First Aid level 1(CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be available at all times.

**Work requirements when sampling methane:**

1. All safety equipment as stated above.
2. Qualified and trained technologist II and technical assistants.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

<p style="text-align: center;"><b>Guidance Documents/ Standards / Applicable Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"> <li>• The Manitoba Workplace Safety and Health Act W210</li> </ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"> <li>• 2.1 Safe Work Procedures</li> <li>• 5 First Aid</li> <li>• 6 Personal Protective Equipment</li> <li>• 8 Musculoskeletal Injuries</li> <li>• 14 Fall Protection</li> <li>• 20 Vehicular and Pedestrian Traffic</li> <li>• 22 Powered Mobile Equipment</li> <li>• 25 Work in the Vicinity of Overhead Electrical Lines</li> </ul>	<p style="text-align: center;"><b><u>Supervisor Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Supervisors are responsible to provide all staff with proper instruction, equipment, and tools.</li> <li>• Supervisors are responsible to ensure that all safe work practices are followed.</li> <li>• This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</li> </ul> <p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Follow Safe Work Procedure</li> <li>• Wear appropriate PPE</li> </ul>
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**SAFE WORK PROCEDURE**

**Title: Maintenance of Clean Out Pipes on Leachate Manholes**

This Task may only be performed by trained personnel

<b>Facility:</b> Active and Inactive Winnipeg Landfills	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> September 21 <sup>st</sup> , 2009	<b>Date of last Revision:</b> September 29, 2011
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Leachate (corrosive/toxic liquid)</li> <li>• Off-road driving</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• WHMIS training</li> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/preferred)</li> <li>• Defensive driving</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who perform maintenance of clean out pipes on leachate manholes.

This procedure is to be followed when performing maintenance of clean out pipes on leachate manholes.

All employees will be trained properly before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for maintaining clean out pipes on leachate manholes shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Exit the vehicle and walk slowly with tools to the manhole. Always dress for the weather, apply 30 SPF sun block, wear a hat, and stay hydrated by drinking water on hot and humid days

2. If animals/insects become violent at the work area, do not continue work. Return to your vehicle immediately and go back to the site at a later time when the hazards are no longer present
3. Before removing the damaged clean-out/ release valve pipes with a hand saw (you may have to dig out the pipe if necessary) ensure that the manhole grate is on and secure before continuing and ensure all PPE is worn, especially leather gloves.
4. If fumes become overwhelming, step into an area with fresh air (esp. if nausea or headaches set in). Never smoke, use a heat source, or utilize anything that might create a spark when in the manhole area. This includes electrical or combustion powered tools.
5. Always cut the pipe at a downward angle, do not force the saw blade if it gets stuck, and saw in a consistent motion avoiding jerky movements with the handsaw.
6. Before installing and gluing new PVC pipe over existing clean-out/release-valve ensure that new addition to the pipe is fully assembled with its accessories prior to installing it (this does not include the part of the pipe to be glued). Wipe the glue off of the skin immediately if contacted and refer to the MSDS for the glue for emergency instructions if exposed via eyes and mouth etc.
7. Dispose of old/damaged leachate piping by double bagging in garbage bags.
8. Disinfect any materials and tools that may have had contact with the leachate and sanitize your hands immediately after this process. Do not smoke, eat or touch your hands to your face until you have sanitized your hands.

**First aid**

Every employee will be trained in First Aid Level 1(CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be available at all times.

**Work requirements when maintaining clean out pipes on leachate manholes:**

1. All safety equipment as stated above.
2. Qualified and trained technologist II and technical assistants.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

<p style="text-align: center;"><b>Guidance Documents/ Standards / Applicable Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"> <li>• The Manitoba Workplace Safety and Health Act W210</li> </ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"> <li>• 2.1 Safe Work Procedures</li> <li>• 5 First Aid</li> <li>• 6 Personal Protective Equipment</li> <li>• 8 Musculoskeletal Injuries</li> <li>• 20 Vehicular and Pedestrian Traffic</li> <li>• 35 Workplace Hazardous Information Systems</li> <li>• 36 Chemical and Biological Substances</li> </ul>	<p style="text-align: center;"><b><u>Supervisor Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Supervisors are responsible to provide all staff with proper instruction, equipment, and tools.</li> <li>• Supervisors are responsible to ensure that all safe work practices are followed.</li> <li>• This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</li> </ul> <p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Follow Safe Work Procedure</li> <li>• Wear appropriate PPE</li> </ul>
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**SAFE WORK PROCEDURE**  
**Title: Leachate Sampling**

This task applies to technologist II and technical assistant positions

<b>Facility:</b> Active and Inactive Winnipeg Landfills	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> September 3 <sup>rd</sup> , 2009	<b>Date of last Revision:</b> September 29, 2011
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Leachate (corrosive/toxic liquid)</li> <li>• Off-road driving</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High Visibility Vest</li> <li>• Coveralls/ Tyvek</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved splash proof safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> <li>• Face shield</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/preferred)</li> <li>• Defensive driving</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who sample leachate.

This procedure is to be followed when sampling leachate.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for leachate sampling shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Report departure and whereabouts to the city main office, and make sure to bring minimum of one functional cellular device. Check in with the city office every 2 hours of work out of the city office. If the call is missed, the office should call the technologist. If

there is no answer, the city office should send help to the last known location of technologist.

2. Acquire sampling instruments and walk slowly to locate the desired leachate probe (dig the probe out if it is buried by run-off). Always dress for the weather, apply 30 SPF sun block, wear a hat, and stay hydrated by drinking water on hot and humid days
3. When unlocking the leachate probe and removing the probe cover always use a wrench and grip the wrench with both hands on its outside end for better torque> Loosen the cap to equalize the pressure.
4. If bees or wasps are aggressive in the area or a nest has been disturbed vacate immediately and return to the vehicle closing all windows and doors. Always check yourself for the presence of ticks after walking through tall grass: especially arm areas such as hair, armpits, and groin area, behind the ears, legs, and arms.
5. When testing the liquid level with the water level meter ensure you are wearing all the required personal protective equipment. Siphon the water out of the probe by pumping the water until leachate is visible from the water tube. Always point the end of the water away from your face and body and pump it up and down with one hand and hold the water still with the other hand.
6. Place the end of the water in side the sample containers and pump the water until the jar is full. Let the water down and then screw the top of the plastic jar on with one hand while holding the jar with the other.
7. Once the sample jars have been placed in the cooler remove your nitrile gloves (before packing up and moving to next location). Lock the probe cover back on the leachate probe and return to your vehicle. Ensure you remove all clothing that may have been contaminated by the leachate prior to entering your vehicle. Use hand sanitizer on your skin to disinfect it from leachate contamination and ensure you do not eat, drink, smoke or touch your face until your hands have been completely sanitized.

**First aid**

Every employee will be trained in First Aid Level 1(CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when sampling leachate:**

1. All safety equipment as stated above.
2. Qualified and trained technologist II and technical assistants.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

<b>Guidance Documents/ Standards / Applicable Legislation / Other:</b>	<b>Supervisor Responsibility</b>
<p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"> <li>• The Manitoba Workplace Safety and Health Act W210</li> </ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"> <li>• 2.1 Safe Work Procedures</li> <li>• 5 First Aid</li> <li>• 6 Personal Protective Equipment</li> <li>• 8 Musculoskeletal Injuries</li> <li>• 20 Vehicular and Pedestrian Traffic</li> </ul>	<ul style="list-style-type: none"> <li>• Supervisors are responsible to provide all staff with proper instruction, equipment, and tools.</li> <li>• Supervisors are responsible to ensure that all safe work practices are followed.</li> <li>• This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years</li> </ul>



<ul style="list-style-type: none"><li>• 35 Workplace Hazardous Information Systems</li><li>• 36 Chemical and Biological Substances</li></ul>	<p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <ul style="list-style-type: none"><li>• Follow Safe Work Procedure</li><li>• Wear appropriate PPE</li></ul>
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**SAFE WORK PROCEDURE**

**Title: Ground Water Sampling Using a Hydro-Lift Pump**

This task applies to technologist II and technical assistant positions

<b>Facility:</b> Active and Inactive Winnipeg Landfills	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> September 4 <sup>th</sup> , 2009	<b>Date of last Revision:</b> September 29, 2011
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Back/ muscle injury when lifting</li> <li>• Leachate (corrosive/ toxic liquid)</li> <li>• Off-road driving</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Valid Drivers License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/ preferred)</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who sample groundwater with a hydro-lift pump.

This procedure is to be followed when sampling groundwater with a hydro-lift pump.

All employees will be trained properly before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for sampling groundwater with a hydro-lift pump shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Report departure and whereabouts to the city main office, and make sure to bring minimum of one functional cellular device. Check in with the city office every 2 hours of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of

- technologist.
2. Walk slowly and watch for any dips in the long grass with your feet. If bees or wasps are aggressive in the area or a nest has been disturbed vacate immediately and return to the vehicle closing all windows and doors
  3. Unlock the sample probe and probe cover and measure the water depth with the water level meter.
  4. Attach the hydro-lift pump to the edge of the water probe post. When lifting and carrying the hydro-lift pump from the vehicle avoid using jerky or abrupt movements and always bend your knees and lift with your legs keeping your back straight and the load close to your body. Never twist at the torso, always pivot your feet to turn your body.
  5. Check that the hydro-lift pump is secure to the probe's post before attaching the watera.
  6. Attach the watera to the hydro-lift pump ensuring that the pump is not plugged in.
  7. Check that the generator has enough gasoline, and that it is primed and plugged in before starting. If the generator requires gasoline, lift it out of the vehicle and fill it from a jerry can. Never fill the generator with gas inside the vehicle. Never smoke while filling the generator with gasoline. Always stretch your arms before pulling the cord.
  8. Wait 30 minutes before taking the ground water sample in 500ml plastic containers. Keep hydrated by drinking water only and ensure sun-screen and insect repellent are worn if necessary. Inspect body for ticks. If the bugs get aggressive, leave the area and return to your vehicle.
  9. Shut the pump and generator off and with a wide base stance, bend your knees, keep your back straight and detach the watera from the pump and lift and carry the pump back to the vehicle keeping the load close to your body.
  10. If the generator has been used inside the vehicle ventilate the vehicle of generator fumes for at least 15 minutes after the generator has been turned off by keeping the windows open throughout the pumping process and using the heat or air conditioning to create airflow through the vehicle. Drive with the windows open for at least 10 minutes after leaving the location.

**First aid**

Every employee will be trained in First Aid Level 1 (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be available at all times.

**Work requirements when sampling groundwater with a hydro-lift pump:**

1. All safety equipment as stated above.
2. Qualified and trained technologist II and technical assistants.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

Guidance Documents/ Standards / Applicable	<u>Supervisor Responsibility</u>
<p><b>Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"> <li>• The Manitoba Workplace Safety and Health Act W210</li> </ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"> <li>• 2.1 Safe Work Procedures</li> <li>• 5 First Aid</li> <li>• 6 Personal Protective Equipment</li> <li>• 8 Musculoskeletal Injuries</li> </ul>	<ul style="list-style-type: none"> <li>• Supervisors are responsible to provide all staff with proper instruction, equipment, and tools.</li> <li>• Supervisors are responsible to ensure that all safe work practices are followed.</li> <li>• This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</li> </ul>

<ul style="list-style-type: none"><li>• 19 Fire and Explosive Hazards</li><li>• 20 Vehicular and Pedestrian Traffic</li><li>• 35 Workplace Hazardous Information Systems</li><li>• 36 Chemical and Biological Substances</li></ul>	<p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <ul style="list-style-type: none"><li>• Follow Safe Work Procedure</li><li>• Wear appropriate PPE</li></ul>
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**SAFE WORK PROCEDURE**

**Title: Groundwater Sampling Using a Dedicated Pump**

This task applies to technologist II and technical assistant positions

<b>Facility:</b> Active and Inactive Winnipeg Landfills	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> September 4 <sup>th</sup> , 2009	<b>Date of last Revision:</b> September 29, 2011
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>Leachate (corrosive/ toxic liquid)</li> <li>Off-road driving</li> <li>Extreme cold weather</li> <li>Working alone</li> <li>Flammable/explosive/toxic gas</li> <li>Wild animal attack</li> <li>Insect/ Tick bites</li> <li>Heat exhaustion/ Sunburn</li> <li>Trips/slips/falls on uneven ground</li> <li>Extreme cold weather</li> </ul>	<p><b>Personal Protective Equipment (PPE) Or devices required</b></p> <ul style="list-style-type: none"> <li>High visibility vest</li> <li>CSA approved ankle high steel toe footwear</li> <li>CSA approved safety glasses</li> <li>Nitrile gloves</li> <li>Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>Sunscreen/ hat (summer)</li> <li>Mosquito repellent</li> <li>Emergency first aid kit/vehicle emergency kit</li> <li>Epinephrine injection (optional)</li> <li>Portable eye wash station</li> <li>Fire extinguisher</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>Valid Manitoba Driver's License</li> <li>Physical from a physician</li> <li>Department safety training</li> <li>First Aid Level 1/ CPR (recommended/ preferred)</li> <li>Defensive driving</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who use a dedicated pump to sample groundwater.

This procedure is to be followed when groundwater sampling using a dedicated pump.

All employees will be trained properly before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for groundwater sampling using a dedicated pump shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Report departure and whereabouts to the city main office, and make sure to bring minimum of one functional cellular device. Check in with the city office every 2 hours of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.
2. Walk slowly and watch for any dips in the long grass with your feet. If bees or wasps are aggressive in the area or a nest has been disturbed vacate immediately and return to the

- vehicle closing all windows and doors
3. Unlock the sample probe and probe cover and measure the water depth with the water level meter.
  4. When removing the water from the ground water probe and lifting the generator from the vehicle onto the ground avoid using jerky or abrupt movements and always bend your knees and lift with your legs keeping your back straight and the load close to your body. Never twist at the torso, always pivot your feet to turn your body. Wear leather gloves to protect your hands and always grip the generator by its proper handling points.
  5. When connecting the dedicated pump and the power cord to the pump generator ensure that the cord is free of tangles prior to lowering the pump into the sample probe.
  6. Check that the generator has enough gasoline, and that it is primed and plugged in prior to pull-starting the pump generator. Always stretch your arms before pulling the cord
  7. Turn the release valve on the pump hose to begin pumping water and wait 30 minutes before taking the ground water sample in 500ml containers. Keep hydrated by drinking water only and ensure sun-screen and insect repellent are worn if necessary. Inspect body for ticks. If the bugs get aggressive, leave the area and return to your vehicle.
  8. Shut the pump off and with a wide base stance, bend your knees, keep your back straight and pull the dedicated pump out from the sample probe keeping the hose close to your body.
  9. When lifting the generator and dedicated accessories into the vehicle use proper lifting techniques (bending at the knees, keeping your back straight and pivoting to turn with your feet).
  10. Don nitrile gloves to disinfect and re-insert the watera back into the ground water probe ensuring to cover and lock the ground water probe when finished.

**First aid**

Every employee will be trained in First Aid level 1 (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must available at all times.

**Work requirements when groundwater sampling using a dedicated pump:**

1. All safety equipment as stated above.
2. Qualified and trained technologists and technical assistants.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911.  
**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

<p><b>Guidance Documents/ Standards / Applicable Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"> <li>• The Manitoba Workplace Safety and Health Act W210</li> </ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"> <li>• 2.1 Safe Work Procedures</li> <li>• 5 First Aid</li> <li>• 6 Personal Protective Equipment</li> <li>• 8 Musculoskeletal Injuries</li> <li>• 19 Fire and Explosive Hazards</li> <li>• 20 Vehicular and Pedestrian Traffic</li> <li>• 35 Workplace Hazardous</li> </ul>	<p style="text-align: center;"><b><u>Supervisor Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Supervisors are responsible to provide all staff with proper instruction, equipment, and tools.</li> <li>• Supervisors are responsible to ensure that all safe work practices are followed.</li> <li>• This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years</li> </ul> <p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Follow Safe Work Procedure</li> <li>• Wear appropriate PPE</li> </ul>
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<p>Information Systems</p> <ul style="list-style-type: none"><li>• 36 Chemical and Biological Substances</li></ul>	
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**SAFE WORK PROCEDURE**

**Title: Driving**

This task applies to technologist II and technical assistant positions

<b>Facility:</b> Active and Inactive Winnipeg Landfills	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> September 17 <sup>th</sup> , 2009	<b>Date of last Revision:</b> September 29, 2011
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Falling into manhole</li> <li>• Back/ Muscle strain or injury</li> <li>• Leachate (corrosive/ toxic liquid)</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Fire extinguisher</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Fall protection training</li> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/ preferred)</li> <li>• Defensive driving</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who remove and install pumps.

This procedure is to be followed when driving.

All employees will be trained properly before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for driving shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Bring minimum of one functional cellular device. Check in with the city office every hour of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist
2. Conduct a vehicle inspection prior to leaving the office; check all fluid levels, lights and vehicle instruments to ensure they work. Wear seatbelt at all times. Drive at or well below the speed limit

depending on visibility, weather, and road conditions. Bring all vehicular emergency kits/ equipment, and clothing appropriate for extreme weather conditions. Practice defensive driving while on the road. Contact city immediately if stuck.

3. Use four-wheel drive when driving off road. Do not exceed 10 km/h when driving off road, and do not drive where there is a chance to get stuck/ stranded (large dips in ground, swampy areas). Inch forward through grass when it is very tall. Do not drive downhill/ uphill on an angle; always face the hill straight-on.
4. Wear seatbelt at all times. Drive at or well below the speed limit depending on visibility, weather, and road conditions. Practice defensive driving while on the road. Contact city immediately if stuck.

**First aid**

Every employee will be trained in First Aid Level 1(CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be available at all times.

**Work requirements when driving**

1. All safety equipment as stated above.
2. Qualified and trained technologist II and technical assistants
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911.

***REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR***

<p style="text-align: center;"><b>Guidance Documents/ Standards / Applicable Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"> <li>• The Manitoba Workplace Safety and Health Act W210</li> </ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"> <li>• 2.1 Safe Work Procedures</li> <li>• 5 First Aid</li> <li>• 6 Personal Protective Equipment</li> <li>• 8 Musculoskeletal Injuries</li> <li>• 14 Fall Protection</li> <li>• 15 Confined Spaces</li> <li>• 20 Vehicular and Pedestrian Traffic</li> <li>• 35 Workplace Hazardous Information Systems</li> <li>• 36 Chemical and Biological Substances</li> </ul>	<p style="text-align: center;"><b><u>Supervisor Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Supervisors are responsible to provide all staff with proper instruction, equipment, and tools.</li> <li>• Supervisors are responsible to ensure that all safe work practices are followed.</li> <li>• This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</li> </ul> <p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Follow Safe Work Procedure</li> <li>• Wear appropriate PPE</li> </ul>
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**SAFE WORK PROCEDURE**  
**Title: Dipping/Monitoring a Well**

This task applies to technologist II and technical assistants

<b>Facility:</b> Active and inactive Winnipeg Landfills	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 12 <sup>th</sup> , 2009	<b>Date of last Revision:</b> September 29, 2011
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Leachate (corrosive/toxic liquid)</li> <li>• Off-road driving</li> <li>• Vehicle collisions-</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/preferred)</li> <li>• Defensive driving</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who monitor well levels.

This procedure is to be followed when dipping/monitoring a well.

All employees will be trained properly before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for dipping/monitoring a well shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Report departure and whereabouts to the city main office, and make sure to bring minimum of one functional cellular device. Check in with the city office every 2 hours of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.

2. When exiting vehicle with water level meter and walking to leachate/ water well: never stray too far from the transport vehicle when on foot, bring telecommunications device, wear articles of clothing appropriate for the temperature conditions, do not continue work if animals/ insects become violent, return to vehicle immediately and return to the site when these hazards are no longer apparent, and drink lots of water on hot days, wear a hat and a minimum of 30 SPF sunscreen.
3. When using water level meter to determine depth of leachate/ water in the well: ensure there is a cover on the well before proceeding to monitor the well, step into an area of fresh air if nausea/ headache sets in, sample up wind when possible and do not smoke, use a heat source, or utilize anything that might create a spark when in the well area.
4. When reeling the water level meter back up and recording the liquid level in logbook: ensure all personal protective equipment is worn, reel the meter slowly to avoid from splashing leachate on clothes, or skin, take gloves off before writing in logbook, and use disinfectant to clean hands before putting gloves back on.
5. Walk to the next well and repeat the monitoring process, or walk back to the vehicle.
6. When disinfecting equipment and gloves with disinfectant solution: clean and disinfect equipment exposed to leachate thoroughly, and separate them from other equipment/ material, and sanitize and wash hands before eating/ drinking, touching face, smoking etc.

**First aid**

Every employee will be trained in First Aid Level 1(CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be available at all times.

**Work requirements when dipping/monitoring a well:**

1. All safety equipment as stated above.
2. Qualified and trained technologist II and technical assistants.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

<p><b>Guidance Documents/ Standards / Applicable Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"> <li>• The Manitoba Workplace Safety and Health Act W210</li> </ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"> <li>• 2.1 Safe Work Procedures</li> <li>• 5 First Aid</li> <li>• 6 Personal Protective Equipment</li> <li>• 8 Musculoskeletal Injuries</li> <li>• 14 Fall Protection</li> <li>• 20 Vehicular and Pedestrian Traffic</li> <li>• 22 Powered Mobile Equipment</li> <li>•</li> <li>• 25 Work in the Vicinity of Overhead Electrical Lines</li> </ul>	<p style="text-align: center;"><b><u>Supervisor Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Supervisors are responsible to provide all staff with proper instruction, equipment, and tools.</li> <li>• Supervisors are responsible to ensure that all safe work practices are followed</li> <li>• This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</li> </ul> <p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <ul style="list-style-type: none"> <li>• Follow Safe Work Procedure</li> <li>• Wear appropriate PPE</li> </ul>
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**SAFE WORK PROCEDURE**

**Title: Separating Hazardous Material from the Scrap Metal Tire Area**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 13 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Toxic materials</li> <li>• Heavy materials</li> <li>• Corrosive materials</li> <li>• Uneven walking ground</li> <li>• Unknown dust particulates</li> <li>• Sharp material</li> <li>• Explosion/ flammable hazards</li> <li>• Heavy mobile machinery</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• Impermeable rubber gloves</li> <li>• High visibility vest</li> <li>• Splash proof safety glasses</li> <li>• Dust mask (optional)</li> <li>• SPF 30 Sun block</li> <li>• Hat</li> <li>• CSA approved ankle-high steel toe footwear</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Sharps protocol</li> <li>• Hazardous materials protocol</li> <li>• Landfill helper training</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who work with hazardous materials.

This procedure is to be followed when separating hazardous material from the scrap metal tire area.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for separating hazardous material from the scrap metal tire area shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. When driving to scrap metal area and parking vehicle: remain on one side of the road, avoid from hugging the center or the road, drive at/ or below the speed limit, reduce speed even more around turns and declines, wear seatbelt, drive below speed limit in low visibility conditions, and park away from traffic, use portable compressor to fill tire with air and drive back to mechanic garage for maintenance.
2. When exiting vehicle and walk towards material that is designated "hazardous material" (Paint, propane tanks, other large or household chemical containers): wear appropriate clothing for temperatures conditions, turn yellow vehicle lights on, and ensure safety vest is worn, always communicate with operator of large machinery, ensure they see you at all times (refer to "approaching heavy machinery JHA/ SWP"), wear 30 SPF sunscreen/ a hat/ and stay hydrated by drinking water, and keep electrolytes up by drinking power aid/ gatorade/ or a salt pill tablet.

3. When retrieving hazardous material from surrounding area, make sure to: Wear impermeable rubber gloves, DO NOT attempt to pull refuse out of metal pile, pick out material that is loose and not under or in the pile, lift material with two people if it is too heavy for one person.
4. Do not smoke, use a heat source, or utilize anything that might create a spark when in the well area, sanitize and wash hands before eating/ drinking, touching face, smoking etc., and make sure to handle all hazardous materials with care, do not handle bio-hazardous material.
5. When carrying refuse to truck bed: Lift material with two people if necessary. Always use proper lifting techniques including bending the knees and elbows, keeping your body square and lifting with your legs. Walk slowly, watch where you're walking, and avoid protruding items or objects on ground. Place propane tanks, or items that are under pressure in the vehicle gently, avoid from knocking or banging equipment
6. When driving the hazardous material from scrap metal area to hazardous material storage area behind lunchroom building: Remain on one side of the road, avoid from hugging the center or the road, drive at/ or below the speed limit, reduce speed even more around turns and declines. Make sure to wear seatbelt, and drive below speed limit in low visibility conditions.
7. When exiting vehicle and unloading hazardous material: Lift material with two people if necessary, walk slowly, watch where you're walking, and avoid protruding items or objects on ground.
8. Flush skin/ eyes with water immediately for 15 minutes minimum. Have foreman transport worker to hospital if skin/eye irritation gets worse or carries on. Inject epinephrine if worker has a severe allergic reaction from an insect.

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when separating hazardous material from the scrap metal tire area:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation,**

**M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 14 Fall Protection
- 20 Vehicular and Pedestrian Traffic

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.

<ul style="list-style-type: none"><li>• 22 Powered Mobile Equipment</li><li>• 25 Work in the Vicinity of Overhead Electrical Lines</li></ul>	
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**SAFE WORK PROCEDURE**  
**Title: Separating Refuse from Scrap Metal Area**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 13 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Sharp metal</li> <li>• Heavy material</li> <li>• Extreme temperatures</li> <li>• Falling sharp metal/ material</li> <li>• Heavy mobile machinery</li> <li>• Hazardous materials (paint/ propane)</li> <li>• Uneven walking ground</li> <li>• Unknown dust particulates</li> <li>• Hepatitis or Tetanus</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b>  <b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle-high steel toe footwear</li> <li>• Impermeable rubber gloves</li> <li>• Dust mask (optional)</li> <li>• Splash-proof Safety glasses (optional)</li> <li>• SPF 30 Sun block</li> <li>• Clothing appropriate or weather conditions</li> <li>• Hat</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Sharps protocol</li> <li>• Hazardous materials protocol</li> <li>• Landfill helper training</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who work in a scrap metal area.

This procedure is to be followed when separating refuse from scrap metal area.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for separating refuse from scrap metal area shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. When driving to scrap metal area, and reversing vehicle up to scrap metal pile, make sure to: Remain on one side of the road, avoid from hugging the center of the road, drive at/ or below the speed limit, reduce speed even more around turns and declines, wear seatbelt, and drive below speed limit in low visibility conditions.
2. When waiting in vehicle until front-end loader parks in position (\*Only when front-end loader is used\*): Stay in vehicle until operator of the loader gives verbal confirmation that they are in position, and stay away from the range of movement of the front-end loader.
3. Put vehicle in park, exit vehicle and walk towards refuse that is designated for removal, wear appropriate clothing for temperatures conditions, turn yellow vehicle lights on, and ensure safety vest is worn.
4. Always communicate with operator of large machinery, ensure they see you at all times



- (refer to “approaching heavy machinery JHA/ SWP”). Wear 30 SPF sunscreen/ a hat/ and stay hydrated by drinking water.
5. When retrieving refuse surrounding the scrap metal pile, keep in mind the following: If cut severely, apply pressure to wound, apply emergency first aid, and call an ambulance or have foreman transport injured worker to hospital. Do not touch any metal without having standard hepatitis and tetanus injections, wear denim pants when handling scrap metal, DO NOT attempt to pull refuse out of metal pile, pick out material that is loose and not under or in the pile, and lift material with two people if it is too heavy for one person.
  6. When carrying refuse to truck bed/ frond-end loader bucket and placing it inside: Ensure front-end loader bucket is on the ground before walking up to it, lift material with two people if necessary. Always use proper lifting techniques including bending knees and elbows, keep your body square and lift with your legs. Walk slowly, and avoid protruding items or objects on ground.
  7. See “Separating Hazardous Materials from Scrap metal and tire area JHA/SWP” for handling of hazardous materials.
  8. When drive the refuse from scrap metal area to refuse dumping area: refer to “Operating front-end loader JHA/SWP” if transporting refuse with the front-end loader, remain on one side of the road, avoid from hugging the center or the road, drive at/ or below the speed limit, reduce speed even more around turns and declines. Wear seatbelt and drive below speed limit in low visibility conditions.
  9. When exiting the vehicle and unloading refuse from vehicle (or front-end loader bucket): Ensure front-end loader bucket is on the ground before walking up to it, lift material with two people if necessary.
  10. Walk slowly, watch where you’re walking, and avoid protruding items or objects on ground.

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when separating refuse from scrap metal area:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

<p><b>Guidance Documents/ Standards / Applicable</b></p> <p style="text-align: center;"><b>Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"> <li>• The Manitoba Workplace Safety and Health Act W210</li> </ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"> <li>• 2.1 Safe Work Procedures</li> <li>• 5 First Aid</li> <li>• 6 Personal Protective Equipment</li> <li>• 8 Musculoskeletal Injuries</li> <li>• 14 Fall Protection</li> <li>• 20 Vehicular and Pedestrian</li> </ul>	
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<p>Traffic</p> <ul style="list-style-type: none"><li>• 22 Powered Mobile Equipment</li><li>• 25 Work in the Vicinity of Overhead Electrical Lines</li></ul>	<p style="text-align: center;"><b><u>Supervisor Responsibility</u></b></p> <p>Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.</p> <p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <p style="text-align: center;">Follow Safe Work Procedure Wear appropriate PPE</p> <p>This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</p>
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**SAFE WORK PROCEDURE**  
**Title: Routine Maintenance of Large Mobile Equipment**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 6 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Fatality possibility from improper lock-out</li> <li>• Working alone</li> <li>• Crush from machine parts</li> <li>• Burns from heat of engine</li> <li>• Back/ muscle strain from lifting</li> <li>• Falling from height</li> <li>• Slippery stepping surfaces</li> <li>• Pinch from machinery parts</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b>  <b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved steel toe footwear.</li> <li>• Protective glasses (optional)</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Heavy Equipment Mechanics Certification</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who conduct maintenance on large mobile equipment.

This procedure is to be followed when performing routine maintenance of large mobile equipment.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for performing routine maintenance of large mobile equipment shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. When directing machinery into mechanic bay, have operator lower the blade/bucket to the ground, and make sure to: Wear high visibility vest when directing machinery, direct machinery from its side and remain 1-2 meters away, and ensure the blade/ bucket is resting on the ground before operator shuts machinery off.
2. Have operator put machine into neutral, lock breaks, and turn machine off. Visually confirm the breaks are locked after operator has left the cab of machinery.
3. Find the machine's master cut-off switch and turn it off, and lock it with a tag-out clip.
4. Always lock the master cut-off switch in it's off position with a tag-out clip before doing maintenance on machinery. Wear leather gloves and a long sleeved shirt.
5. When working in machine's engine bay, wear long sleeved shirts and leather gloves, or wait until the engine has cooled down before doing maintenance.
6. When changing the oil of a machine, clean any oil that has dripped to the floor, or sand

- the floor before commencing other work on machine and wear protective glasses if necessary.
7. When climbing machinery to do maintenance: ensure wheels/ tracks are cleared of mud before climbing/ stepping on wheels, dry wheels/tracks with a cloth if they are wet prior to stepping on them, mount the machinery slowly, avoid from using jerky/ abrupt movements, maintain a three point contact when climbing machinery, and grasp handles which are located all over the machine and ensure a tight grip.
  8. When working on machine's elevated platform(s): Do not perform maintenance close to the edge of the platform without a fall restraint system in place (a rail system), and avoid from leaving/ placing objects on the platform to eliminate trip hazards.
  9. When replacing the guard plates (compactor only), have two people lift and carry the plate off the machine, and wear steel toe footwear.
  10. When replacing smaller blades on large blade of machines make sure to keep fingers away from pinch points (screws, between the blades).
  11. Unlock, and then turn master cut-off switch on. Only the mechanic doing maintenance on machinery should have possession of the key to the lock at all times. They should also be the only personnel authorized to use the padlock that locks out the master cut-off switch.
  12. When directing machinery out of mechanic bay: wear high visibility vest when directing machinery, and direct machinery from its side and remain 1-2 meters away. Always keep eye contact with the operator.

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when performing routine maintenance of large mobile equipment:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation,**

**M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 14 Fall Protection
- 20 Vehicular and Pedestrian Traffic
- 22 Powered Mobile Equipment
- 25 Work in the Vicinity of Overhead Electrical Lines

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.





**SAFE WORK PROCEDURE**

**Title: Retrieving Garbage on the Side of a Road**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 4 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Highway vehicular traffic</li> <li>• Sharp/ pointy objects</li> <li>• Extended exposure to UV rays</li> <li>• Heat/ humidity exhaustion</li> <li>• Insect bites</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• CSA approved ankle high steel toe footwear</li> <li>• Leather gloves</li> <li>• High visibility vest</li> <li>• SPF 30 Sunscreen and hat for UV ray protection</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>•</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who retrieve garbage.

This procedure is to be followed when retrieving garbage on the side of a road.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for retrieving garbage on the side of a road shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. When driving to designated garbage retrieval area with at least one other landfill helper, make sure to: drive slowly, turn headlights on, and use defensive driving, pull to the side of the road and park with hazard lights on until the weather subsides, and pull the vehicle deep into the shoulder of the road, on the grass if possible.
2. Activate hazard signal lights. Before exiting the vehicle don your high visibility vest. Place the high visibility cones in a diagonal line along the shoulder of the road, behind your vehicle.
3. Exit the vehicle and begin placing cones behind vehicle when there is a significant break in traffic. Wear a high visibility vest before exiting the vehicle.
4. When retrieving garbage from ditch area: Wash/ sanitize hands immediately after retrieving garbage (before eating or smoking), do not touch mouth or face during the process, wear a hat and SPF 30 sunscreen, and avoid retrieving garbage if you have severe allergies to wasp/ insect bites, or bring an epinephrine pen.
5. Retrieve garbage from side of the road or in the median of the highway.
6. Do not stray far from your city vehicle when retrieving garbage, stay in front of vehicle, and avoid walking in the opposite direction from your vehicle.

7. Wait for a significant break in traffic before crossing the road/ highway, use a trash picker device to avoid from back strain, and wear a hat and SPF 30 sunscreen.
8. Return to vehicle, gather high visibility cones and drive slowly to next location or back to the office. Whenever you are driving, use defensive driving skills.
9. Wait for a significant break in traffic before crossing the road, gathering the cones, and entering vehicle.
10. Drive slowly, turn headlights on, and use defensive driving. Pull to the side of the road, on grass if possible, and park with hazard lights on until the weather subsides.

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when retrieving garbage on the side of a road:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 20 Vehicular and Pedestrian Traffic

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.



**SAFE WORK PROCEDURE**

**Title: Removing Items Caught in Compactor Bulldozer**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 14 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Crush by machinery</li> <li>• Sharp/ Protruding objects</li> <li>• Slips/ Falls from machine</li> <li>• Muscle/ Back injury</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved steel toe footwear</li> <li>• Puncture proof gloves</li> <li>• Safety Glasses</li> <li>• Welding gloves</li> <li>• Welding eye protection</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Operator 4 training</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who operate a compactor bulldozer.

This procedure is to be followed when removing items caught in a compactor bulldozer.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for removing items caught in a compactor bulldozer shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Put machine into neutral and activate the emergency/ parking breaks. Shut machine off, lock the breaks and lower the blade to the ground.
2. When dismounting machine: Clear mud off ladder steps (summer), or use sand on machine ladder steps (winter), dismount machinery slowly; refrain from using quick jerky movements, ensure footing is solid before proceeding to next mounting step, and grip handles tight, with full fist.
3. When you lock out machine and survey what/ how items need to be removed from machine: first find master cut off switch on machine (near engine bay), turn the key to the off position and remove it before surveying, look and asses to see how items need to be removed, or how stuck they might be, and gently pull and wiggle stuck items to evaluate if they might need to be taken out a different way.
4. Pull or cut small cables in machine by hand. If material (cables, springs, etc.) wont move, do not attempt to pull harder or to keep pulling. Move on to another option of removal.
5. Wear all personal protective equipment, and avoid from jerky/ abrupt pulling movement.
6. Pull large items or cables out of machine by dozer/ come-along/ front-end loader with a



chain.

7. Maintain a three point contact when climbing machine, ensure good solid footing when attaching chain to material, stand far back or on the other side of the inactive machinery, out of the way to avoid from being hit by chain, and maintain eye contact at all times with other machinery operators.
8. Have equipment mechanic cut large cables with cutting torch if necessary
9. When going under machinery to remove caught items: ensure the machine is OFF, the breaks are locked, and the machine is locked-out before going under machine, then bring the machine to mechanic bay or onto pavement if possible before going under machine.
10. When climbing machine to access/ pull caught items in machinery by hand: sand steps (winter), maintain a three point contact when climbing machine, ensure good solid footing when attaching pulling material.

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when removing items caught in a compactor bulldozer:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation,**

**M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 14 Fall Protection
- 20 Vehicular and Pedestrian Traffic
- 22 Powered Mobile Equipment
- 25 Work in the Vicinity of Overhead Electrical Lines

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.



**SAFE WORK PROCEDURE**  
**Title: Pushing and Placing Garbage with a Bulldozer**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> July 15 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Steep slopes(30 degrees or more)</li> <li>• Large mobile equipment traffic</li> <li>• Slippery stepping surfaces</li> <li>• Unstable/ uneven walking ground</li> <li>• Extreme cold/ hot temperatures</li> <li>• Vibration from bulldozer</li> <li>• Continuous next and back twisting</li> <li>• Potential low visibility (snow, dust)</li> <li>• Neck/ Back strain when reversing</li> <li>• Logs/rolls of plastic</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b>  <b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved footwear</li> <li>• Hearing Protection</li> <li>• Appropriate clothing for temperature</li> <li>• Seatbelt or restraint device</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Bulldozer training</li> <li>• Mechanics of equipment</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who operate a bulldozer.

This procedure is to be followed when pushing and placing garbage with a bulldozer.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for pushing and placing garbage with a bulldozer shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Walk slowly from vehicle to bulldozer ensuring you are visible to others by wearing a high visibility vest.
2. Limit walking distance from transport vehicle to bulldozer while staying clear of other machinery and other vehicular traffic.
3. Mount machinery (bulldozer) from the step on the blade arm and the remaining handles/ steps.
4. Clear mud off machine tracks to be used as a step (summer) or use sand on machine tracks to be used as a step (winter).

5. Mount machinery slowly; refrain from using quick jerky movements and ensure footing is solid before proceeding to next mounting step. Grip handles tight, with full fist.
6. Conduct bulldozer pre-shift inspection. Only do inspections and maintenance from where it was recommended in training.
7. Ensure footing and body placement is solid. Keep hands/skin away from engine and areas that may have been heated from the engine.
8. Ensure the “Murphy switch” is on before starting the machine.
9. Drive bulldozer to task area; wear seatbelt or restraint device, constantly check surrounding area for traffic (use shoulder checks, and machinery mirrors). Raise the machine blade high enough to clear any obstructions. Survey surrounding area for previously dug holes before shift.
10. Push garbage to designated area then reverse (Continue this step until task is complete). Contact the refuse loads straight on and keep the work area level. Avoid turning sharply on the slopes and always face the machine towards inclines, do not drive diagonally up or downhill.
11. Constantly check surrounding area for traffic and radio the Traffic Director if garbage trucks need proper dumping instruction. Do not drive up or down inclines more than 30 degrees.
12. Drive bulldozer to designated bulldozer parking area. Park the bulldozer and lower the blade to the ground before shutting off the machinery.
13. Throttle down the engine and engage the parking brake. Shut off the machinery and dismount bulldozer
14. Perform a post-trip inspection and lock-out the machine by locating the master cut-off switch near the engine bay and turn it off. Engage the hydraulic lever in the cab, on the right side of the seat. Ensure to report any questionable or suspicious looking defects on the machine to the landfill foreman
15. Clean the tracks. Always verify that the brakes are locked/ machine is off/ and lock-out to both the blade and machine has been performed prior to cleaning tracks. Clean tracks while standing on the ground, avoid from standing on tracks to clean. Keep solid footing when scraping the wheels and use a shovel or a light metal bar to scrape tracks.
16. Walk from dozer to vehicle staying clear of other machinery and vehicular traffic. Ensure you are visible to others by wearing a high visibility vest.

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when pushing and placing garbage with a bulldozer:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

<p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"><li>• 2.1 Safe Work Procedures</li><li>• 5 First Aid</li><li>• 6 Personal Protective Equipment</li><li>• 8 Musculoskeletal Injuries</li><li>• 14 Fall Protection</li><li>• 20 Vehicular and Pedestrian Traffic</li><li>• 22 Powered Mobile Equipment</li></ul>	<p style="text-align: center;"><b><u>Supervisor Responsibility</u></b></p> <p>Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.</p> <p style="text-align: center;"><b><u>Worker Responsibility</u></b></p> <p style="text-align: center;">Follow Safe Work Procedure Wear appropriate PPE</p> <p>This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</p>
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**SAFE WORK PROCEDURE**  
**Title: Pulling Stuck Vehicles with Large Equipment**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> July 15 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Steep slopes(30 degrees or more)</li> <li>• Large mobile equipment traffic</li> <li>• Slippery stepping surfaces</li> <li>• Unstable/ uneven walking ground</li> <li>• Extreme cold/ hot temperatures</li> <li>• Vibration from bulldozer</li> <li>• Continuous next and back twisting</li> <li>• Potential low visibility (snow, dust)</li> <li>• Neck/ Back strain when reversing</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• Appropriate clothing for temperature</li> <li>• Seatbelt or restraint device</li> <li>• Leather Gloves</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Bulldozer training</li> <li>• Mechanics of equipment</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who operate a bulldozer.

This procedure is to be followed when pulling stuck vehicles with large equipment.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for pulling stuck vehicles with large equipment shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Drive equipment to stuck vehicle wearing seatbelt or restraint device, while constantly checking surrounding area for traffic (use shoulder checks, and machinery mirrors). Survey surrounding area for previously dug holes before shift.
2. Reverse to stuck vehicle using evasive driving if a hole is encountered. Leave approximately 3 meters between the equipment and the stuck vehicle to attach chain. Use a spotter with constant contact to the operator.
3. Attach tow chain to the equipment and stuck vehicle. Have operator of stuck vehicle/ equipment attach chain to both vehicles.

4. IF LANDFILL HELPER ATTACHES CHAIN: Wear leather gloves, steel toe footwear, and high visibility vest when handling chain, ensure there is supervision from another landfill helper in case of emergency, ensure operators of equipment and stuck vehicle know where you are at all times by visual direction and communication, never climb or bend under any vehicle to attach chain to undercarriage, leave the area immediately after chain is attached.
5. Pull the stuck vehicle/ equipment.
6. IF PEOPLE ARE STANDING IN SURROUNDING AREA: Stand in an area where the chain is visible to surrounding persons, stand at least 30 meters away from the equipment pulling vehicle, the equipment operator must survey area and ensure no persons are within close vicinity to the equipment prior to pulling the stuck vehicle.
7. Remove tow chain after vehicle/ equipment is free.
8. Have operator of stuck vehicle/ equipment attach chain to both vehicles. Never climb or bend under any vehicle to attach chain to undercarriage.
9. Drive the equipment back to previous work area, wearing seatbelt or restraint device.
10. Constantly check surrounding area for traffic (use shoulder checks, and machinery mirrors).

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when pulling stuck vehicles with large equipment:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 14 Fall Protection
- 20 Vehicular and Pedestrian Traffic
- 22 Powered Mobile Equipment

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.



**SAFE WORK PROCEDURE**

**Title: Operating the Scale**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> July 15 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Cold/ wet weather conditions</li> <li>• Irate customers</li> <li>• Pinch from window</li> <li>• Slips on steel walkway</li> <li>• Emotional Stress from scale operation tasks</li> <li>• Unknown public entering scale office</li> <li>• Back strain</li> <li>• Repetitive Motion</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• Appropriate clothing for all weather conditions</li> <li>• CSA approved steel toe footwear</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Weighmaster training</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who operate the scale.

This procedure is to be followed when operating the scale.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for operating the scale shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. When walking from transport vehicle or main office to scale office: ensure a high visibility vest is worn, and wear proper clothing for weather conditions
2. When collecting fees from public through payment window: advise public to exit vehicle and come up to window if they park too far from window, DON'T REACH for them, wear proper clothing for weather conditions, if public becomes irate, close and lock both windows then contact foreman to notify them of the situation, push the red button hard and slowly to open the window, ensure the door to the scale office is locked at all times, and alternate arms when collecting fees through the window.
3. Return receipt and give instruction to public through window
4. Ensure a second weigh master is in the scale office to allow access through door, and to supervise in case of emergency.
5. Exit the scale office and walk across payment lanes to instruct public how to use automated payment method, use an intercom to explain this to public if possible. Walk to the end of the payment lanes to enter from opening of the lane, and salt and sand payment lanes prior to shift and occasionally throughout the day.

6. When walking back into scale office from directing traffic or giving instruction to public: walk on salted/ sanded path, and Ensure that drivers of vehicle see you before crossing lanes
7. When exiting scale office to transport vehicle or walk back to main office: ensure a high visibility vest is worn, and wear proper clothing for weather conditions

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when operating the scale:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 20 Vehicular and Pedestrian Traffic

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.





**SAFE WORK PROCEDURE**  
**Title: Operating a Front End Loader**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 7 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Slips off machine's ladder</li> <li>• Machine malfunction</li> <li>• Tipping machine</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b>  <b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High Visibility Vest</li> <li>• CSA Approved Steel Toe Footwear</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Front-end Loader Operator Certification</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who operate a front-end loader.

This procedure is to be followed when operating a front end loader.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for operating a front end loader shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Perform pre-trip inspection on the machine by locating master cut-off switch near the engine bay and ensure it is on, check all fluid levels, inspect for wear and tear in fluid lines, tires, and joints of the machine.
2. Mount the front-end loader, maintain a three point contact when climbing ladder. Mount the ladder slowly, avoid from using jerky/ abrupt movements.
3. Start the machine and then travel to the load area, making sure to wear seatbelt. Don't travel with the bucket lifted higher than the front of the machine. Raise the bucket to at least 18-24" off the ground and curl the bucket up prior to travelling the front-end loader, and ensure objects are clear of travel path and motion range of the machine.
4. Advance the machine towards the material and scoop a load with the bucket.
5. Use the bucket to help stabilize the machine if it seems unsteady, lower and press the bucket to the ground, and advance into the load pile slowly, and raise the bucket out of the load pile slowly.
6. Transport the load to the dumping area: load should be no higher than the front of the machine.
7. Raise the bucket to desired dumping height and dump the load from the bucket in a designated dumping area. Continue the loading and dumping process until job is complete.
8. Lift the bucket when the machine has slowed down or stopped. Take small breaks and walk around to circulate blood flow and move body parts.

9. Drive the front-end loader to its parking area, lower bucket to the ground, shut down and dismount the machine.
10. Raise the bucket to at least one foot off the ground prior to travelling the front-end loader. Maintain a three point contact when climbing ladder.
11. Perform post-trip inspection and lock out the machine. Locate the master cut-off switch near the engine bay and turn it off, then lock it with a padlock.
12. Engage the hydraulic lever in the cab, on the right side of the seat. Perform a full post-trip inspection and report any questionable or suspicious looking defects on the machine

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when operating a front end loader:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 14 Fall Protection
- 20 Vehicular and Pedestrian Traffic
- 22 Powered Mobile Equipment

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.



**SAFE WORK PROCEDURE**  
**Title: Finding and Cutting Firewood**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 17 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Sharp tools</li> <li>• Flying wood</li> <li>• Splinters</li> <li>• Nails in wood</li> <li>• Hepatitis or Tetanus</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b>  <b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High Visibility Vest</li> <li>• CSA approved ankle-high steel toe footwear</li> <li>• Leather Gloves</li> <li>• Safety Glasses</li> <li>• Long denim pants</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Landfill helper training</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who cut firewood.

This procedure is to be followed when finding and cutting firewood.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for finding and cutting firewood shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Walk to nearby area and look for wood. If patrons are dumping wood, direct them to dump it next to the shelter hut. If wood has run out completely, call foremen to request aid in locating more wood for immediate burning.
2. When grabbing and carrying the wood back to shelter hut (handling wood), make sure to: Wear all personal protective equipment (gloves, etc.), avoid from venturing into the refuse, grab wood that is in the open and easily accessible, survey the wood for any nails/ staples before picking it up, then flip the wood over from it's edge to look for nails/ staples, and avoid from using pallets or large pieces of wood, but if necessary, request assistance when lifting them.
3. When chopping wood with axe: keep focused when cutting wood, do not look away for a second when in the downswing of the cut, keep feet parallel to the outside of the wood piece, and keep a wide stance, place wood on another log piece for better stability, and avoid hyper extending the spine when raising the axe overhead and contract abdominal muscles.
4. If injury occurs when sawing wood, apply pressure to wound and apply necessary first aid. Call ambulance or have foreman transport worker to hospital.

5. Make sure to hold wood about 12" away from the saw blade. Do not attempt to force the blade to cut if it gets stuck, lift the wood up from the bottom with your free hand, and keep cutting slowly.
6. When removing nails from refuse wood, you should: Survey the wood for any nails/ staples before picking it up, then flip the wood over from its edge to look for nails/ staples, wear leather gloves, and hammer the pointy side of the nail (hammer the nail "out"), then pry the nail out from the other side with the hammer.
7. When handling wood that has already been cut: lift with legs, hold wood close to the body, bend knees to release load, and discard wood with nails, if nails couldn't be removed.

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when finding and cutting firewood:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation,**

**M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 14 Fall Protection

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.



**SAFE WORK PROCEDURE**

**Title: Directing Traffic in Commercial and Residential Dumping Cell**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> July 15 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Extreme Hot/ Cold Weather exposure</li> <li>• Wind</li> <li>• Dust particulates</li> <li>• Uneven/ Unstable Ground</li> <li>• Being Struck by Large Mobile Equipment (Garbage Trucks)</li> <li>• Potential low visibility</li> <li>• Trip hazards</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Appropriate clothing for weather conditions</li> <li>•</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Traffic director training</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who direct traffic.

This procedure is to be followed when directing traffic in commercial and residential dumping cell.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for directing traffic in commercial and residential dumping cell shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. When driving up to dumping cell(s): don't exceed the speed limit of 50Km/H, drive slower than speed limit in winter conditions, don't hug the middle of the road, stay on your side, don't try to avoid potholes or large puddles, drive through them slowly.
2. When parking in dumping cell(s): drive uphill to the cell slowly; remain on one side of the road, not in the middle, ensure headlights are on in low visibility conditions.
3. When exiting vehicle to enter shelter hut: walk slowly, ensure you are visible to others by wearing a high visibility vest, limit walking distance from transport vehicle to shelter hut, and stay clear of other machinery and other vehicular traffic.
4. When exit vehicle or shelter hut to direct traffic: walk slowly, sand steps of shelter hut to reduce slippery surface, and ensure there is at least one other landfill helper available on site to watch the traffic director in the field, in case of emergency.
5. When directing dumping vehicles to designated dumping area(s): wear high visibility vest, use large movements when directing traffic to appear more visible to traffic, wear clothing

that will protect against the elements of rain, wind, extreme cold, hydrate regularly by drinking water, wear a hat and sunscreen in hot/ humid weather conditions, and wear safety glasses.

6. When venturing throughout cell area to direct traffic: stay 20 meters back when walking behind large mobile equipment, make visual contact with drivers before proceeding to walk beside or behind large mobile equipment (If you can't see them, they can't see you), and avoid the need for venturing close to disposal trucks
7. When walking back to shelter hut or shelter vehicle: walk slowly, sand steps of shelter hut to reduce slippery surface, and avoid the need for venturing close to disposal trucks
8. When driving back to main office at break or end of shift: don't exceed the speed limit of 15km/hr on the roads to the dumping cells and 50km/hr on main roads. Drive slower than speed limit in winter conditions, don't hug the middle of the road, stay on your side, and don't try to avoid potholes or large puddles, drive through them slowly.

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when directing traffic in commercial and residential dumping cell:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation,**

**M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 14 Fall Protection
- 20 Vehicular and Pedestrian Traffic
- 22 Powered Mobile Equipment

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.



**SAFE WORK PROCEDURE**  
**Title: Digging and Filling the Animal Waste Pit**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 4 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Machine/ operator falling into hole</li> <li>• Heavy machinery striking operator</li> <li>• Constant vibration from machine</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b>  <b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• Ankle high CSA approved steel toe footwear</li> <li>• Clothing for extreme cold weather</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Excavator operator training</li> <li>• Traffic director training</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who operate an excavator.

This procedure is to be followed when digging and filling the animal waste pit.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for digging and filling the animal waste pit shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Mount machine from the step in between the tracks, then step on tracks, all while grasping the handle next to the door of the excavator. Mount machinery slowly; refrain from using quick jerky movements, ensure good footing on steps when mounting. Sand the step/ tracks prior to mounting machine for better traction (winter).
2. Drive to the desired area to begin excavation for an animal waste pit, making sure to survey driving path prior to travelling to the pit area, to ensure for a clear path.
3. Ensure any surrounding large machinery know of your position from visual and radio contact. Approach holes or dips in the ground with the tracks facing their direction.
4. Begin digging a hole 10-15' deep, 10' wide and 30' long. Add to the length of the hole in increments.
5. Always face the machine's tracks towards the pit for easy escape if it collapses. Do not attempt to climb out of excavator or hole if you have fallen in, call for help and wait until it arrives. Call for help on the radio or cell phone if excavator falls/ tips in hole.
6. Drive excavator out of animal pit area, park and turn machine off, then dismount excavator to direct dumping vehicle.
7. Direct dumping vehicle towards animal pit, while standing at least 3 meters from the pit at all times.
8. Ensure eye contact with the driver of the dumping vehicle at all times, and never stand

<p>directly behind the dumping vehicle.</p> <ol style="list-style-type: none"><li>9. Mount excavator after dumping vehicle leaves the area, then drive to animal pit to begin burying waste in the hole.</li><li>10. Approach the pit from its long side, and begin to bury the exposed animal waste. Always face the machine's tracks towards the pit for easy escape if it collapses.</li><li>11. Drive to the desired excavator parking area, and dismount excavator.</li><li>12. Clean tracks of excavator, hold excavator storage door open with one hand when it is windy.</li></ol>	
<p><b>First aid</b> Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.</p>	
<p><b>Work requirements when digging and filling the animal waste pit:</b></p> <ol style="list-style-type: none"><li>1. All safety equipment as stated above.</li><li>2. Qualified and trained operators.</li><li>3. Work area is clear of all hazards.</li></ol>	
<p>If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure. <b>REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR</b></p>	
<p><b>Guidance Documents/ Standards / Applicable</b></p> <p><b>Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"><li>• The Manitoba Workplace Safety and Health Act W210</li></ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"><li>• 2.1 Safe Work Procedures</li><li>• 5 First Aid</li><li>• 6 Personal Protective Equipment</li><li>• 8 Musculoskeletal Injuries</li><li>• 20 Vehicular and Pedestrian Traffic</li><li>• 22 Powered Mobile Equipment</li></ul>	<p><b><u>Supervisor Responsibility</u></b></p> <p>Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.</p> <p><b><u>Worker Responsibility</u></b></p> <p>Follow Safe Work Procedure Wear appropriate PPE This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</p>





**SAFE WORK PROCEDURE**

**Title: Covering Small Fires in the Dumping Cells with a Bulldozer/Compactor.**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> August 10 <sup>th</sup> , 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Hazardous fumes/gases from burning garbage.</li> <li>• Explosion from fire</li> <li>• Burns to skin</li> <li>• Equipment catching fire</li> <li>• Subsurface fire potential</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b></p> <p><b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• Leather gloves</li> <li>• CSA approved steel toe footwear</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Bulldozer/ Compactor Operator Certification</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who operate a bulldozer/compactor.

This procedure is to be followed when covering small fires in the dumping cells with a bulldozer/compactor.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for covering small fires in the dumping cells shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Begin the following process immediately and then call the foreman to assess the fire, as they should visually inspect the situation.
2. Do not continue with this process if you feel your health/ safety might be jeopardized by attempting to douse the fire. Call the fire department (911) if there is ANY suspicion of danger for fighting the fire.
3. Do not attempt to fight fire in an area that is inaccessible to the bulldozer/ scraper.
4. Foreman should drive to the fire site at the speed limit to avoid a collision with traffic or ditch.
5. Build a clean-fill "wall" downwind from the fire in order to isolate the burn. Asses the situation (wind direction and speed) and always build this wall at a safe distance form the fire to allow a quick escape if the fire becomes too large.
6. Begin to scrape and push clean-fill onto the fire area, or push the fire area into the center of the dumping cell, survey the area of the fire for holes or dips in the ground before commencing this process. Never dump clean-fill downwind and always dump a distance of at least 15 feet upwind of the fire.
7. Push material ONTO the fire then reverse the machine, do not drive over the fire area.

<p>Evacuate the area immediately if fire begins to surround machinery.</p> <ol style="list-style-type: none"><li>8. Transport the scraper to the fire as safe as possible. Have the scraper collect and dump clean-fill next to the fire area. Dump clean fill from the scraper next to the fire, not on top of it.</li><li>9. Push the clean-fill dumped by the scraper onto the fire area. Continue this process until fire has been extinguished.</li><li>10. Wait until other machinery is clear of the area before continuing to cover fire.</li><li>11. Inspect all equipment involved in this process for defects or damage caused by heat from the fire, specifically look for burns on fluid lines, tires, and joints of the machine.</li><li>12. Inspect the fire area the next day by moving clean fill with the bulldozer blade or excavator bucket.</li><li>13. If the area is still smouldering, report to the foreman, and wait until further instruction from foreman before proceeding to address the fire.</li></ol> <p><b>First aid</b> Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.</p> <p><b>Work requirements when covering small fires in the dumping cells with a bulldozer/compactor:</b></p> <ol style="list-style-type: none"><li>1. All safety equipment as stated above.</li><li>2. Qualified and trained operators.</li><li>3. Work area is clear of all hazards.</li></ol> <p>If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.</p> <p><b>REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR</b></p>	
<p><b>Guidance Documents/ Standards / Applicable</b></p> <p><b>Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"><li>• The Manitoba Workplace Safety and Health Act W210</li></ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"><li>• 2.1 Safe Work Procedures</li><li>• 5 First Aid</li><li>• 6 Personal Protective Equipment</li><li>• 19 Fire and Explosive Hazards</li><li>• 22 Powered Mobile Equipment</li><li>• 42 Firefighters</li></ul>	<p><b><u>Supervisor Responsibility</u></b></p> <p>Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.</p> <p><b><u>Worker Responsibility</u></b></p> <p>Follow Safe Work Procedure Wear appropriate PPE This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</p>



**SAFE WORK PROCEDURE**  
**Title: Packing Garbage with Compactor**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> July 15, 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Steep slopes(30 degrees or more)</li> <li>• Large mobile equipment traffic</li> <li>• Slippery stepping surfaces</li> <li>• Unstable/ uneven walking ground</li> <li>• Extreme cold/ hot temperatures</li> <li>• Vibration from bulldozer</li> <li>• Continuous next and back twisting</li> <li>• Potential low visibility (snow, dust)</li> <li>• Neck/ Back strain when reversing</li> <li>• Hazardous Waste – Chemicals/Propane Tanks</li> <li>• Logs, Rolls of Plastic</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b>  <b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved footwear</li> <li>• Hearing Protection</li> <li>• Appropriate clothing for temperature</li> <li>• Seatbelt or restraint device</li> <li>• Bump Hat (recommended)</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Compactor – Landfill</li> <li>• Mechanics of equipment</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who operate a compactor.

This procedure is to be followed when packing garbage with the compactor.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for packing garbage with the compactor shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. Walk slowly from vehicle to compactor, ensuring you are visible to others by wearing a high visibility vest.
2. Limit walking distance from transport vehicle to compactor and make sure to stay clear of other machinery and other vehicular traffic.

3. When mounting machinery (compactor) make sure to; clear mud off of ladder steps (summer), use sand on ladder steps (winter), mount machinery slowly; refrain from using quick jerky movements, ensure footing is solid before proceeding to next mounting step, and grip handles tight, with full fist.
4. When conducting compactor pre-shift inspection; ensure footing and body placement is solid, only do inspections and maintenance from where it was recommended in training, and make sure to keep hands/skin away from engine and areas that may have been heated from the engine.
5. When driving Compactor to task area; wear seatbelt or restraint device, ensure the "Murphy Switch" is on before starting the machine, raise the machine blade enough to clear any obstructions, constantly check surrounding area for traffic and people (use shoulder checks, and machinery mirrors), and survey surrounding area for previously dug holes before shift.
6. Push garbage to designated area, and then reverse Compactor (Continue this step until task is complete). Always contact refuse loads straight on and keep the work area level. Avoid sharp turns on slopes and always face the machine towards inclines, do not drive diagonally up or downhill.
7. Constantly check surrounding area for traffic and radio the Traffic Director if garbage trucks need proper dumping instruction. Do not drive up or down inclines more than 30 degrees without supervision. Never drive on inclines that exceed 40 degrees.
8. Use evasive driving when a hole is encountered, making sure to alternate looking over shoulders when reversing, or use mirrors.
9. Drive Compactor to designated parking area, park the compactor, and lower the blade to the ground ensuring that the blade/bucket is resting on the ground before shutting the machinery off.
10. Throttle the engine all the way down to kill the engine. Engage the parking brake and steering lock. Idle the engine for 3-5 minutes then drain the air tank. Shut the machine off and dismount the compactor.
11. When dismounting Compactor; clear mud off ladder steps (summer), use sand on machine ladder steps (winter), dismount machinery slowly; refrain from using quick jerky movements, ensure footing is solid before proceeding to next mounting step, and grip handles tight, with full fist.
12. Perform a post-trip inspection and lock-out the machine. Locate the master cut-off switch near the engine bay and turn it off. Engage the hydraulic lever in the cab, on the right side of the seat. Report any questionable or suspicious looking defects on the machine to the landfill foreman.
13. Before cleaning the wheels always verify that the brakes are locked, the machine is turned off, and lock-out to both the blade and machine has been performed. Clean the tracks while standing on the ground, never stand on tracks to clean them. If the ground is ice, use boot grip attachments. Ensure you have solid footing when scraping the wheels and use a shovel or a light metal bar. Wear warm insulating clothes/ gloves/ hat. In the summer wear leather gloves.
14. When walking from Compactor to vehicle: walk slowly; ensure you are visible to others by wearing a high visibility vest, limit walking distance from compactor to transport vehicle, and stay clear of other machinery and vehicular traffic.

#### **First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

#### **Work requirements when packing garbage with the compactor:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

<p>If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.</p> <p><b>REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR</b></p>	
<p><b>Guidance Documents/ Standards / Applicable</b></p> <p><b>Legislation / Other:</b></p> <p><b>Guidance Documents:</b></p> <ul style="list-style-type: none"><li>• The Manitoba Workplace Safety and Health Act W210</li></ul> <p><b>Manitoba Workplace Safety and Health Regulation, M.R. 217/2006:</b></p> <ul style="list-style-type: none"><li>• 2.1 Safe Work Procedures</li><li>• 5 First Aid</li><li>• 6 Personal Protective Equipment</li><li>• 8 Musculoskeletal Injuries</li><li>• 14 Fall Protection</li><li>• 16 Machines, Tools and Robots</li><li>• 20 Vehicular and Pedestrian Traffic</li></ul>	<p><b><u>Supervisor Responsibility</u></b></p> <p>Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.</p> <p><b><u>Worker Responsibility</u></b></p> <p>Follow Safe Work Procedure Wear appropriate PPE This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.</p>



**SAFE WORK PROCEDURE**  
**Title: Approaching Heavy Machinery**

This Task may only be performed by trained personnel

<b>Facility:</b> Brady Road Landfill	<b>Written by:</b> Brian Roach	<b>Approved by:</b>	<b>Date Created:</b> July 15, 2009	<b>Date of last Revision:</b>
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<p><b>Hazards Present:</b></p> <ul style="list-style-type: none"> <li>• Large mobile equipment traffic</li> <li>• Uneven/ Unstable ground</li> <li>• Low visibility</li> <li>• Shifting machinery</li> <li>• Machinery backing over worker</li> <li>• Trips/ slips/ twisted ankles</li> </ul>	<p><b>Personal Protective Equipment (PPE)</b>  <b>Or devices required</b></p> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle-high steel toe footwear</li> </ul>	<p><b>Additional Training Requirements:</b></p> <ul style="list-style-type: none"> <li>• Traffic Director Training</li> </ul>
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**Safe Work Procedure**

**Training**

Supervisors are responsible for the training of all personnel who approach heavy machinery.

This procedure is to be followed when approaching heavy machinery.

All employees will be trained on proper use before doing this task. As well, refresher training may be offered as new employees are hired and for the purposes of updating this procedure. The following procedures for approaching heavy machinery shall be followed;

Don personal protective equipment before beginning the task. Ensure clothing fits appropriately (tight fitting).

1. When stepping out from the shelter hut/ transport vehicle, and walking in the direction of heavy machinery: do not venture away from the transport vehicle, attempt to reach operator on their radio, always have one other worker watch this process from the shelter hut/ transport vehicle, walk a route with the least activity of dumping vehicles, ensure eye contact with all dumping vehicle drivers, and never walk behind ANY vehicle while on route to large machinery.
2. Do not approach large machinery from behind, watch for objects protruding in ground, but keep a steady pace when walking to avoid from blending in with background garbage. High visibility vest must be worn and other PPE must be worn, and make sure to not walk down hill off of dumping cell at any time.
3. From a significant distance, wave arms to signal the operator in the machine.
4. Stay a minimum of 15 meters away from the machine when approaching, ensure the operator has signalled back to acknowledge the workers presence. If unable to get operators attention, keep 15 meters back or return to shelter hut/ transport vehicle, and if visibility is low, attempt to reach the operator on their radio.

5. Allow machinery to position itself on stable ground and for the operator to shut off and exit machinery.
6. Keep checking the surrounding area for traffic, avoid standing out in the open for an extended period of time, unless transport vehicle is in close vicinity, ensure the operator knows your position by keeping eye contact with the operator, and if unsure that operator has seen you, keep 15 meters back or return to transport vehicle/ shelter hut.
7. Once machine is off, walk towards machine to speak with operator
8. Notify operator to shut machine down before approaching machine (use a hand signal). If fallen, attempt to get back up as quickly as possible and signal for help with arms to anybody if injured.
9. When walking back to transport vehicle or shelter hut: walk a route with the least activity of dumping vehicles, ensure eye contact with all dumping vehicle drivers, and never walk behind ANY vehicle while on route to large machinery.
10. Watch for objects protruding in ground, but keep a steady pace when walking to avoid from blending in with background garbage.

**First aid**

Every employee will be trained in First Aid (CPR) and will renew their training every three (3) years on a regular basis. A first aid kit must be on site at all times.

**Work requirements when approaching heavy machinery:**

1. All safety equipment as stated above.
2. Qualified and trained operators.
3. Work area is clear of all hazards.

If an emergency situation occurs while conducting this task call 911, or there is an equipment malfunction, engage emergency stop and follow the lock out procedure.

**REPORT ANY HAZARDOUS SITUATIONS TO YOUR SUPERVISOR**

**Guidance Documents/ Standards / Applicable**

**Legislation / Other:**

**Guidance Documents:**

- The Manitoba Workplace Safety and Health Act W210

**Manitoba Workplace Safety and Health Regulation,**

**M.R. 217/2006:**

- 2.1 Safe Work Procedures
- 5 First Aid
- 6 Personal Protective Equipment
- 8 Musculoskeletal Injuries
- 14 Fall Protection
- 20 Vehicular and Pedestrian Traffic
- 22 Powered Mobile Equipment
- 25 Work in the Vicinity of Overhead Electrical Lines

**Supervisor Responsibility**

Supervisors are responsible to provide all staff with proper instruction, equipment, and tools. Supervisors are responsible to ensure that all safe work practices are followed.

**Worker Responsibility**

Follow Safe Work Procedure  
Wear appropriate PPE  
This Procedure will be reviewed any time the task, equipment, or materials change, or at a minimum every three years.

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Check the Standard Operating Procedure located in the N:\Synergen Attachments\Wastewater\Facility Name Acronym\SOP folder*


<b>Standard Operating Procedure (SOP) &amp; Job Hazard Analysis (JHA)</b>		<b>Job Name: Leachate Well Installation</b>	<b>Task Number: 1 of 1</b>
<b>Task: Leachate Well Installation</b>		<b>Creation Date: February 4, 2010</b>	
		<b>Revision Date:</b>	
<b>Hazards Present:</b> Loud Noise Suspended heavy materials Leachate/ Garbage Moving heavy equipment Moving Auger Explosion Potential	<b>Applies To: (Div/Branch/Section/Facility/Location/Area)</b> Solid Waste/ Landfill and Environmental/ Brady Landfill/ Brady Landfill Area	<b>Personnel Training Requirements:</b> Valid Class 5 Driver's License	
<b>Tools/Equipment Required:</b> <ul style="list-style-type: none"> <li>Contractor Drilling Rig</li> <li>Methane Monitor</li> <li>Scraping tool</li> <li>Solid Stem Augers (5ft intervals)</li> <li>Hollow Stem Augers (5 ft intervals)</li> <li>Shelby Tubes</li> <li>Tiger Torch (contractor use only)</li> </ul>	<b>Materials/Supplies Required:</b> <ul style="list-style-type: none"> <li>Labels for core samples</li> <li>Silica Sand Bags</li> <li>Screened Well Risers</li> <li>Solid Well Risers</li> <li>Above Ground Well Covers</li> </ul>	<b>Personal Protective Equipment:</b> CSA approved Hard Hat CSA approved Steel toe footwear CSA approved safety glasses High visibility Vest Warm winter clothing Full body Tyvek suit Nitrile Gloves or Leachate Designated mitts. Hearing protection if noise is over 85db.	
<b>Step #</b>	<b>Sequence of Steps/ Procedure</b>	<b>Potential Accidents or Hazards</b>	<b>Recommended Safe Job Procedure</b>
1	<b>Drive to well installation site.</b>	-Low visibility/ poor road conditions resulting in serious vehicular collision. -Potential to be stranded in a remote area or exposed to extreme temperature conditions after a collision/ vehicle malfunction. -Other vehicular traffic causing a collision.	-Wear seatbelt at all times -Drive at or below the posted speed limit depending on visibility, weather, and road conditions. -Bring all vehicular emergency kits/ equipment, and clothing appropriate for extreme weather conditions. -Practice defensive driving while on the road.

***SOP\_JHA\_WW\_Solid Waste\_Landfill and Environmental\_Leachate Well Installation\_1 of 1\_Leachate Well Installation\_02\_04\_10***



***Water and Waste Department***




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		<p>-Driver being thrown out of vehicle or thrown around in vehicle.</p> <p>-Working alone resulting in unknown whereabouts if technologist is unable to call for help.</p>	<p>-Use four-wheel drive when driving off road.</p> <p>-Do not exceed 10 km/h when driving off road, and do not drive where there is a chance to get stuck/ stranded.</p> <p>-Bring minimum of one functional telecommunication device.</p> <p>-Check in with the city office every two hours of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.</p>
2	<p><b>Select the desired drilling area. Allow contractors to set up drilling rig.</b></p> 	<p>-Serious injury by heavy equipment with moving parts.</p> <p>-Cold weather.</p> <p>-Twisting ankle on uneven ground/ rough terrain.</p>	<p>-Stand at a safe distance from the drill rig when it backs into place. Ensure the driver of the drill rig knows where you are at all times, maintain visual contact.</p> <p>-Ensure all PPE is worn. Do not step onto the drill site without a hard hat on.</p> <p>-Dress appropriately for weather conditions.</p>
3	<p><b>Contractor begins drilling to a depth that is below garbage, into clay.</b></p> <ul style="list-style-type: none"> <li>• <b>City of Winnipeg employee Logs the ground stratigraphy by observing ground material on auger. Use a scraping tool to remove material from the auger.</b></li> </ul>	<p>-Potential of falling debris on workers below from drill.</p> <p>-Getting clothes/ hands caught in auger while drilling.</p> <p>-Exposure to leachate and methane gas.</p>	<p>-Stand at a safe distance from the auger while the drill is in use.</p> <p>-Ensure the auger has come to a stop before approaching the drill to observe the material in the auger.</p> <p>-Refrain from stepping near the hole in the ground.</p>

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4	<p><b>Once clay is found, contractors will install a Shelby Tube to drilling auger. Then obtain a core sample of clay by having contractor drill Shelby Tube into clay, approx 2 ½ feet (the length of the tube).</b></p> 	<ul style="list-style-type: none"> <li>-Being struck by auger, or drill truck when it inserts and removes drill from the well hole.</li> <li>-Dropping heavy Shelby Tube onto feet.</li> </ul>	<ul style="list-style-type: none"> <li>-Stand a few meters away from the auger when it is being inserted and removed from the hole.</li> <li>-Ensure steel toe boots are worn.</li> </ul>
5	<p><b>Put on Tyvek suits then remove Shelby Tube to acquire core sample, label the sample then contain it in storage shed at Brady Landfill.</b></p>	<ul style="list-style-type: none"> <li>-Exposure to leachate and biohazardous materials.</li> <li>-Being struck by auger, or drill truck when it inserts and removes drill from the well hole.</li> <li>-Dropping heavy Shelby Tube onto feet.</li> </ul>	<ul style="list-style-type: none"> <li>-Tyvek suits should be worn at this point, Shelby Tubes are extremely dirty and exposed to leachate.</li> <li>-Ensure nitrile gloves or winter gloves (leachate designated) are worn when handling these core samples.</li> <li>-Stand a few meters clear until the contractors can remove the augers from the ground and detach the Shelby Tube from the auger.</li> </ul>
6	<p><b>Test the well hole area for methane</b></p>	<ul style="list-style-type: none"> <li>-Potential for explosion if a high level of methane</li> </ul>	<ul style="list-style-type: none"> <li>-Ensure the auger has stopped moving prior to approaching the</li> </ul>

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	<b>using the methane monitor.</b>	exists and flame/ heat is involved.	drill to test for methane. -No open flame torches or materials should be used until the methane level surrounding the hole is below the LEL.
7	<b>Contractors will attach hollow stem augers to the drill and drill to the desired depth for the bottom of the well. Contractors will use tiger torch to thaw the pins in augers if frozen.</b>	-Explosion or fire potential by open flame and methane combination.	-Ensure the surrounding area has a level of methane below its LEL. Air containing less than 5.53% methane no longer explodes. -If methane exists where explosion is possible then allow for the methane to dissipate below its LEL and then use tiger torch if necessary.
8	<b>Contractors insert the appropriate number and type of well risers into the hollow auger until the risers extend to the height just below the “above ground cover”.</b> 	-Direct contact with leachate and old garbage while working with risers in well. -Twisting ankle while working around well hole.	-City of Winnipeg employees should stand a few meters clear of the drill rig at this point. Allow for the contractors to perform this work.
9	<b>Contractors remove hollow augers from well hole and remove drilling rig from well area.</b>	-Being struck by auger, or drill truck when it inserts and removes drill from the well hole.	-City of Winnipeg employees should stand a few meters clear of the drill rig at this point. Allow for the contractors to perform this work.
10	<b>Contractors fill the surrounding area of the well risers with appropriate sand or non-permeable clay. Contractors will then install ground covers to well.</b>	-Back/ muscle injury when lifting bags of silica sand. -Twisting angle while working around the well hole.	-City of Winnipeg employees should stand a few meters clear of the drill rig at this point. Allow for the contractors to perform this work.

**SOP\_JHA\_WW\_Solid Waste\_Landfill and Environmental\_Leachate Well Installation\_1 of 1\_Leachate Well  
 Installation\_02\_04\_10**

**Water and Waste Department**

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12	<b>Remove full body Tyvek suits and disinfect all PEE and tools/ equipment with disinfectant solution.</b>	-Exposure to leachate and other biohazardous materials via absorption or ingestion.	<ul style="list-style-type: none"> <li>-Avoid contacting materials that have been exposed to leachate with bare skin. Put on nitrile gloves when disinfecting tools.</li> <li>-Quarantine materials/ tools/ clothing that have been exposed to leachate to a certain part of the vehicle until they can be properly cleaned and disinfected.</li> <li>-Avoid from smoking, eating or touching your face until hands can be washed thoroughly and disinfected.</li> </ul>
13	<b>Drive to separate well area or back to office.</b>	<ul style="list-style-type: none"> <li>-Low visibility/ poor road conditions resulting in serious vehicular collision.</li> <li>-Potential to be stranded in a remote area or exposed to extreme temperature conditions after a collision/ vehicle malfunction.</li> <li>-Other vehicular traffic causing a collision.</li> <li>-Driver being thrown out of vehicle or thrown around in vehicle.</li> </ul>	<ul style="list-style-type: none"> <li>-Wear seatbelt at all times</li> <li>-Drive at or below the posted speed limit depending on visibility, weather, and road conditions.</li> <li>-Bring all vehicular emergency kits/ equipment, and clothing appropriate for extreme weather conditions.</li> <li>-Practice defensive driving while on the road.</li> <li>-Use four-wheel drive when driving off road.</li> <li>-Do not exceed 10 km/h when driving off road, and do not drive where there is a chance to get stuck/ stranded.</li> </ul>

Developed By:	Chris Kozak	Brian Roach	
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Removing and Installing pumps to Leachate Manholes</b>	<b>Task ID:</b>
<b>Job: Environmental Technologist II / Technical Assistant</b>		<b>Date Developed: Sep 17, 2009</b>	
		<b>Date Revised: September 29, 2011</b>	
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Falling into manhole</li> <li>• Back/ Muscle strain or injury</li> <li>• Leachate (corrosive/ toxic liquid)</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and Waste/ Solid Waste/ Landfill and Environmental/ Removing and Installing pumps to leachate manholes <ul style="list-style-type: none"> <li>• Leachate Manholes</li> <li>• Water Pumps</li> </ul>	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• Fall protection training</li> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/ preferred)</li> <li>• Defensive driving</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Leachate Pumps</li> <li>• Half-ton truck with an open bed</li> <li>• Functional telecommunication</li> <li>• Keys to unlock grates on manholes.</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>• Change of clothing (recommended)</li> <li>• Wash water</li> <li>• Disinfectant solution</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• Fall Protection (Harness, lanyard and anchor point)</li> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> </ul>	

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	<b>Exit vehicle and walk with tools to manhole.</b>	<ul style="list-style-type: none"> <li>-Trips/ slips/ falls from falling in dips on the cell.</li> <li>-Sunburn/ heat exhaustion</li> <li>-Tripping over ground</li> <li>-Extremities freezing from cold weather.</li> <li>-Wild animal attack</li> </ul>	<ul style="list-style-type: none"> <li>-Walk slowly and take small steps when walking in tall grass to avoid stepping into a hole(s).</li> <li>-Wear clothing appropriate for cold weather conditions</li> <li>-Apply 30 SPF sun block, wear a hat, and stay hydrated by drinking water on hot humid days.</li> </ul>
2	<b>Unlock and remove manhole grate.</b>	<ul style="list-style-type: none"> <li>-Falling into manhole</li> <li>-Cuts from metal edges on grate</li> <li>-Explosion Hazard</li> <li>-Headache nausea from inhaling methane vapors</li> </ul>	<ul style="list-style-type: none"> <li>-Ensure fall protection is worn and secured to a reliable anchor point.</li> <li>-Ensure at least 2 workers are on site from this point on in case of emergency.</li> <li>-If worker falls into manhole, do not attempt to rescue that worker, call emergency services or go and get help immediately.</li> <li>-Step into an area of fresh air if nausea/ headache sets in.</li> <li>-Do not smoke, use a heat source, or utilize anything that might create a spark when in the manhole area.</li> </ul>
3	<b>Lift pump up out of the manhole.</b>	<ul style="list-style-type: none"> <li>-Falling into manhole</li> <li>-Back/ muscle strain from lifting heavy pumps</li> <li>-Contact with leachate to all routes of entry to the body.</li> </ul>	<ul style="list-style-type: none"> <li>-Always lift these pumps with two people.</li> <li>-Do not stand on manhole; stand on the outside of the manhole pipe with a wide base.</li> <li>-Lift by pulling the pump hosing close to the body, bend knees and keep back straight and stationary.</li> <li>-Lift in a pulling motion with the arms.</li> <li>-After pump is out of manhole, let it sit stationary until it drains of leachate and dries before transporting it.</li> </ul>

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
4	<b>Close and lock manhole grate.</b>	<ul style="list-style-type: none"> <li>-Pinch from the metal grate when placing it down.</li> <li>-Cuts/ scrapes from sharp edges of metal grate.</li> <li>-Muscle/ Back injury from improper lifting of grate.</li> </ul>	<ul style="list-style-type: none"> <li>-Always lift the grate with two people to reduce risk of falling into manhole.</li> <li>-Bend knees, keep back straight, lift with legs and keep the grate close to the body.</li> <li>-Lift the grate back onto the manhole with two people and wear leather gloves.</li> <li>-Ensure the manhole grate is locked before leaving that manhole.</li> </ul>
5	<b>Carry/ Transport pump to different location or manhole.</b>	<ul style="list-style-type: none"> <li>-Muscle/ Back injury when carrying pump</li> <li>-Contact with leachate to all routes of entry to the body.</li> <li>-Dropping pump onto legs/ feet.</li> <li>-Cross contamination of leachate</li> </ul>	<ul style="list-style-type: none"> <li>-Transport the pump in the bed of a half-ton truck, this will reduce lifting necessity. Use foreman's truck if necessary.</li> <li>-Always lift these pumps with two people.</li> <li>-Remove neoprene gloves after handling the pump and before transporting it. Wear a new pair of neoprene gloves before lowering the pump into another manhole.</li> <li>-Do not touch eyes, face, or mouth during this entire process until hands and arms have been completely sanitized with disinfectant solution or soap.</li> </ul>
6	<b>Unlock and remove the next manhole grate.</b>	<ul style="list-style-type: none"> <li>-Falling into manhole</li> <li>-Cuts from metal edges on grate</li> <li>-Explosion Hazard</li> </ul>	<ul style="list-style-type: none"> <li>-Ensure fall protection is worn and secured to a reliable anchor point.</li> <li>-Ensure at least 2 workers are on site from this point on in case of emergency.</li> <li>-If worker falls into manhole, do not attempt to rescue that worker, call emergency services or go and get help immediately.</li> <li>-Do not smoke, use a heat source, or utilize anything that might create a spark when in the manhole area.</li> </ul>



Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
7	<b>Lower a/the pump into the manhole until it reaches the bottom.</b>	<ul style="list-style-type: none"> <li>-Falling into manhole</li> <li>-Back/ muscle strain from lifting heavy pumps</li> </ul>	<ul style="list-style-type: none"> <li>-Always lower these pumps with two people.</li> <li>-Do not stand on manhole; stand on the outside of the manhole pipe with a wide base.</li> <li>-Lower the pump hosing close to the body, bend knees and keep back straight and stationary.</li> <li>-Lower the pump with the arms, keep back still.</li> </ul>
8	<b>Close and lock the manhole grate.</b>	<ul style="list-style-type: none"> <li>-Pinch from the metal grate when placing it down.</li> <li>-Cuts/ scrapes from sharp edges of metal grate.</li> <li>-Muscle/ Back injury from improper lifting of grate.</li> </ul>	<ul style="list-style-type: none"> <li>-Always lift the grate with two people to reduce risk of falling into manhole.</li> <li>-Bend knees, keep back straight, lift with legs and keep the grate close to the body.</li> <li>-Lift the grate back onto the manhole with two people and wear leather gloves.</li> <li>-Ensure the manhole grate is locked before leaving that manhole.</li> </ul>
9	<b>Drive back to office or to other destinations.</b>	<ul style="list-style-type: none"> <li>-Cross contamination of leachate</li> <li>-Low visibility/ poor road conditions resulting in serious vehicular collision.</li> <li>-Other vehicular traffic causing a collision.</li> </ul>	<ul style="list-style-type: none"> <li>-Remove nitrile gloves after handling the pump and before entering the transport vehicle.</li> <li>-Do not touch eyes, face, or mouth during this entire process until hands and arms have been completely sanitized with disinfectant solution or soap.</li> <li>-Leachate contaminated clothing should be changed before re-entering the transport vehicle and be placed in a quarantined casing or bag until they can be washed/ sterilized. The same is recommended for any possibly contaminated tools or materials.</li> <li>-Wear seatbelt at all times</li> <li>-Drive at or well below the speed limit depending on visibility, weather, and road conditions.</li> <li>-Bring all vehicular emergency kits/ equipment, and clothing appropriate for extreme weather conditions.</li> <li>-Use defensive driving while on the road.</li> </ul>




Developed By:	Brian Roach	Chris Kozak	
Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:

The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>	<b>Task Name: Dipping/ Monitoring a Well</b>	<b>Task ID:</b>
<b>Job: Environmental Technologist II / Technical Assistant</b>		<b>Date Developed: August 12, 2009</b>
		<b>Date Revised: Sept 29,2011</b>
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Leachate (corrosive/ toxic liquid)</li> <li>• Off-road driving</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and Waste/ Solid Waste/ Landfill and Environmental/ Monitoring Wells <ul style="list-style-type: none"> <li>• Piezometer Wells</li> <li>• Leachate Wells</li> <li>• Leachate Manholes</li> </ul>	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/ preferred)</li> <li>• Defensive driving</li> </ul>
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Functional cellular phone</li> <li>• Water level meter (leachate or ground water)</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>• Log book</li> <li>• Monitoring well map</li> <li>• Wash water</li> <li>• Disinfectant solution</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> </ul>

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	<b>Report departure and whereabouts to the city main office</b>	-Working alone resulting in unknown whereabouts if technologist is unable to call for help.	-Bring minimum of one functional cellular device. -Check in with the city office on a pre-arranged schedule (every two hours of work) when out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.
2	<b>Exit vehicle with water level meter and walk to leachate/ water well.</b> 	-Trips/ slips/ falls on uneven, slippery ground. -Freezing body parts in extreme weather conditions. -Attacks or bites from wild animals/ insects. -Sunburn/ Heat exhaustion	-Never stray too far from the transport vehicle when on foot. -Bring cellular device. -Wear articles of clothing appropriate for the temperature conditions. -Do not continue work if animals/ insects become violent, return to vehicle immediately and return to the site when these hazards are no longer apparent. -Drink lots of water on hot days, wear a hat and a minimum of 30 SPF sunscreen.
3	<b>Use water level meter to determine depth of leachate/ water in the well.</b> 	-Pooled water -Explosion hazard from methane vapors -Headache/ nausea from potentially toxic vapors	-Ensure there is a cover on the well before proceeding to monitor the well. -Step into an area of fresh air if nausea/ headache sets in. -Do not smoke, use a heat source, or utilize anything that might create a spark when in the well area. -Sample from upwind whenever possible. -Loosen cap and let pressure equalize.



Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
4	<b>Reel the water level meter back up and record the liquid level in logbook.</b>	<ul style="list-style-type: none"> <li>-Ingesting leachate by mouth, or absorbing it into eyes/ skin from splashing.</li> <li>-Contaminating skin, clothing, or equipment with leachate.</li> </ul>	<ul style="list-style-type: none"> <li>-Ensure all personal protective equipment is worn.</li> <li>-Reel the meter slowly to avoid from splashing leachate on clothes, or skin.</li> <li>-Take gloves off before writing in logbook.</li> <li>-Use disinfectant to clean hands before putting gloves back on.</li> </ul>
5	<b>Walk to the next well and repeat the monitoring process, or walk back to the vehicle.</b>	<ul style="list-style-type: none"> <li>-Trips/ slips/ falls on uneven, slippery ground.</li> <li>-Freezing body parts in extreme weather conditions.</li> <li>-Attacks or bites from wild animals/ insects.</li> </ul>	<ul style="list-style-type: none"> <li>-Walk back to vehicle to warm up/cool down before continuing with other wells in the vicinity if necessary.</li> </ul>
6	<b>Disinfect equipment and gloves with disinfectant solution.</b> 	<ul style="list-style-type: none"> <li>-Improperly disinfecting equipment, resulting in cross contamination of material exposed to leachate.</li> <li>- Improper sanitation of hands, exposing mouth, eyes and skin to leachate residue.</li> </ul>	<ul style="list-style-type: none"> <li>-Clean and disinfect equipment exposed to leachate thoroughly, and separate them from other equipment/ material.</li> <li>-Sanitize and wash hands before eating/ drinking, touching face, smoking etc.</li> </ul>


Developed By:	Brian Roach	Chris Kozak	
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Methane Sampling</b>	<b>Task ID:</b>
<b>Job: Environmental Technologist II / Technical Assistant</b>		<b>Date Developed: August 12, 2009</b>	
<b>Date Revised:</b>			
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Leachate (corrosive/ toxic liquid)</li> <li>• Off-road driving</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and Waste/ Solid Waste/ Landfill and Environmental/ Methane Sampling <ul style="list-style-type: none"> <li>• Gas probes</li> </ul>	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/ preferred)</li> <li>• Defensive driving</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Functional cellular phone</li> <li>• Four wheel drive vehicle</li> <li>• Methane Monitor</li> <li>• Syringe needle</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>• Map of locations</li> <li>• Log Book</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Fire extinguisher</li> </ul>	

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	<b>Report departure and whereabouts to the city main office</b>	-Working alone resulting in unknown whereabouts if technologist is unable to call for help.	-Bring minimum of one functional cellular device. -Check in with the city office every hour of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.
2	<b>Exit vehicle with sampling equipment and walk to methane sampling area.</b> 	-Trips/ slips/ falls on uneven, slippery ground. -Freezing body parts in extreme weather conditions. -Attacks or bites from wild animals/ insects. -Sunburn/ Heat exhaustion	-Never stray too far from the transport vehicle when on foot. -Bring telecommunications device. -Wear articles of clothing appropriate for the temperature conditions. -Do not continue work if animals/ insects become violent, return to vehicle immediately and return to the site when these hazards are no longer apparent. -Drink lots of water on hot days, wear a hat and minimum 30 SPF sunscreen.
3	<b>Unlock sampling post and open it, then remove the protective cap and insert the tip of the methane monitor into the sampling hole.</b> 	-Explosion hazard from methane vapors -Headache/ nausea from inhaling methane vapors. -Attacks or bites from wild animals/ insects.	-Step into an area of fresh air if nausea/ headache set in. -Do not smoke, use a heat source, or utilize anything that might create a spark when in the sampling area. -Ensure possession of an epinephrine injection if allergic to insect bites, administer the shot if allergic reaction begins, then call the city office immediately for help. -If possible call the city immediately if bitten or attacked by wild animals/ insects.

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
4	<p><b>Insert syringe needle into rubber tubing and take a sample of methane (indoors only).</b></p>  <p style="background-color: yellow; display: inline-block; padding: 2px;">Insert Syringe</p>	<ul style="list-style-type: none"> <li>-Asphyxiation from methane buildup in room</li> <li>-Puncturing skin with needle</li> <li>-Explosion hazard</li> </ul>	<ul style="list-style-type: none"> <li>-Leave room immediately if the smell of methane becomes overwhelming, and dizziness sets in.</li> <li>-Wear puncture proof gloves when inserting and removing syringe from rubber tubing.</li> <li>-Ensure there is good ventilation throughout the room before opening the methane cap from its tank.</li> <li>-Do not smoke, use a heat source, or utilize anything that might create a spark when in the sampling area.</li> </ul>
5	<p><b>Walk to the next methane sampling post and repeat the monitoring process, or walk back to the vehicle.</b></p>	<ul style="list-style-type: none"> <li>-Trips/ slips/ falls on uneven, slippery ground.</li> <li>-Freezing body parts in extreme weather conditions.</li> <li>-Attacks or bites from wild animals/ insects.</li> </ul>	<ul style="list-style-type: none"> <li>-Walk back to vehicle to warm up before continuing with other wells in the vicinity if necessary.</li> </ul>

Developed By:	Brian Roach	Chris Kozak	
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Maintenance of clean out pipes on leachate manholes</b>	<b>Task ID:</b>
<b>Job: Environmental Technologist II / Technical Assistant</b>		<b>Date Developed: September 21, 2009</b>	
		<b>Date Revised: September 29, 2011</b>	
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Leachate (corrosive/ toxic liquid)</li> <li>• Off-road driving</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and Waste/ Solid Waste/ Landfill and Environmental/ Maintenance of clean out pipes on leachate manholes. <ul style="list-style-type: none"> <li>• Leachate Wells</li> <li>• Leachate Manholes</li> </ul>	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• WHMIS training</li> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/ preferred)</li> <li>• Defensive driving</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Hacksaw or other types of handsaws</li> <li>• Shovel</li> <li>• Four wheel drive vehicle</li> <li>• Functional cellular phone</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>• Garbage bags</li> <li>• Industrial Strength Glue</li> <li>• Wash water</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> </ul>	







Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	<b>Exit vehicle and walk with tools to manhole.</b>	<ul style="list-style-type: none"> <li>-Trips/slips/falls from falling in dips on the cell.</li> <li>-Sunburn/ heat exhaustion</li> <li>-Extremities freezing from cold weather.</li> <li>-Wild animal attack</li> <li>-Insect bites</li> </ul>	<ul style="list-style-type: none"> <li>-Walk slowly and take small steps when walking in tall grass to avoid stepping into a hole(s).</li> <li>-Wear clothing appropriate for cold weather conditions</li> <li>-Apply 30 SPF sun block, wear a hat, and stay hydrated by drinking water on hot humid days.</li> <li>-Do not continue work if animals/ insects become violent, return to vehicle immediately and return to the site when these hazards are no longer apparent.</li> </ul>
2	<b>Remove damaged clean-out/ release-valve pipes with a hand saw. Dig the pipe out if necessary.</b>	<ul style="list-style-type: none"> <li>-Cutting part of the body with saw causing minor to serious injury.</li> <li>-Explosion hazard when using electrical tools.</li> <li>-Headache, nausea from inhaling methane vapors.</li> <li>-Leachate contamination to tools.</li> <li>-Cuts from sharp edges of old PVC pipe</li> </ul>	<ul style="list-style-type: none"> <li>-Ensure the manhole grate is on and secure before continuing.</li> <li>-Ensure all PPE is worn, especially leather gloves.</li> <li>-Step into an area with fresh oxygen if nausea/ headache set in.</li> <li>-Do not smoke, use a heat source, or utilize anything that might create a spark when in the manhole area. This includes electrical or combustion powered tools.</li> <li>-Cut pipe at a downward angle, do not force the saw blade if it gets stuck, and saw in a consistent slow motion.</li> <li>-Avoid jerky abrupt movements with the handsaw.</li> </ul>
3	<b>Install and glue new PVC pipe over existing clean-out/ release-valve piping.</b>	<ul style="list-style-type: none"> <li>-Exposing toxic glue to skin, eyes or mouth.</li> </ul>	<ul style="list-style-type: none"> <li>-Ensure the new addition to the pipe is fully assembled with its accessories prior to installing it (this does not include the part of the pipe to be glued).</li> <li>-Wipe glue off of skin if contacted.</li> <li>-See the MSDS for the glue to reference emergency instructions exposed to the glue via the eyes or mouth.</li> </ul>
4	<b>Dispose of old/ damaged piping.</b>	<ul style="list-style-type: none"> <li>-Cuts from sharp edges of old PVC pipe</li> <li>-Cross contamination from leachate exposed pipe.</li> </ul>	<ul style="list-style-type: none"> <li>-Dispose of leachate piping by double bagging it in garbage bags.</li> <li>-Disinfect any materials and tools that may have come into contact with leachate.</li> <li>-Sanitize hands immediately after this process. Do not smoke, eat, or touch the face until hands have been sanitized.</li> </ul>

Developed By:	Brian Roach	Chris Kozak	
Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:

The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Leachate Sampling</b>	<b>Task ID:</b>
<b>Job: Environmental Technologist II / Technical Assistant</b>		<b>Date Developed: September 3, 2009</b>	
		<b>Date Revised: Sept 29, 2011</b>	
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Leachate (corrosive/ toxic liquid)</li> <li>• Off-road driving</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and Waste/ Solid Waste/ Landfill and Environmental Services/ Leachate Sampling <ul style="list-style-type: none"> <li>• Leachate Wells</li> <li>• Leachate Manholes</li> </ul>	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• Valid Manitoba Driver's License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/ preferred)</li> <li>• Defensive driving</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Water level meter</li> <li>• 500ml Plastic sample containers</li> <li>• Cooler for sample Containers</li> <li>• Four wheel drive vehicle</li> <li>• Shovel</li> <li>• Keys for leachate probe locks</li> <li>• Keys for access gates in landfill</li> <li>• Wrench</li> <li>• Bailer</li> <li>• Twine</li> <li>• Functional cellular phone</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>• Leachate probe map</li> <li>• Hand sanitizer/ disinfectant</li> <li>• Wash water</li> <li>• Disinfectant solution</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• High Visibility Vest</li> <li>• Coveralls/ Tyvek</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved splash proof safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> <li>• Face shield</li> </ul>	

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	<b>Report departure and whereabouts to the city main office</b>	-Working alone resulting in unknown whereabouts if technologist is unable to call for help.	-Bring minimum of one functional cellular device. -Check in with the city office every two hours of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.
2	<b>Acquire sampling instruments and walk to locate the desired leachate probe (dig probe out if it is buried by run-off).</b> 	-Trips/slips/falls from falling in dips on the cell. -Sunburn/ heat exhaustion -Extremities freezing from cold weather. -Wild animal attack	-Walk slowly and -Wear clothing appropriate for cold weather conditions -Apply 30 SPF sun block, wear a hat, and stay hydrated by drinking water on hot humid days.
3	<b>Unlock leachate probe and remove probe cover with wrench.</b> 	-Muscle strain while turning wrench. -Insect bites after disturbing wasps/ bees -Large amount of mosquito population increasing chances for contracting West Nile virus. -Contracting Lyme disease from blacklegged ticks.	-Grip wrench with both hands on its outside end for better torque. -Loosen cap to equalize pressure. -Vacate the area immediately, return to vehicle and close all windows if wasps/ bees become aggressive and high in numbers (a nest may have been disturbed). -Apply insect repellent prior commencing work on site. -Inspect entire body for ticks after walking through tall grass: inspect warm areas of body such as hair, armpits, groin areas, and behind the ears.

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
4	<p>Test liquid level with water level meter, then siphon water out of the probe by pumping the water until leachate is visible from water tube.</p> 	<ul style="list-style-type: none"> <li>-Leachate splashing into eyes/ mouth or onto skin.</li> <li>-Contaminating clothes that can later contaminate other personal items.</li> </ul>	<ul style="list-style-type: none"> <li>-Wear all the required personal protective equipment</li> <li>-Point the end of the water away from the face and body.</li> <li>-Pump the water up and down with one hand and hold the end of the water still with the other hand.</li> </ul>
5	<p>Collect leachate in a sample jar until it is full, then seal the jar.</p> 	<ul style="list-style-type: none"> <li>-Leachate splashing into eyes/ mouth or onto skin.</li> <li>-Contaminating clothes that can later contaminate other personal items.</li> </ul>	<ul style="list-style-type: none"> <li>-Place the end of the water inside the jar and pump water until the jar is full.</li> <li>-Let water down, then screw the top of the plastic jar on with one hand, while holding the jar with the other hand.</li> </ul>

6	<p><b>Place sample jars in a cooler, lock the probe cover back on the leachate probe and return to vehicle.</b></p>	<p>-Twisting ankle/ breaking legs or arms from falling in dips on the cell. -Cross contamination causing illness from ingesting or absorbing leachate into the body</p>	<p>-Remove neoprene gloves after placing samples in the cooler, and before moving to the next sample area (even before packing stuff up). -Use hand sanitizer on skin to disinfect from leachate contamination. -Remove clothing that may have been contaminated by leachate prior to re-entering the vehicle. -Do not eat/drink, smoke or touch your face until hands have been completely sanitized.</p>
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Developed By:	Brian Roach	Chris Kozak	
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Ground Water Sampling using a Hydro-lift Pump</b>	<b>Task ID:</b>
<b>Job: Environmental Technologist II / Technical Assistant</b>		<b>Date Developed: September 4, 2009</b>	
		<b>Date Revised: September 29, 2011</b>	
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Back/ muscle injury when lifting</li> <li>• Leachate (corrosive/ toxic liquid)</li> <li>• Off-road driving</li> <li>• Extreme cold weather</li> <li>• Working alone</li> <li>• Flammable/explosive/toxic gas</li> <li>• Wild animal attack</li> <li>• Insect/ Tick bites</li> <li>• Heat exhaustion/ Sunburn</li> <li>• Trips/slips/falls on uneven ground</li> <li>• Extreme cold weather</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and Waste/ Solid Waste/ Landfill and Environmental/ Ground Water Sampling using a Hydro-lift Pump	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• Valid Drivers License</li> <li>• Physical from a physician</li> <li>• Department safety training</li> <li>• First Aid Level 1/ CPR (recommended/ preferred)</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Hydro-lift pump</li> <li>• Pump Generator</li> <li>• Water level meter (dedicated for water sampling only)</li> <li>• 500ml Plastic sample jars</li> <li>• Cooler for sample jars</li> <li>• Probe-cover handles</li> <li>• Four wheel drive vehicle</li> <li>• Keys for ground water probe locks</li> <li>• Keys for access gates in landfill</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>• Functional form of telecommunication</li> <li>• Hand sanitizer/ disinfectant</li> <li>• Disinfectant solution for tools</li> <li>• Wash water</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle high steel toe footwear</li> <li>• CSA approved safety glasses</li> <li>• Nitrile gloves</li> <li>• Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>• Sunscreen/ hat (summer)</li> <li>• Mosquito repellent</li> <li>• Emergency first aid kit/vehicle emergency kit</li> <li>• Epinephrine injection (optional)</li> <li>• Portable eye wash station</li> <li>• Fire extinguisher</li> </ul>	

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	<b>Report departure and whereabouts to the city main office</b>	-Working alone resulting in unknown whereabouts if technologist is unable to call for help.	-Bring minimum of one functional cellular device. -Check in with the city office every two hours of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.
2	<b>Unlock sample probe and remove probe cover with the probe cover handles, then measure water depth with water level meter.</b>	-Dropping handles onto feet/ legs. -Insect bites/ Wild animal encounter. -Trips/ slips/ falls uneven ground or dips hidden by long grass.	-Walk slowly and feel around for dips in long grass with your feet before venturing into deep grass. -Vacate the area immediately, return to vehicle and close all windows if wasps/ bees become aggressive and high in numbers (a nest may have been disturbed). -Wear insect repellent if necessary. -Wear all mandatory personal protective equipment.
3	<b>Lift and carry the hydro-lift pump from the vehicle and attach it to the edge of the water probe post.</b>	-Muscle/ Back injury from lifting and carrying pump to probe post. -Tripping and falling with pump, causing serious injury. -Pinching skin/ hands under clamp on pump that attaches to the probe post.	-Bend knees, lift with legs, and keep back straight and the load close to the body. -Avoid from twisting torso when lifting, pivot with feet when turning. -Avoid from abrupt/ jerky movements when lifting or lowering the load. -Walk slowly and feel around for dips in long grass with your feet before venturing into deep grass.
4	<b>Attach the watera to the hydro-lift pump.</b>	-Pinching hands/ fingers in moving parts of pump or in clamps for the watera. -Knocking the pump off of the probe post resulting in injury if pump falls on worker.	-Ensure the hydro-lift pump is not plugged in when attaching the watera. -Ensure the hydro-lift pump is secured to the probe's post before attaching the watera.



Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
5	<b>Plug the pump into the generator located in the back of the vehicle then pull-start the pump.</b>	<ul style="list-style-type: none"> <li>-Electric shock from plugging in pump to generator.</li> <li>-Muscle/ Back strain from pull-starting the generator.</li> <li>-Explosion or fire from filling generator with gas.</li> <li>-Intoxication by gasoline vapors from filling the generator with gas inside the vehicle.</li> </ul>	<ul style="list-style-type: none"> <li>-Plug pump into generator prior to starting generator.</li> <li>-Stretch arms before pulling the cord.</li> <li>-Ensure the generator contains gasoline and that the generator is primed before attempting to start it.</li> <li>-If generator needs gas, fill it with gas from the Jerry can. DO NOT SMOKE while filling the generator with gas.</li> <li>-Lift generator out of vehicle to fill it with gas. DO NOT FILL GENERATOR WITH GAS INSIDE VEHICLE.</li> </ul>
6	<b>Wait 30 minutes and then take the ground water sample using the 500ml plastic jars.</b>	<ul style="list-style-type: none"> <li>-Sunburn/ heat exhaustion.</li> <li>-Wild animal encounter.</li> <li>-Large amount of mosquito population increasing chances for contracting West Nile virus.</li> <li>-Contracting Lyme disease from blacklegged ticks.</li> </ul>	<ul style="list-style-type: none"> <li>-Wear a minimum of 30 SPF sun block.</li> <li>-Stay hydrated by drinking water, avoid from drinking pop or coffee while in the field at this time.</li> <li>-Apply insect repellent prior commencing work on site.</li> <li>-Inspect entire body for ticks after walking through tall grass: inspect warm areas of body such as hair, armpits, groin areas, and behind the ears.</li> <li>-Vacate the area immediately, return to vehicle and close all windows if insects/ animals become aggressive.</li> </ul>
7	<b>Shut pump and generator off, detach watera from pump, then lift and carry the pump back to the vehicle.</b>	<ul style="list-style-type: none"> <li>-Back/ Muscle injury from lifting hydro-lift pump into vehicle.</li> </ul>	<ul style="list-style-type: none"> <li>-Bend knees, lift with legs, keep back straight and the load close to the body.</li> <li>-Avoid from twisting torso when lifting, pivot with feet when turning.</li> </ul>
18	<b>Ventilate vehicle of generator fumes.</b>	<ul style="list-style-type: none"> <li>-Driver becoming asphyxiated or intoxicated while driving.</li> </ul>	<ul style="list-style-type: none"> <li>-Ventilate vehicle by keeping windows open during the entire pumping process.</li> <li>-Ventilate vehicle with windows open using the heat or air conditioning system to create airflow throughout vehicle.</li> <li>-Ventilate vehicle for at least 15 minutes after generator has been shut off.</li> <li>-Drive with the windows open for at least 10 minutes after leaving location, otherwise do not operate generator inside of vehicle: lift and use it outside.</li> </ul>

Developed By:	Brian Roach	Chris Kozak	
Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:

The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Ground Water Sampling Using a Dedicated Pump</b>	<b>Task ID:</b>
<b>Job: Environmental Technologist II / Technical Assistant</b>			<b>Date Developed: September 4, 2009</b>
			<b>Date Revised: September 29, 2011</b>
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>Leachate (corrosive/ toxic liquid)</li> <li>Off-road driving</li> <li>Extreme cold weather</li> <li>Working alone</li> <li>Flammable/explosive/toxic gas</li> <li>Wild animal attack</li> <li>Insect/ Tick bites</li> <li>Heat exhaustion/ Sunburn</li> <li>Trips/slips/falls on uneven ground</li> <li>Extreme cold weather</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and Waste/ Solid Waste/ Landfill and Environmental/ Ground Water Sampling using a Dedicated Pump	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>Valid Manitoba Driver's License</li> <li>Physical from a physician</li> <li>Department safety training</li> <li>First Aid Level 1/ CPR (recommended/ preferred)</li> <li>Defensive driving</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>Dedicated pump</li> <li>Water level meter (dedicated for water sampling only)</li> <li>500ml Plastic sample containers</li> <li>Cooler for sample containers</li> <li>Probe-cover handles</li> <li>Four wheel drive vehicle</li> <li>Keys for ground water probe locks</li> <li>Keys for access gates in landfill</li> <li>Pump Generator</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>Functional form of telecommunication</li> <li>Hand sanitizer/ disinfectant</li> <li>Disinfectant solution for tools (watera)</li> <li>Jerry can containing gasoline</li> <li>Wash water</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>High visibility vest</li> <li>CSA approved ankle high steel toe footwear</li> <li>CSA approved safety glasses</li> <li>Nitrile gloves</li> <li>Clothing appropriate for extreme weather conditions (winter, rain)</li> <li>Sunscreen/ hat (summer)</li> <li>Mosquito repellent</li> <li>Emergency first aid kit/vehicle emergency kit</li> <li>Epinephrine injection (optional)</li> <li>Portable eye wash station</li> <li>Fire extinguisher</li> </ul>	

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	<b>Report departure and whereabouts to the city main office</b>	-Working alone resulting in unknown whereabouts if technologist is unable to call for help.	-Bring minimum of one functional cellular device. -Check in with the city office every two hours of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.
2	<b>Unlock sample probe and remove probe cover with the probe cover handles, then measure water depth with water level meter.</b>	-Dropping handles onto feet/ legs. -Insect bites/ Wild animal encounter. -Tripping on uneven ground or dips hidden by long grass.	-Walk slowly and feel around for dips in long grass with your feet before venturing into deep grass. -Vacate the area immediately, return to vehicle and close all windows if wasps/ bees become aggressive and high in numbers (a nest may have been disturbed). -Wear insect repellent if necessary. -Wear all mandatory personal protective equipment.
3	<b>Remove the water from the ground water probe and then lift the generator from vehicle onto ground.</b>	-Muscle/ Back injury from lifting generator. -Dropping generator onto feet by loss of grip or tripping over ground.	-Bend knees, lift with legs, and keep back straight and the load close to the body. -Avoid from twisting torso when lifting, pivot with feet when turning. -Wear leather gloves and grip the generator by its proper handling points. -Avoid from abrupt/ jerky movements when lifting or lowering the load.
4	<b>Connect the dedicated pump and the power cord to the pump generator, and then lower the dedicated pump into the sample probe.</b>	-Tripping over pump hose. -Muscle/ Back strain from handling pump hose. -Electric shock from generator.	-Ensure as much as possible all hose and cable is untangles prior to lowering the pump into the hole. -Plug the power cord into the generator prior to starting the generator.

<b>Step #</b>	<b>Sequence of Steps</b>	<b>Potential Accidents or Hazards</b>	<b>Recommended Safe Job Procedure</b>
5	<b>Pull start the pump generator and turn release valve on pump hose to begin pumping water.</b>	-Muscle strain while pulling the "pull-start" cord on generator. -Explosion or fire from filling generator with gas.	-Stretch arms before pulling the cord. -Ensure the generator contains gasoline and that the generator is primed before attempting to start it. -If generator needs gas, fill it with gas from the Jerry can away from all heat ignition sources. <b>DO NOT SMOKE</b> while filling the generator with gas.
6	<b>Wait 30 minutes and then take the ground water sample using the 500ml plastic containers.</b>	-Sunburn/ heat exhaustion. -Wild animal encounter. -Large amount of mosquito population increasing chances for contracting West Nile virus. -Contracting Lyme disease from blacklegged ticks.	-Wear a minimum of 30 SPF sun block. -Stay hydrated by drinking water, avoid from drinking pop or coffee while in the field at this time. -Apply insect repellent prior commencing work on site. -Inspect entire body for ticks after walking through tall grass: inspect warm areas of body such as hair, armpits, groin areas, and behind the ears. -Vacate the area immediately, return to vehicle and close all windows if insects/ animals become aggressive.
7	<b>Shut pump off and pull the dedicated pump out from the sample probe.</b>	-Back/ Muscle injury from lifting the pump from the ground water probe.	-Stretch arms before pulling the hose up. -Stand with a wide base, bend knees, keep back straight and pull the hose close to the body. -Wear leather gloves and rotate hands when pulling the hose.
8	<b>Lift generator and dedicated pump accessories back into vehicle.</b>	-Burn from hot surfaces on the generator. -Back/ Muscle injury from lifting generator into vehicle.	-Bend knees, lift with legs, keep back straight and the load close to the body. -Avoid from twisting torso when lifting, pivot with feet when turning.
9	<b>Disinfect and re-insert the watera back into the ground water probe, then cover and lock the ground water probe.</b>	-Tripping on uneven ground or hidden dips in long grass. -Splashing disinfectant solution onto skin or into eyes causing irritation.	-Walk slowly and feel around for dips in long grass with your feet before venturing into deep grass. -Wear nitrile gloves while disinfecting the watera (optional).

Developed By:	Brian Roach	Chris Kozak	
Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:

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<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Driving</b>	<b>Task ID:</b>
<b>Job: Environmental Technologist II / Technical Assistant</b>			<b>Date Developed: September 3, 2009</b>
			<b>Date Revised: September 29, 2011</b>
<b>Hazards Present</b>	<b>Applies To: (Department/Division/Branch/Section)</b>	<b>Training Requirements:</b>	
<ul style="list-style-type: none"> <li>Leachate (corrosive/ toxic liquid)</li> <li>Off-road driving</li> <li>Vehicle collisions-</li> <li>Extreme cold weather</li> <li>Working alone</li> <li>Flammable/explosive/toxic gas</li> <li>Wild animal attack</li> <li>Insect/ Tick bites</li> <li>Heat exhaustion/ Sunburn</li> <li>Trips/slips/falls on uneven ground</li> <li>Extreme cold weather</li> </ul>	Water and Waste/ Solid Waste/ Landfill and Environmental Services	<ul style="list-style-type: none"> <li>Valid Manitoba Driver's License</li> <li>Physical from a physician</li> <li>Department safety training</li> <li>First Aid Level 1/ CPR (recommended/ preferred)</li> <li>Defensive driving</li> </ul>	
<b>Tools/Equipment Required</b>	<b>Materials Required</b>	<b>Personal Protective Equipment</b>	
<ul style="list-style-type: none"> <li>City Vehicle</li> </ul>	<ul style="list-style-type: none"> <li>Vehicle log book</li> <li>Equipment condition reporting log book</li> </ul>	<ul style="list-style-type: none"> <li>Emergency first aid kit/vehicle emergency kit</li> <li>Epinephrine injection (optional)</li> <li>Fire extinguisher</li> <li>Clothing appropriate for extreme weather conditions (winter, rain)</li> </ul>	

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	<b>Report departure and whereabouts to the city main office</b>	-Working alone resulting in unknown whereabouts if technologist is unable to call for help.	-Bring minimum of one functional cellular device. -Check in with the city office every hour of work out of the city office. If the call is missed, the office should call the technologist. If there is no answer, the city office should send help to the last known location of technologist.
2	<b>Drive to location of work</b>	-Low visibility/ poor road conditions resulting in serious vehicular collision. -Other vehicular traffic causing a collision. -Vehicle malfunction (running out of gas, stall)	-Conduct a vehicle inspection prior to leaving the office; check all fluid levels, lights and vehicle instruments to ensure they work. -Wear seatbelt at all times -Drive at or well below the speed limit depending on visibility, weather, and road conditions. -Bring all vehicular emergency kits/ equipment, and clothing appropriate for extreme weather conditions. -Practice defensive driving while on the road. -Contact city immediately if stuck.
3	<b>Drive off road to location</b>	-Potential to be stranded in a remote area or exposed to extreme temperature conditions after a collision/ vehicle malfunction. -Driver being thrown out of vehicle or thrown around in vehicle. -Hitting head on wheel or inside vehicle from hitting a sudden dip in ground. -Vehicle rolling down the face of a cell from low visibility of driving ground.	-Use four-wheel drive when driving off road. -Do not exceed 10 km/h when driving off road, and do not drive where there is a chance to get stuck/ stranded (large dips in ground, swampy areas). -Inch forward through grass when it is very tall. -Do not drive downhill/ uphill on an angle; always face the hill straight-on.




Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
4	<b>Drive off road to main road</b>	<ul style="list-style-type: none"> <li>-Potential to be stranded in a remote area or exposed to extreme temperature conditions after a collision/ vehicle malfunction.</li> <li>-Driver being thrown out of vehicle or thrown around in vehicle.</li> <li>-Hitting head on wheel or inside vehicle from hitting a sudden dip in ground.</li> <li>-Vehicle rolling down the face of a cell from low visibility of driving ground.</li> </ul>	<ul style="list-style-type: none"> <li>-Use four-wheel drive when driving off road.</li> <li>-Do not exceed 10 km/h when driving off road, and do not drive where there is a chance to get stuck/ stranded (large dips in ground, swampy areas).</li> <li>-Inch forward through grass when it is very tall.</li> <li>-Do not drive downhill/ uphill on an angle; always face the hill straight-on.</li> </ul>
5	<b>Drive to other work locations or back to office.</b>	<ul style="list-style-type: none"> <li>-Low visibility/ poor road conditions resulting in serious vehicular collision.</li> <li>-Other vehicular traffic causing a collision.</li> <li>-Vehicle malfunction (running out of gas, stall)</li> </ul>	<ul style="list-style-type: none"> <li>-Wear seatbelt at all times</li> <li>-Drive at or well below the speed limit depending on visibility, weather, and road conditions.</li> <li>-Practice defensive driving while on the road.</li> <li>-Contact city immediately if stuck.</li> </ul>


Developed By:	Brian Roach	Chris Kozak	
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Separating refuse from scrap metal area</b>	<b>Task ID:</b>
<b>Job:</b>		<b>Date Developed: August 13, 2009</b>	
		<b>Date Revised:</b>	
<b>Hazards Present</b>	<b>Applies To: (Department/Division/Branch/Section)</b>	<b>Training Requirements:</b>	
<ul style="list-style-type: none"> <li>• Sharp metal</li> <li>• Heavy material</li> <li>• Extreme temperatures</li> <li>• Falling sharp metal/ material</li> <li>• Heavy mobile machinery</li> <li>• Hazardous materials (paint/ propane)</li> <li>• Uneven walking ground</li> <li>• Unknown dust particulates</li> <li>• Hepatitis or Tetanus</li> </ul>	<ul style="list-style-type: none"> <li>Water and Waste/ Solid Waste/ Disposal/ Separating refuse from scrap metal area</li> </ul>	<ul style="list-style-type: none"> <li>• Sharps protocol</li> <li>• Hazardous materials protocol</li> <li>• Landfill helper training</li> </ul>	
<b>Tools/Equipment Required</b>	<b>Materials Required</b>	<b>Personal Protective Equipment</b>	
<ul style="list-style-type: none"> <li>• Half-ton truck with bed</li> <li>• Frond-end loader</li> <li>• Two landfill helpers and</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved ankle-high steel toe footwear</li> <li>• Puncture proof gloves</li> <li>• Dust mask (optional)</li> <li>• Safety glasses (optional)</li> <li>• SPF 30 Sun block</li> <li>• Clothing appropriate or weather conditions</li> <li>• Hat</li> </ul>	

Step #	Sequence of Steps	Potential Accidents or Hazards	Recommended Safe Job Procedure
1	<p>Drive to scrap metal area, and reverse vehicle up to scrap metal pile.</p> 	<ul style="list-style-type: none"> <li>-Poor gravel road conditions resulting in driver losing control and going into ditch/ collision with other traffic.</li> <li>-Losing control from speed of vehicle.</li> <li>-Collision with other traffic</li> <li>-Poor visibility or road conditions from extreme weather.</li> </ul>	<ul style="list-style-type: none"> <li>-Remain on one side of the road, avoid from hugging the center or the road.</li> <li>-Drive at/ or below the speed limit, reduce speed even more around turns and declines.</li> <li>-Wear seatbelt</li> <li>-Drive below speed limit in low visibility conditions.</li> </ul>
2	<p>Wait in vehicle until front-end loader parks in position (*Only when front-end loader is used*)</p>	<ul style="list-style-type: none"> <li>-Being crushed/struck and fatally or seriously injured by standing inside of front-end loader movement area.</li> </ul>	<ul style="list-style-type: none"> <li>-Stay in vehicle until operator of the loader gives verbal confirmation that they are in position.</li> <li>-Stay away from the range of movement of the front-end loader.</li> </ul>
2	<p>Put vehicle in park, exit vehicle and walk towards refuse that is designated for removal.</p>	<ul style="list-style-type: none"> <li>-Freezing to body/ frostbite</li> <li>-Sunburn/ heat exhaustion</li> <li>-Twisted ankle/ slips/ trips from uneven ground</li> <li>-Being struck by other large mobile machinery in the area.</li> </ul>	<ul style="list-style-type: none"> <li>-Wear appropriate clothing for temperatures conditions</li> <li>-Turn yellow vehicle lights on, and ensure safety vest is worn.</li> <li>-Always communicate with operator of large machinery, ensure they see you at all times (refer to “approaching heavy machinery JHA/ SWP”)</li> <li>-Wear 30 SPF sunscreen/ a hat/ and stay hydrated by drinking water.</li> <li>-Keep electrolytes up by drinking power aid/ gator aid/ or a salt pill tablet.</li> </ul>
3	<p>Retrieve refuse surrounding the scrap metal pile.</p> <p>*Picture on next page</p>	<ul style="list-style-type: none"> <li>-Cuts/ lacerations to flesh from sharp metal edges.</li> <li>-Infection or contracting an illness from being cut from metal in scrap pile.</li> <li>-Scrap metal pile falling onto worker</li> <li>-Back/ muscle strain from lifting heavy material</li> </ul>	<ul style="list-style-type: none"> <li>-If cut severely, apply pressure to wound, apply emergency first aid, and call and ambulance or have foreman transport injured worker to hospital.</li> <li>-Do not touch any metal without having standard hepatitis and tetanus injections.</li> <li>-Ensure all personal protective equipment is worn.</li> </ul>

			<ul style="list-style-type: none"> <li>-Wear denim pants when handling scrap metal.</li> <li>-DO NOT attempt to pull refuse out of metal pile, pick out material that is loose and not under or in the pile.</li> <li>-Lift material with two people if it is too heavy for one person.</li> </ul>
4	<p><b>Carry refuse to truck bed/ frond-end loader bucket and place it inside.</b></p>	<ul style="list-style-type: none"> <li>-Muscle/ back strain from carrying heavy material</li> <li>-Crushing/ cutting hands and legs from dropping material</li> <li>-Twisted ankle/ slips/ trips from uneven ground</li> <li>-Hazardous materials (paint/ propane/ chemicals)</li> </ul>	<ul style="list-style-type: none"> <li>-Ensure front-end loader bucket is on the ground before walking up to it.</li> <li>-Lift material with two people if necessary.</li> <li>-Walk slowly, watch where you're walking, avoid protruding items or objects on ground.</li> <li>-See "Separating Hazardous Materials from Scrap metal and tire area JHA/SWP" for handling of hazardous materials.</li> </ul>
5	<p><b>Drive the refuse from scrap metal area to refuse dumping area.</b></p>	<ul style="list-style-type: none"> <li>-Hazardous incident occurring with front-end loader.</li> <li>-Poor gravel road conditions resulting in driver losing control and going into ditch/ collision with other traffic.</li> <li>-Losing control from speed of vehicle.</li> <li>-Collision with other traffic</li> <li>-Poor visibility or road conditions from extreme weather.</li> </ul>	<ul style="list-style-type: none"> <li>-Refer to "Operating front-end loader JHA/SWP" if transporting refuse with the front-end loader.</li> <li>-Remain on one side of the road, avoid from hugging the center or the road.</li> <li>-Drive at/ or below the speed limit, reduce speed even more around turns and declines.</li> <li>-Wear seatbelt</li> <li>-Drive below speed limit in low visibility conditions.</li> </ul>
6	<p><b>Exit vehicle and unload refuse from vehicle (or front-end loader bucket).</b></p>	<ul style="list-style-type: none"> <li>-Back/ muscle strain from lifting heavy material</li> <li>-Crushing/ cutting hands and legs from dropping material</li> <li>-Twisted ankle/ slips/ trips from uneven ground</li> </ul>	<ul style="list-style-type: none"> <li>-Ensure front-end loader bucket is on the ground before walking up to it.</li> <li>-Lift material with two people if necessary.</li> <li>-Walk slowly, watch where you're walking, avoid protruding items or objects on ground.</li> </ul>

Developed By:	Brian Roach	Jim Carter	Joe Payette
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Mgmt Co-Chair  
Approval:


Original Signed By:


Worker Co-Chair  
Approval:

Original Signed By:

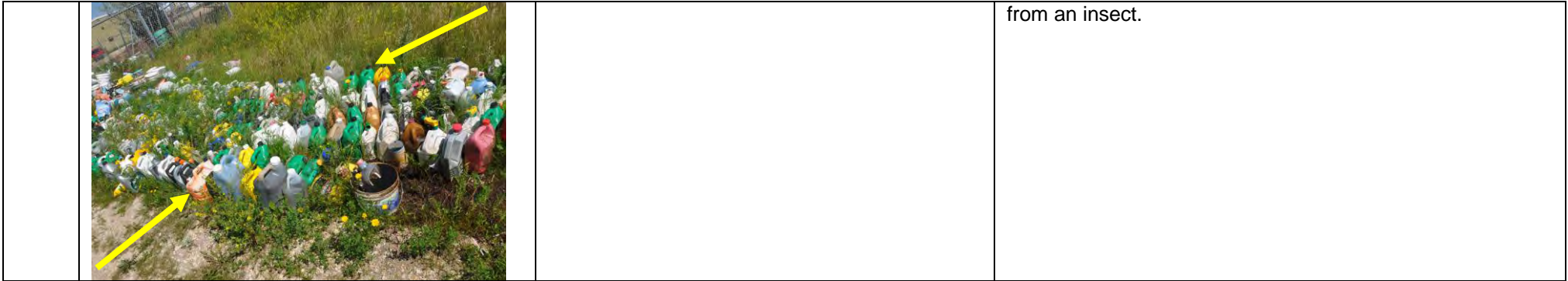
The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Separating Hazardous Material from the Scrap Metal- Tire area</b>	<b>Task ID:</b>
<b>Job:</b>		<b>Date Developed: August 13, 2009</b>	
<b>Date Revised:</b>			
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Toxic materials</li> <li>• Heavy materials</li> <li>• Corrosive materials</li> <li>• Uneven walking ground</li> <li>• Unknown dust particulates</li> <li>• Sharp material</li> <li>• Explosion/ flammable hazards</li> <li>• Heavy mobile machinery</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and Waste/ Solid Waste/ Disposal/ Separating Hazardous Material from the Scrap Metal- Tire area	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• Sharps protocol</li> <li>• Hazardous materials protocol</li> <li>• Landfill helper training</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Half-ton truck with bed.</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>•</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• Impermeable rubber gloves</li> <li>• High visibility vest</li> <li>• Splash proof safety glasses or face shield</li> <li>• Dust mask (optional)</li> <li>• SPF 30 Sun block</li> <li>• Hat</li> <li>• CSA approved ankle-high steel toe footwear</li> </ul>	
<b>Step #</b>	<b>Sequence of Steps</b>	<b>Potential Accidents or Hazards</b>	<b>Recommended Safe Job Procedure</b>
1	Drive to scrap metal area and park vehicle.	-Poor gravel road conditions resulting in driver	-Remain on one side of the road, avoid from hugging the

		<p>losing control and going into ditch/ collision with other traffic.</p> <ul style="list-style-type: none"> <li>-Losing control from speed of vehicle.</li> <li>-Collision with other traffic</li> <li>-Poor visibility or road conditions from extreme weather.</li> <li>-Flat tire</li> </ul>	<p>center or the road.</p> <ul style="list-style-type: none"> <li>-Drive at/ or below the speed limit, reduce speed even more around turns and declines.</li> <li>-Wear seatbelt</li> <li>-Drive below speed limit in low visibility conditions.</li> <li>-Park away from traffic, use portable compressor to fill tire with air and drive back to mechanic garage for maintenance.</li> </ul>
2	<p><b>Exit vehicle and walk towards material that is designated “hazardous material” (Paint, propane tanks, other large or household chemical containers).</b></p> 	<ul style="list-style-type: none"> <li>-Freezing to body/ frostbite</li> <li>-Sunburn/ heat exhaustion</li> <li>-Twisted ankle/ slips/ trips from uneven ground</li> <li>-Being struck by other large mobile machinery in the area.</li> </ul>	<ul style="list-style-type: none"> <li>-Wear appropriate clothing for temperatures conditions</li> <li>-Turn yellow vehicle lights on, and ensure safety vest is worn.</li> <li>-Always communicate with operator of large machinery, ensure they see you at all times (refer to “approaching heavy machinery JHA/ SWP”)</li> <li>-Wear 30 SPF sunscreen/ a hat/ and stay hydrated by drinking water.</li> <li>-Keep electrolytes up by drinking power aid/ gator aid/ or a salt pill tablet.</li> </ul>
3	<p><b>Retrieve hazardous material from surrounding area.</b></p>	<ul style="list-style-type: none"> <li>-Cuts/ lacerations to flesh from sharp metal edges.</li> <li>-Infection or contracting an illness from being cut from metal in scrap pile.</li> <li>-Scrap metal pile falling onto worker</li> <li>-Back/ muscle strain from lifting heavy material</li> <li>-Ingesting hazardous material by mouth, or absorbing it into eyes/ skin from splashing.</li> <li>-Explosion hazard from heat around flammable hazardous materials.</li> </ul>	<ul style="list-style-type: none"> <li>-Wear impermeable rubber gloves.</li> <li>-DO NOT attempt to pull refuse out of metal pile, pick out material that is loose and not under or in the pile.</li> <li>-Lift material with two people if it is too heavy for one person.</li> <li>-Do not smoke, use a heat source, or utilize anything that might create a spark when in the area.</li> <li>-Sanitize and wash hands before eating/ drinking, touching face, smoking etc.</li> <li>-Handle all hazardous materials with care, do not handle bio-hazardous material.</li> </ul>

4	<p><b>Carry material to truck bed</b></p>	<ul style="list-style-type: none"> <li>-Twisted ankle/ slips/ trips from uneven ground</li> <li>-Muscle/ back strain from carrying heavy material</li> </ul>	<ul style="list-style-type: none"> <li>-Lift material with two people if necessary.</li> <li>-Walk slowly, watch where you're walking, avoid protruding items or objects on ground.</li> <li>-Place propane tanks, or items that are under pressure in the vehicle gently, avoid from knocking or banging equipment.</li> <li>-Use proper lifting techniques, including bending knees and elbows, keep body square, and lift with legs.</li> </ul>
5	<p><b>Drive the hazardous material from scrap metal area to hazardous material storage area behind lunchroom building.</b></p> 	<ul style="list-style-type: none"> <li>-Hazardous materials spilling in bed of truck from bumps in drive.</li> <li>-Poor gravel road conditions resulting in driver losing control and going into ditch/ collision with other traffic.</li> <li>-Losing control from speed of vehicle.</li> <li>-Collision with other traffic</li> <li>-Poor visibility or road conditions from extreme weather.</li> </ul>	<ul style="list-style-type: none"> <li>-Remain on one side of the road, avoid from hugging the center or the road.</li> <li>-Drive at/ or below the speed limit, reduce speed even more around turns and declines.</li> <li>-Wear seatbelt.</li> <li>-Drive below speed limit in low visibility conditions.</li> </ul>
6	<p><b>Exit vehicle and unload hazardous material</b></p>	<ul style="list-style-type: none"> <li>-Back/ muscle strain from lifting heavy material</li> <li>-Twisted ankle/ slips/ trips from uneven ground</li> <li>-Allergic reaction from insect bites</li> <li>-Spilling/ splashing hazardous liquid on in eyes or skin.</li> </ul>	<ul style="list-style-type: none"> <li>-Lift material with two people if necessary.</li> <li>-Walk slowly, watch where you're walking, avoid protruding items or objects on ground.</li> <li>-Flush skin/ eyes with water immediately for 15 minutes minimum.</li> <li>-Have foreman transport worker to hospital if skin/eye irritation gets worse or carries on.</li> <li>-Inject epinephrine if worker has a severe allergic reaction</li> </ul>










<b>Developed By:</b>	Brian Roach	Nick (summer student)	
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<b>Mgmt Co-Chair Approval:</b>	Original Signed By:	<b>Worker Co-Chair Approval:</b>	Original Signed By:
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The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.

<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Routine Maintenance of Large Mobile Equipment</b>	<b>Task ID:</b>
<b>Job: This Job Hazard Analysis is written for large equipment mechanics.</b>		<b>Date Developed: Aug 6, 2009</b>	
<b>Date Revised:</b>			
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Fatality possibility from improper lock-out</li> <li>• Working alone</li> <li>• Crush from machine parts</li> <li>• Burns from heat of engine</li> <li>• Back/ muscle strain from lifting</li> <li>• Falling from height</li> <li>• Slippery stepping surfaces</li> <li>• Pinch from machinery parts</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and waste/ Solid Waste/ Disposal/ Routine Maintenance of Large Mobile Equipment	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• Heavy Equipment Mechanics Certification</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Oil change equipment/ tools</li> <li>• Equipment/ tools for routine maintenance of heavy machinery.</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>• Red Tag with Tag Out clip</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• High visibility vest</li> <li>• CSA approved steel toe footwear</li> <li>• Protective glasses (optional)</li> </ul>	
<b>Step #</b>	<b>Sequence of Steps</b>	<b>Potential Accidents or Hazards</b>	<b>Recommended Safe Job Procedure</b>
1	<b>Direct machinery into mechanic bay, have operator lower the blade/bucket to the ground.</b>	-Being struck or crushed by machinery. -Future serious/ fatal injury from blade not being lowered to the ground.	-Wear high visibility vest when directing machinery. -Direct machinery from its side and remain 1-2 meters away. -Ensure the blade/ bucket is resting on the ground before operator shuts machinery off.
2	<b>Have operator put machine into neutral, lock breaks, and turn machine off.</b>	-Potential serious injury from machinery moving during maintenance.	-Visually confirm the breaks are locked after operator has left the cab of machinery.

		-Body being caught in moving parts and hydraulics if machine isn't shut off.	
3	<p><b>Find the machine's master cut-off switch and turn it off, and lock it with a tag-out clip.</b></p> 	<p>-Serious/ Fatal injury from improper lock-out of machinery.</p> <p>-Burn to skin from engine bay.</p>	<p><b>-Always lock the master cut-off switch in it's off position with a tag-out clip before doing maintenance on machinery.</b></p> <p>-Wear leather gloves and a long sleeved shirt.</p>
4	<p><b>Working in machine's engine bay.</b></p> 	<p>-Burn to skin from engine/ engine bay area</p> <p>-Burns from extremely hot/ high pressure fluids.</p>	<p>-Wear long sleeved shirts and leather gloves, or wait until the engine has cooled down before doing maintenance.</p>
5	<p><b>Changing the oil of a machine</b></p>	<p>-Slips on floor from spilled oil.</p> <p>-Oil, fluid, or debris getting into eyes.</p>	<p>-Clean any oil that has dripped to the floor, or sand the floor before commencing other work on machine.</p> <p>-Wear protective glasses if necessary.</p>
6	<p><b>Climbing machinery to do maintenance. (Picture on next page)</b></p>	<p>-Slipping and falling off machinery from heights.</p> <p>-Falling off machine from loss of balance.</p> <p>-Muscle strain from climbing machine.</p>	<p>-Ensure wheels/ tracks are cleared of mud before climbing/ stepping on wheels.</p> <p>-Dry wheels/tracks with a cloth if they are wet prior to stepping on them.</p>

			<ul style="list-style-type: none"> <li>-Mount the machinery slowly, avoid from using jerky/ abrupt movements.</li> <li>-Maintain a three point contact when climbing machinery.</li> <li>-Grasp handles which are located all over the machine and ensure a tight grip.</li> </ul>
7	<p><b>Working on machine's elevated platform(s).</b></p> 	<ul style="list-style-type: none"> <li>-Falling off platform(s) from loss of balance, trips or slips.</li> <li>-Falling tools/ debris onto other personnel from the platform.</li> </ul>	<ul style="list-style-type: none"> <li>-Do not perform maintenance close to the edge of the platform without a fall restraint system in place (a rail system).</li> <li>-Avoid leaving/ placing objects on the platform to eliminate trip hazards.</li> </ul>
8	<p><b>Replacing the guard plates (compactor only).</b></p> 	<ul style="list-style-type: none"> <li>-Back injury form lifting heavy material</li> <li>-Dropping the plates on feet.</li> </ul>	<ul style="list-style-type: none"> <li>-Have two people lift and carry the plate off the machine.</li> <li>-Wear steel toe footwear.</li> </ul>


9	<p><b>Replacing smaller blades on large blade of machines.</b></p> 	<ul style="list-style-type: none"> <li>-Dropping blades on feet.</li> <li>-Pinch from blades when installing them on large blade.</li> </ul>	<ul style="list-style-type: none"> <li>-Wear steel toe footwear.</li> <li>-Keep fingers away from pinch points (screws, between the blades).</li> </ul>
10	<p><b>Unlock, and then turn master cut-off switch on.</b></p>	<ul style="list-style-type: none"> <li>-Fatal/ serious injury to personnel from activating machinery.</li> </ul>	<ul style="list-style-type: none"> <li>-Only the mechanic doing maintenance on machinery should have possession of the key to the lock at all times. They should also be the only personnel authorized to use the padlock that locks out the master cut-off switch.</li> </ul>
11	<p><b>Direct machinery out of mechanic bay.</b></p>	<ul style="list-style-type: none"> <li>-Being struck or crushed by machinery.</li> </ul>	<ul style="list-style-type: none"> <li>-Wear high visibility vest when directing machinery.</li> <li>-Direct machinery from its side and remain 1-2 meters away.</li> <li>-Keep eye contact with operator.</li> </ul>

Developed By:	Brian Roach	Rob _____ (Brady Mechanic)	
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Mgmt Co-Chair Approval:	Original Signed By:	Worker Co-Chair Approval:	Original Signed By:
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<b>JOB HAZARD ANALYSIS (J.H.A.)</b>		<b>Task Name: Retrieving garbage on the side of a road</b>	<b>Task ID:</b>
<b>Job:</b>		<b>Date Developed: August 4, 2009</b>	
		<b>Date Revised:</b>	
<b>Hazards Present</b> <ul style="list-style-type: none"> <li>• Highway vehicular traffic</li> <li>• Sharp/ pointy objects</li> <li>• Extended exposure to UV rays</li> <li>• Heat/ humidity exhaustion</li> <li>• Insect bites</li> <li>• Dust particulates</li> </ul>	<b>Applies To: (Department/Division/Branch/Section)</b> Water and waste/ Solid Waste/ Disposal/ Retrieving Garbage on the Side of a Road	<b>Training Requirements:</b> <ul style="list-style-type: none"> <li>• Landfill Helper Training</li> </ul>	
<b>Tools/Equipment Required</b> <ul style="list-style-type: none"> <li>• Two forms of telecommunication (two-way radio or cell phone)</li> <li>• High visibility traffic cones or an equivalent</li> <li>• Trash picker device (optional)</li> </ul>	<b>Materials Required</b> <ul style="list-style-type: none"> <li>• Garbage bag</li> <li>• Hand Sanitizer</li> <li>• Epinephrine pen (optional)</li> </ul>	<b>Personal Protective Equipment</b> <ul style="list-style-type: none"> <li>• CSA approved ankle high steel toe footwear</li> <li>• Leather gloves</li> <li>• High visibility vest</li> <li>• SPF 30 Sunscreen and hat for UV ray protection</li> <li>• Dust Mask (Optional)</li> </ul>	
<b>Step #</b>	<b>Sequence of Steps</b>	<b>Potential Accidents or Hazards</b>	<b>Recommended Safe Job Procedure</b>
1	<b>Drive to designated garbage retrieval area.</b>	-Low visibility from rain or dust in wind. -Collision with another vehicle or sliding into ditch from poor road conditions.	-Drive slow, turn headlights on, and use defensive driving. -Pull to the side of the road and park with hazard lights on until the weather subsides. -Pull the vehicle deep into the shoulder of the road, on the grass if possible.

2	<p><b>Activate hazard signal lights, exit vehicle, and place the high visibility cones in a diagonal line along the shoulder of the road, behind your vehicle.</b></p>	<p>-Being hit and seriously/ fatally injured by oncoming traffic.</p>	<p>-Exit the vehicle when there is a significant break in traffic.                  -Wait for a break in traffic to begin placing the cones behind the vehicle.                  -Ensure high visibility vest is worn before exiting vehicle.</p>
3	<p><b>Retrieve garbage from ditch area</b></p> 	<p>-Ingesting by mouth or absorbing landfill groundwater into skin/ eyes.                  -Heat exhaustion, or sunburn                  -Cuts from sharp or pointy objects (nails, glass)                  -Falling/ twisting ankle from uneven ground                  -Wasps or insect bites causing allergic reactions</p>	<p>-Wash/ sanitize hands immediately after retrieving garbage (before eating).                  -Do not touch mouth or face during the process.                  -Wear a hat and SPF 30 sunscreen.                  -Avoid from retrieving garbage if you have severe allergies to wasp/ insect bites, or bring an epinephrine pen.</p>
4	<p><b>Retrieve garbage from side of the road or in the median of the highway.</b></p>	<p>-Being hit and seriously/ fatally injured by oncoming traffic.                  -Back strain from continuous bending                  -Cuts from sharp or pointy objects (nails, glass)                  -Heat exhaustion or sunburn.</p>	<p>-Do not stray far from your city vehicle when retrieving garbage.                  -Stay in front your vehicle, avoid from walking behind or back from the direction your vehicle is facing.                  -Wait for a significant break in traffic before crossing the road/ highway.                  -Use a trash picker device to avoid from back strain.                  -Wear a hat and SPF 30 sunscreen.</p>
5	<p><b>Return to vehicle, gather high visibility cones and drive to another location or back to the office.</b></p>	<p>-Being hit and seriously/ fatally injured by oncoming traffic.                  -Low visibility from rain or dust in wind.                  -Collision with another vehicle or sliding into ditch from poor road conditions.</p>	<p>-Wait for a significant break in traffic before crossing the road, gathering the cones, and entering vehicle.                  -Drive slow, and use defensive driving.                  -Pull to the side of the road and park with hazard lights on until the weather subsides.                  -Pull the vehicle far into the shoulder of the road, on the grass if possible.</p>

Developed By:	Brian Roach	Chuck Welby	Ryan Tuck
Mgmt Co-Chair Approval:	Original Signed By:		Worker Co-Chair Approval: Original Signed By:

The information in this procedure does not take precedence over applicable government regulations, with which all employees should be familiar.