Miller Aggregate Resources

Operations and Maintenance Manual

Carden Quarry
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1. Introduction

Miller Aggregate Resources (Miller) operates a 338 ha quarry located on Lots 8 to 12 and 10 & 11, Concessions 2 and 3 in Carden Township, City of Kawartha Lakes (Figure 1). Dewatering discharge is regulated under the existing amended Permit-to-Take-Water (PTTW) No. 3474-9VLLYE issued May 28, 2015 and the (Certificate of Approval for Industrial Sewage Works (now called an Environmental Compliance Approval, ECA) No. 9412-6GWJM6 issued December 1, 2005. Ground and surface water monitoring of the site is a requirement of Conditions 4.2 and 4.3 of the PTTW and Conditions 3, 4 and 5 of the C of A (ECA). The C of A (ECA) and PTTW are included in Appendix A.

This Operations and Maintenance Manual was prepared at the request of the MOE as a result of the Industrial Sewage Site Inspection. The Inspection report specifies that the Operations and Maintenance Manual should include but not be limited to:

(a) Operating procedures for routine operation of works;
(b) Inspection programs, including frequency of inspection, for the works and the methods or tests employed to detect when maintenance is necessary;
(c) Repair and maintenance programs, including the frequency of repair and maintenance for the works;
(d) Contingency plans and procedures dealing with potential spill, bypasses and any other abnormal situations and for notifying the District Manager; and
(e) Complaint procedures for receiving and responding to public complaints.

The above items (a) to (c) relate to the equipment used on the site and items (d) and (e) relate to spills and public complaint procedures.

2. Routine Operation of Works

2.1 Crushing and Conveying

A crusher and screening plant operates on-site. Aggregate is transported from the active face to the crusher where it is mechanically processed through a series of crushers and screen sizes. The production line equipment configuration is primarily based on stone specification and final product characteristics. A conveyor system is used to transfer aggregate to and from the crusher to stock piles. Front end loaders are used to load aggregate to transport trucks for delivery to project sites and for moving material within the quarry. Miller quarry staff are responsible for the operation of the crushing plant, conveyor system and mobile equipment and perform the routine maintenance as required.

2.2 Water Circulation and Management

The quarry operations extend to below the perched water table in the surface weathered rock and dewatering is required to maintain a dry working area (particularly in the early to mid-spring) and to provide water for washing.
crushed aggregate. The source of most of the excess water that is pumped from the quarry is from snowmelt and spring precipitation. Surface water and groundwater, some of which infiltrates into the active pit floor flows under gravity to a collection pond (referred to as “Sump Pond”) in the quarry’s southwest corner (Figure 3). A submersible pump (maximum flow rate of about 4,000 L/min) is used to pump water from the sump to a “Freshwater Pond”, located approximately 20 m above the quarry floor (Figure 3). Water is taken from the fresh water pond and used for aggregate washing. In order to reduce the volume of fines reaching the settlement ponds from the washing process, Miller installed a fines separator with a dewatering screen in June 2013. The use of the separator has resulted in removal of most of the fine materials from the used wash water. Whereas these fines were formerly dredged from the settlement ponds and used in on-site berms, they are now blended and added back to aggregate products, where possible. The used wash water then flows by gravity to the “Primary Silt Holding Pond” located on the quarry floor, just north of the Sump Pond. The pond allows for coarse and fine grained sediments to settle out. Water then flows through a geotextile/sand filter located in the southeast corner of this pond and into a final settling pond (“Secondary Settling Pond”), which was built in February 2005. The purpose of this pond is to allow for further settling of fine sediments. From here, water flows by gravity through an overflow pipe to the Sump Pond.

When necessary, sediment accumulated in the Primary Silt Holding Pond is removed to make room for ongoing washing. The silt is incorporated into the property perimeter berm construction due to unworkable processing for agricultural lime. Sediment accumulated in the second pond is cleaned out as necessary, and disposed of in the same manner.

Aggregate washing usually runs from mid-spring (April) to late fall (November). During this time the quarry water is recirculated from the Sump to the Freshwater Pond, to aggregate washing, to the settling ponds, and back to the Sump. From the end of November to early/mid spring, aggregate washing usually does not occur. If the water levels become too high in the Sump Pond and Freshwater Pond due to spring runoff and/or heavy rainfalls, water is discharged via a channel/natural stream to the “Beaver Pond” (Figure 3). A splitter installed on the pump line between the Sump Pond and the Freshwater Pond is opened and allows water to flow through the discharge channel to the Beaver Pond (Figure 3) located on the southern part of the property. A flow meter was installed in May 2005 on the line that discharges to the Beaver Pond to measure discharge volumes as required by the PTTW. An additional flow meter was installed to measure the amount of water that is used in the on-site recycling system (closed loop) for aggregate washing operations. Under normal operating conditions, no water is discharged during freeze-up nor during dry periods (summer and fall). A schematic of the pond system is provided in Figure 4.

### 2.3 Asphalt Plant

An on-site asphalt plant, historically, has only been occasionally used due to low demand, servicing only local consumers. The plant is on native ground with no stormwater system. The plant is heated with Thermal (stove) oil and serviced annually by a third party (Black & MacDonald Ltd.). An above-ground liquid asphalt tank is located adjacent to the plant. A separate operations and maintenance manual for the asphalt plant operations was prepared by Miller and is included as Appendix B.
3. Monitoring Programs

Groundwater and surface water monitoring programs have been established in relation to the site’s C of A (ECA) (for surface water) and PTTW (for groundwater). Eleven groundwater monitoring locations (consisting of 19 groundwater monitors) are included in the PTTW monitoring program. The program includes three historic monitors (OW1, OW3, OW5), one private well (Miller well) and seven monitoring nests (consisting of 16 groundwater monitors – GL1-1, GL1-2, GL1-3, GL2-1, GL2-2, GL2-3, GL3, GL4-1, GL4-2, GL5-1, GL5-2, GL6-1, GL6-2, GL7-1, GL7-2) installed in 2007 and 2008 and GL9-2 (formerly OW4). The results of the 2007 and 2008 drilling and assessment are provided in Miller Paving Carden Quarry Hydrogeological Updates, 2009 (AECOM, 2009). In the fall of 2011, two additional monitoring nests (GL8 and GL9) consisting of five monitoring wells were drilled to fulfill Conditions 4.5 and 4.6 of the 2010 PTTW (Figure 4). These new monitoring wells were incorporated into the water level monitoring program in October 2011. The groundwater monitoring locations are shown on Figure 2 and the location of the Miller residential well is shown on Figure 1.

For the C of A (ECA), monthly samples are taken at sites SW1 (formerly “tributary upstream”), SW2 (formerly “quarry discharge”), SW3 (formerly “discharge to beaver pond”) and SW4 (formerly “tributary downstream”) while the quarry is discharging and at SW1 and SW4 when the quarry is not discharging (Figure 3). Effluent samples are taken daily and analyzed for total suspended solids (TSS) at SW2 and SW3 during periods of quarry discharge to ensure that the discharge does not exceed 25 mg/L, as specified in Condition 3(2) of the C of A (ECA).

The groundwater monitoring of the site consists of monthly water levels at the groundwater monitors listed above and a minimum of quarterly water levels at the Miller well. The Miller well was instrumented with a level logger in March 2010, programmed to collect twice daily readings at 3:00 AM and 3:00 PM. The Miller well is sampled annually for routine inorganic parameters as per condition 4.3 of the PTTW.

The components of the monitoring program are summarized on Table 1 with the analytical parameter list for surface water quality presented in Table 2. Table 3 represents the groundwater quality parameters, which ceased to be sampled as endorsed by the MOECC through the amended PTTW (May 28, 2015), suggesting sufficient groundwater quality sampling has been completed to establish baseline conditions. Table 4 presents the Monitoring Schedule outlining the activities associated with the monitoring on a monthly basis.

4. Inspection and Maintenance Program

Table 5 presents the Inspection and Maintenance Schedule for the site showing the equipment/feature being inspected, frequency and methods or tests used to determine the need for maintenance. Repair and maintenance is dictated by the specific issues identified.
5. **Contingency Plans**

5.1 **Spills**

Fuels and lubricants stored and used in the equipment and plant are generally the only significant sources of contaminants that exist in any appreciable quantities. If fuels and lubricants are handled with normal, reasonable precaution, and since the site must be operated in accordance with the requirements of the Technical Safety & Standards Act and its associated regulations (incorporating the Liquid Fuels Handling Code), then the risk of groundwater or surface water contamination is very low.

The prevention of spills at the source combined with rapid and effective clean-up in the event of a release, together, constitute best management practice for fuels and lubricants, and minimize the risk of groundwater or surface water contamination.

During a spill clean-up, or in response to the detection of a water quality problem, the quarry dewatering discharge can be shut down, stopping any direct discharge to surface water. As a result, any contamination resulting from the spill is contained entirely within the quarry, and can be retained on the quarry floor for clean-up. At that point, the contaminated area can be segregated and the dewatering discharge can resume with the balance of the clean water. Miller has a comprehensive Emergency Response Plan and Spill Procedure in place that includes a step-by-step process to follow-up on detecting a spill, the phone number of the Spills Action Centre and a summary of the spills legislation.

As previously discussed, there is an on-site asphalt plant. If there is a spill of liquid asphalt at the asphalt plant, the spill is generally very localized as the asphalt will quickly harden with exposure to air. The spill will be immediately removed and contained in a steel drum for disposal. Fuel oil is contained in double walled tank, which is the source of heat to keep the asphalt from hardening. This tank is checked routinely along with the rest of the plant. However, should a spill occur here or anywhere else on the site, the procedures outlined in the Emergency Response Plan Spill Procedure (Appendix C) will be followed.

5.2 **Emergency Preparedness and Response Plan**

Miller has an Emergency Preparedness and Response Plan in place to ensure that employees are aware of the procedures that should be followed in the event of potential emergencies such as fire or utility outages. For completeness, this has been included in Appendix D.

5.3 **Bypasses**

As shown on Figures 3 and 4, the water management system at the site is based on a series of ponds to maintain a dry working quarry floor, as a water supply for wash plant operations and to remove sediment before discharging off-site. With routine maintenance (e.g., removal of sediment from silt ponds) and routine monitoring for Total Suspended Solids (TSS), there is a very low likelihood of unacceptable levels of sediment escaping the site. There is no bypass for discharge of water from the quarry.
5.4 Condition 3 of the C of A (ECA), Parameter Exceedance

As per Condition 6(1) of the C of A (ECA) and Section 5 of the Industrial Sewage Inspection Report for the Miller Paving Carden Quarry (December 10, 2009), Miller Paving Limited shall report to the District Manager or designate, any exceedance of any parameter specified in Condition 3, orally, as soon as reasonably possible, and in writing within seven (7) days of exceedance. The following is “the chain of events” that should occur when a water quality sample with a TSS concentration of greater than 25 mg/L is measured at SW3, the compliance point:

1. Confirm water quality sample by immediately taking another turbidity measurement and converting it to TSS using the most up to date conversion formula. If the turbidity unit detects TSS at the quarry discharge point (SW2) and is confirmed by additional measurements, discharging ceases until sediment levels have dropped below 25 mg/L.

2. If the sample is confirmed to be greater than 25 mg/L then an email to the MOEC District Manager (Greg Faaren; greg.faaren@ontario.ca), Miller (Tom Jones; Tom.Jones@millergroup.ca), Rob Lindsay (Robert.Lindsay@millergroup.ca) and AECOM (Patty Wong; Patty.Wong@aecom.com) should be sent immediately and should contain the following information:
   i. Date, time and name of Miller Paving Limited contact person
   ii. Certificate of Approval (ECA) number (#9412-6GWJM6)
   iii. Owner’s name (Miller Paving Limited)
   iv. Reference to Condition 3 and 6(1) of the C of A (ECA)
   v. Details regarding the TSS measurement (location of measurement, measured value, total number of samples taken)
   vi. Details of surrounding circumstances (recent precipitation, equipment failure)
   vii. Details of action taken (e.g., discontinued discharge)

3. Within seven (7) days of the TSS exceedance a letter should be mailed to the District Manager detailing the exceedance and should include the same information provided in the email (see above). The following is Greg Faaren’s mailing address:
   Mr. Greg Faaren
   Ministry of the Environment and Climate Change
   Eastern Region
   1259 Gardiner Road, Unit 3
   Kingston, ON K7P 3J6

5.5 Flow/Volume Limits

The current PTTW for the site allows for a rate of taking not to exceed 4,000 L/minute or 6,500,000 L/day. The flow rate and volume of water discharges off-site is recorded on a daily basis. The pump is set such that discharge is less than 4,000 L/minute at the splitter valve. At a maximum rate of 4,000 L/minute, the maximum discharge volume would be reached within about 21 hours of pumping. The maximum daily discharge volume of 6,500,000 L/day was put in place for periods of spring melt and heavy precipitation events.
6. Public Complaint Procedure

Miller Paving Carden Quarry uses a standard “Complaint Response Form” that is used for all public complaints. If there was a complaint received regarding any groundwater issues, the appropriate quarry personnel would speak to the complainant and identify the problem. The appropriate steps will be completed on the complaint form and logged with a log number. Either the Quarry Operations manager or QC Manager will write a report with all of the findings and along with a copy of the complaint form, send it to the MOECC District Office (as per Condition 5.1 of the PTTW for a groundwater complaint) as soon as reasonably possible and in writing.

Reporting must be made to: Cathy Curlew
Senior Environmental Officer (or designate)
Ministry of the Environment and Climate Change
Eastern Region
Peterborough District Office
2nd Floor South Tower
300 Water Street South
Peterborough, ON K5J 8M5

Email: Cathy.Curlew@ontario.ca
Tel: (705) 755-4338

The Miller Public Complaint Procedure and an example of the Complaint Response Form are presented in Appendix E.
Figures
2008 Monitoring Well
2011 Monitoring Well
Existing Monitoring Well
Surface Water Monitor
Residential Monitor
Approximate Location of Scale House Well

Legend
- Extraction Limit (2013 Update)
- Railway
- Contour (5m)
- Intermittent Stream
- Permanent Stream
- Waterbody Segment
- Wetland Area
- Property Boundary
- Ponds
- Lot Boundary

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Primary Settling Pond

Pond Area = 6397 m²

Sump Pond

Pond Area = 4500 m²

Fresh Water Pond

Pond Area = 1616 m²
Capacity = 48485 m³

Discharge to Stone Washing Facility or to Beaver Pond

Flow Meter (Site Discharge / Dust Control)

Beaver Pond

6" Submersible Pump

Operating Below 67 L/s
(Actual Test at 52 L/s)

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Note: All levels are metres above sea level.

Legend

Miller Paving Limited
Carden Township Quarry
Lots 8-11, Concession 2

Schematic Diagram of Ponds

AECOM

PROJECT NUMBER | DATE | FIGURE
---|---|---
60224635 | August 2015 | 4

DO NOT SCALE THIS DOCUMENT. ALL MEASUREMENTS MUST BE OBTAINED FROM STATED DIMENSIONS.
Tables
Table 1. Monitoring Program under PTTW (3474-9VLLYE) and C of A/ECA (9412-6GWJM6)  
Miller Carden Quarry

### Ground and Surface Water

<table>
<thead>
<tr>
<th>Task</th>
<th>Frequency</th>
<th>Monitoring Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Levels</td>
<td>Monthly</td>
<td>OW1, OW3, OW4/GL9-2, OW5, GL1-1, GL1-2, GL1-3, GL2-1, GL2-2, GL2-3, GL3, GL4-1, GL4-2, GL5-1, GL5-2, GL6-1, GL6-2, GL7-1, GL7-2</td>
</tr>
<tr>
<td>Groundwater Sampling</td>
<td>Annually</td>
<td>Miller domestic well</td>
</tr>
<tr>
<td>Surface Water Sampling</td>
<td>Monthly</td>
<td>SW1, SW2, SW3 and SW4 while discharging or SW1 and SW4 if not discharging. Streamflow is taken at the same time</td>
</tr>
</tbody>
</table>

**Notes:**
1. Monitor/well instrumented with a level logger and routinely downloaded.
2. Groundwater sampling terminated May 28, 2015 (with issuance of amended PTTW), except Miller domestic well, as shown on Table 3.

### Water Taking

<table>
<thead>
<tr>
<th>Source</th>
<th>Purpose</th>
<th>Maximum Taken Per Minute (L)</th>
<th>Maximum No. of Hours Taken per Day</th>
<th>Maximum Daily Water Taking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sump Pond</td>
<td>Dewatering of quarry floor</td>
<td>4,000</td>
<td>24</td>
<td>5,760,000 L for 200 days</td>
</tr>
<tr>
<td>Sump Pond (Late winter/Spring Freshet &amp; Heavy Precipitation)</td>
<td>Dewatering</td>
<td>4,500</td>
<td>24</td>
<td>6,500,000 L for 30 days</td>
</tr>
<tr>
<td>Sump Pond</td>
<td>Dust Control</td>
<td>4,000</td>
<td>2</td>
<td>50,000 L for 100 days</td>
</tr>
<tr>
<td>Freshwater Pond</td>
<td>Aggregate Washing</td>
<td>4,000</td>
<td>24</td>
<td>5,760,000 L for 180 days</td>
</tr>
</tbody>
</table>
Table 2. Surface Water Chemistry Parameters as Required by C of A (ECA)

<table>
<thead>
<tr>
<th>Total Aluminum</th>
<th>Hydrocarbons</th>
<th>Sulphate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alkalinity</td>
<td>Hardness</td>
<td>Total Sodium</td>
</tr>
<tr>
<td>Biological Oxygen Demand (5-day)</td>
<td>Total Iron</td>
<td>Total Ammonia</td>
</tr>
<tr>
<td>Total Boron</td>
<td>Total Lead</td>
<td>Total Chromium</td>
</tr>
<tr>
<td>Total Cadmium</td>
<td>Total Nickel</td>
<td>Total Dissolved Solids</td>
</tr>
<tr>
<td>Carbonate Bicarbonate</td>
<td>Nitrate</td>
<td>Total Phosphorus</td>
</tr>
<tr>
<td>Chemical Oxygen Demand</td>
<td>Nitrite</td>
<td>Total Suspended Solids</td>
</tr>
<tr>
<td>Chloride</td>
<td>Total Oil and Grease</td>
<td>Turbidity</td>
</tr>
<tr>
<td>Total Cobalt</td>
<td>pH</td>
<td>Temperature</td>
</tr>
<tr>
<td>Conductivity</td>
<td>Phenols (4AAP)</td>
<td>Total Zinc</td>
</tr>
<tr>
<td>Copper</td>
<td>Total Potassium</td>
<td>2,4-Dinitrotoluene</td>
</tr>
<tr>
<td>Dissolved Organic Carbon</td>
<td>Total Silicon</td>
<td>2,6-Dinitrotoluene</td>
</tr>
<tr>
<td>Total Silver</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Italized and bolded parameters were removed from the surface water sampling program, as approved by MOECC.

Table 3. Groundwater Chemistry Parameters as Required by PTTW

| Alkalinity | Conductivity | Phosphorus |
| Aluminum | Copper | Potassium |
| Ammonia | Dissolved Organic Carbon | Selenium |
| Antimony | Fluorine | Silicon |
| Arsenic | Hardness | Silver |
| Barium | Iron | Sodium |
| Beryllium | Lead | Strontium |
| Bicarbonate | Magnesium | Sulphate |
| Bismuth | Manganese | Thallium |
| Boron | Molybdenum | Tin |
| Bromide | Nickel | Titanium |
| Cadmium | Nitrate | Total Dissolved Solids |
| Calcium | Nitrite | Uranium |
| Chloride | pH | Vanadium |
| Chromium | Phosphate | Zinc |
| Cobalt | | |

Notes: Groundwater sampling (except Miller well) was cancelled with amended PTTW, May 28, 2015. Baseline groundwater quality established over a four year (2010 to 2014) period.
Table 4. Monitoring Schedule

<table>
<thead>
<tr>
<th>Task Performed by AECOM Staff</th>
<th>Task performed by Miller Paving Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Review previous months’ data for exceedances of MOECC guidelines, AECOM copied on monthly laboratory results.</td>
<td>• Monthly flow measurements and surface water sampling at SW1, SW2, SW3 and SW4, if available. SW2 and SW3 do not need to be sampled if the quarry is not discharging.</td>
</tr>
<tr>
<td>• Groundwater level elevations for Miller domestic well. Note that the Miller well is instrumented with a level logger, collecting twice daily measurements and routinely downloaded.</td>
<td>• Measurements of turbidity (to calculate TSS) and visual observations at SW2 and SW3 during periods of discharge, on an as needed basis.</td>
</tr>
<tr>
<td>• Annual (September groundwater sampling): Miller domestic well for water quality¹</td>
<td>• Monthly groundwater level elevations for monitors: OW1, OW3, GL9-2 (formerly OW4), OW5, GL1-1, GL1-2, GL1-3, GL2-1, GL2-2, GL2-3, GL3, GL4-1, GL4-2, GL5-1, GL5-2, GL6-1, GL6-2, GL7-1, GL7-2</td>
</tr>
</tbody>
</table>

Notes: 1. see Table 3 for parameters
Table 5. Equipment Inspection and Maintenance Schedule
Miller Carden Quarry

<table>
<thead>
<tr>
<th>Feature/Equipment</th>
<th>Description</th>
<th>Frequency</th>
<th>Inspection Process</th>
<th>Maintenance Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KPI Fines Separator with Dewatering Screen</strong></td>
<td>The KPI Fines separator consists of one G4 pump that pumps the waste water from the screw washer to a double set of cyclones. The cyclones separate the solids in the water. The solids are then fed on to a dewatering screen that removes the water. The product coming off the screen is then conveyed and stacked.</td>
<td>Daily before start-up and periodically throughout the operating day</td>
<td>Visual inspection of the plant for wear, material build up, damage to screens, water levels in the tank, consistency of product coming out of the cyclones. Suspension rubbers for fatigue.</td>
<td>Items that require grease or oil are added or changed as per manufactures recommendations.</td>
</tr>
<tr>
<td><strong>Primary Silt Holding Pond</strong></td>
<td>The surface area is approx. 6,397 square meters, a depth of approx. 4.5 meters and a volume of approx. 28,786 cubic meters, flowing by gravity through a rip-rap/sand filter/overflow pipe to the secondary silt holding pond.</td>
<td>Semi-annually (March and November)</td>
<td>Check sediment depth</td>
<td>Clean out the pond as required.</td>
</tr>
<tr>
<td><strong>Secondary Silt Holding Pond</strong></td>
<td>The surface area is approx. 1,500 square meters, a depth of approx. 1.4 meters and a volume of approx. 2,100 cubic meters, flowing by gravity through an overflow pipe to the sump pond</td>
<td>Annually (November)</td>
<td>Check sediment depth</td>
<td>Clean out the pond as required or if TSS measurements in the discharge show an increasing trend.</td>
</tr>
<tr>
<td><strong>Quarry Sump</strong></td>
<td>The surface area is approx. 4,500 square meters, a depth of approx. 3 meters and a volume of approx. 13,500 cubic meters, equipped with a pump operating at up to 67 liters per second, discharging to the freshwater pond or to the discharge channel via splitter valve. The sump is instrumented with a level logger programmed to measure water levels at regular intervals. The logger is removed in late November to avoid freezing and re-installed in the spring after snowmelt.</td>
<td>Annually (November)</td>
<td>Check sediment depth</td>
<td>Clean out the sump if there is excessive build-up of sediment.</td>
</tr>
<tr>
<td><strong>Fresh Water Supply pond</strong></td>
<td>The surface area is approx. 1,616 square meters, a depth of approx. 3 meters and a volume of approx. 4,848 cubic meters. There is a 6 inch submersible pump located in the fresh water pond that supplies water for the usage of aggregate washing.</td>
<td>Daily during periods when aggregate washing is occurring</td>
<td>Check water level in the pond to ensure that there is an adequate amount of water for the aggregate washing</td>
<td>Divert additional water to pond if water levels are low, or adjustment of washing schedule</td>
</tr>
<tr>
<td></td>
<td>Inspected annually in the off seasons of Nov to April when water level is lowered and the pond is not in use.</td>
<td></td>
<td>Check sediment depth</td>
<td>Clean out pond if there is a build-up of sediment (about 1 m thick).</td>
</tr>
</tbody>
</table>
### Table 5. Equipment Inspection and Maintenance Schedule

**Miller Carden Quarry**

<table>
<thead>
<tr>
<th>Feature/Equipment</th>
<th>Description</th>
<th>Frequency</th>
<th>Inspection Process</th>
<th>Maintenance Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Discharge Channel</strong></td>
<td>Extending from the quarry to the existing beaver pond located on the tributary to Lake Dalrymple, with a sand filter berm and concrete blocks on both side of the channel extending for the first 285 meters of the channel</td>
<td>Monthly</td>
<td>Visual inspection of any build up of silt and vegetation, ensure area is free of obstruction, check integrity of the channel at the discharge point and downstream</td>
<td>If there is any build up of silt/obstruction, the channel should be cleaned out down to the hard rock surface. Also replace sand filtered berms when necessary.</td>
</tr>
<tr>
<td><strong>Surface Water Monitoring Locations</strong></td>
<td>Cof A (ECA) surface water monitoring locations SW1 (formerly “tributary upstream”), SW2 (formerly “quarry discharge”), SW3 (formerly “discharge to beaver pond”) and SW4 (formerly “tributary downstream”), used to monitor the background quality and quarry discharge to assess impacts to the surface water receiver</td>
<td>Monthly</td>
<td>Visual inspection of the surface water locations and areas upstream and downstream for channel condition, erosion and obstructions (i.e. increased beaver activity)</td>
<td>Recorded in field notes and discussed with staff and/or consultant to resolve any issues.</td>
</tr>
<tr>
<td><strong>Sump Pump</strong></td>
<td>Submersible sump pump operating at 67 liters per second</td>
<td>Annually, at the beginning of start up</td>
<td>Check that there are no leaks in the line going to and leaving the splitter valve, check pump screen/openings and clean to prevent clogging</td>
<td>Preventative maintenance for pump occurs during the off season (no washing or discharging).</td>
</tr>
<tr>
<td><strong>Pump Pipes</strong></td>
<td>Six-inch steel pipes and flex hose that connect from the sump pump to the splitter valve.</td>
<td>Annually, at the beginning of start up</td>
<td>Check for breaks/leaks/obstructions</td>
<td>Preventative maintenance for pump and pipes occur during the off season. If leaks occur, the pipes will be replaced.</td>
</tr>
<tr>
<td><strong>Splitter Valve</strong></td>
<td>Double butterfly valve for diverting the water either to the discharge channel or to the fresh water supply pond.</td>
<td>Annually, at the beginning of start up</td>
<td>Check for leaks</td>
<td>Periodically the valves are opened and closed to ensure they move freely.</td>
</tr>
<tr>
<td><strong>Discharge Flow Meter</strong></td>
<td>SIEMENS MAG 8000 flow meter located approx 2 m from the splitter valve. There is a 6 inch steel pipe on each end of the meter for discharging. The meter keeps memory for each 24 hour period up to 28 days. Every 22 days quarry personnel download the data with a IrDA interface transmitter and converts it into a PDF file. In the report it shows the daily amount of water discharged in m³.</td>
<td>Continuously during periods of discharge</td>
<td>Visual inspections are completed by the water technician every time he/she is taking a turbidity reading while discharging and or when downloading data from the meter.</td>
<td>Calibrations are completed once a year with a clamp on meter provided by Measuremax the supplier of the meter.</td>
</tr>
<tr>
<td><strong>Turbidity Meter</strong></td>
<td>Hand held battery-operated turbidity meter</td>
<td>Weekly, when in use</td>
<td></td>
<td>Calibration according to manufacturer's specifications</td>
</tr>
<tr>
<td><strong>Surface Water Flow Meter</strong></td>
<td>Swoffer-type or similar flow meter.</td>
<td>Annually</td>
<td></td>
<td>Shipped to manufacturer/distributor for calibration</td>
</tr>
</tbody>
</table>
# Table 5. Equipment Inspection and Maintenance Schedule

**Miller Carden Quarry**

<table>
<thead>
<tr>
<th>Feature/Equipment</th>
<th>Description</th>
<th>Frequency</th>
<th>Inspection Process</th>
<th>Maintenance Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuel Tanks</strong></td>
<td>A 13,500 liter capacity diesel storage tank and a 3,000 liter gas tank are used for re-fueling of mobile equipment. Each tank is a double walled tank on a concrete pad with spill equipment beside it.</td>
<td>Daily</td>
<td>Check for leaks and make sure the tanks aren’t rusting.</td>
<td>Repair/replace tanks as necessary</td>
</tr>
<tr>
<td><strong>Asphalt Plant</strong></td>
<td>On-site asphalt plant</td>
<td>As per the Asphalt Plant Operations &amp; Maintenance Manual (Appendix D), Annual maintenance by a third party and as needed (Black &amp; MacDonald Ltd.).</td>
<td>Daily</td>
<td></td>
</tr>
<tr>
<td><strong>Liquid Asphalt Tank</strong></td>
<td></td>
<td>Semi-Annually (March and November)</td>
<td>Visual inspection of the tank to ensure that there are no cracks or leaks.</td>
<td>Repair as required</td>
</tr>
<tr>
<td><strong>Asphalt Plant Fuel Oil Tank</strong></td>
<td>Fuel oil stored in a double walled tank. It is used as the source of heat to keep the asphalt from hardening</td>
<td>Daily</td>
<td>Visual inspection of the tank (along with the rest of the plant) to ensure that there are no cracks or leaks.</td>
<td>Repair as required</td>
</tr>
<tr>
<td><strong>Crusher Plant</strong></td>
<td>Crushing of aggregate (electric-powered)</td>
<td>Daily</td>
<td>Visual inspection for wear and ensure all parts are operating properly.</td>
<td>Maintain and repair as required</td>
</tr>
<tr>
<td><strong>Wash Plant</strong></td>
<td>Washing aggregate to remove fines (electric powered)</td>
<td>Daily</td>
<td>Visual inspection for wear and ensure all parts are operating properly.</td>
<td>Maintain and repair as required</td>
</tr>
<tr>
<td><strong>Conveyor System</strong></td>
<td>Transport washed aggregate to stock piles on quarry floor (electric powered)</td>
<td>Daily</td>
<td>Visual inspection for wear and ensure all parts are operating properly.</td>
<td>Maintain and repair as required</td>
</tr>
<tr>
<td><strong>Mobile Equipment (ie. front end loaders)</strong></td>
<td>Load trucks, move aggregate</td>
<td>Daily</td>
<td>Daily visual inspection for wear and leaks. Re-fueling from on-site fuel tanks at adjacent re-fueling area with easy access to spill equipment</td>
<td>Repair as required</td>
</tr>
</tbody>
</table>
Appendix A

Certificate of Approval (now Environmental Compliance Approval, ECA) No. 9412-6GWJM6 and Amended Permit To Take Water No. 3474-9VLLYE
Miller Paving Limited  
P.O. Box 270  
Breachin, Ontario  
L0K 1B0

Site Location: Carden Quarry  
Lots 8 to 12, Concession 2, Former Carden Township  
Kawartha Lakes City,

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

the establishment of sewage works for the collection, transmission, treatment and disposal of up to 67 litres per second of groundwater and surface water accumulating in the quarry, consisting of the following:

- one (1) primary silt holding pond, with a surface area of approximately 6,397 square metres, a depth of approximately 4.5 metres and a volume of approximately 28,786 cubic metres, flowing by gravity through a rip-rap/sand filter to the secondary silt holding pond;

- one (1) secondary silt holding pond, with a surface area of approximately 1,500 square metres, a depth of approximately 1.4 metres and a volume of approximately 2,100 cubic metres, flowing by gravity through a rip-rap/sand filter to the sump pond;

- one (1) sump pond, with a surface area of approximately 4,500 square metres, a depth of approximately 3 metres and a volume of approximately 13,500 cubic metres, equipped with a pump operating at up to 67 litres per second, discharging to the freshwater pond or to the discharge channel via a splitter;

- one (1) discharge channel, extending from the quarry site to the existing pond located on the tributary to Lake Dalrymple, with a sand filter berm and concrete logs or limestone blocks on both sides of the channel extending for the first 285 metres of the channel;

- all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned sewage works;

all in accordance with the following submitted supporting documents:
1. Application for Approval of Industrial Sewage Works submitted by John Loughman of Miller Paving Limited dated August 7, 2005 and attachments;


For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

"Certificate" means this entire certificate of approval document, issued in accordance with Section 53 of the Ontario Water Resources Act, and includes any schedules;

"Director" means any Ministry employee appointed by the Minister pursuant to section 5 of the Ontario Water Resources Act;

"District Manager" means the District Manager of the Peterborough District Office of the Ministry;

"Ministry" means the Ontario Ministry of the Environment;

"Owner" means Miller Paving Limited and includes its successors and assignees; and

"works" means the sewage works described in the Owner's application, this certificate and in the supporting documentation referred to herein, to the extent approved by this certificate.

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL CONDITION

(1) Except as otherwise provided by these Conditions, the Owner shall design, build, install, operate and maintain the works in accordance with the description given in this Certificate, the application for approval of the works and the submitted supporting documents and plans and specifications as listed in this Certificate.

(2) Where there is a conflict between a provision of any submitted document referred to in this Certificate and the Conditions of this Certificate, the Conditions in this Certificate shall take precedence, and where there is a conflict between the listed submitted documents, the document bearing the most recent date shall prevail.
2. **CHANGE OF OWNER**

(1) The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within 30 days of the change occurring:

(a) change of Owner or operating authority, or both;

(b) change of address of Owner or operating authority or address of new owner or operating authority;

(c) change of partners where the Owner or operating authority is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Partnerships Registration Act*;

(d) change of name of the corporation where the Owner or operator is or at any time becomes a corporation, and a copy of the most current "Initial Notice or Notice of Change" (Form 1, 2 or 3 of O. Reg. 158, R.R.O. 1980, as amended from time to time), filed under the *Corporations Information Act* shall be included in the notification to the District Manager;

(2) In the event of any change in ownership of the works, the Owner shall notify in writing the succeeding owner of the existence of this certificate, and a copy of such notice shall be forwarded to the District Manager.

(3) The Owner shall ensure that all communications made pursuant to this condition will refer to this certificate's number.

3. **EFFLUENT LIMITS**

(1) The Owner shall design, construct and operate the works such that the concentrations of Total Suspended Solids does not exceed 25 milligrams per litre in the effluent from the works.

(2) For the purposes of determining compliance with and enforcing subsection (1), non-compliance with respect to subsection (1) is deemed to have occurred when any single sample analyzed for Total Suspended Solids is greater than the concentration outlined in subsection (1).

4. **EFFLUENT - VISUAL OBSERVATIONS**

Notwithstanding any other condition in this certificate, the Owner shall ensure that the effluent from the works is essentially free of floating and settleable solids and does not contain oil or any other substance in amounts sufficient to create a visible film, sheen or foam on the receiving waters.

5. **EFFLUENT AND SURFACE WATER MONITORING AND RECORDING**

The Owner shall, upon commencement of operation of the sewage works, carry out the following monitoring program:
(1) All samples and measurements taken for the purposes of this certificate are to be taken at a time and in a location characteristic of the quality and quantity of the effluent stream over the time period being monitored.

(2) Samples shall be collected and analyzed at the following sampling point(s), at the sampling frequencies and using the sample type specified for each parameter listed:

<table>
<thead>
<tr>
<th>Locations</th>
<th>SW1: Tributary Upstream (if there is a flow)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SW2: Quarry Discharge</td>
</tr>
<tr>
<td></td>
<td>SW3: Discharge Channel Discharge to Beaver Pond</td>
</tr>
<tr>
<td></td>
<td>SW4: Tributary Downstream (if there is a flow)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Locations 1 &amp; 4: Once each month</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Locations 2 &amp; 3: Once each month during periods of discharge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>grab</th>
</tr>
</thead>
</table>

| Parameters | Total Suspended Solids, Total Ammonia, Nitrites, Nitrates, pH, Temperature, Oil and Grease, Total Phosphorus, Total Petroleum Hydrocarbons, Conductivity, Chloride, Sulphate, Sodium, Potassium, Aluminum, Boron, Cadmium, Total Chromium, Cobalt, Copper, Iron, Lead, Nickel, Silicon, Silver, Zinc, Alkalinity, 5-day Biochemical Oxygen Demand, Total Dissolved Solids, Dissolved Organic Carbon, Phenols (4AAP), Hardness, Carbonate Bicarbonate, Turbidity, Chemical Oxygen Demand, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene |

(3) The methods and protocols for sampling, analysis, toxicity testing, and recording shall conform, in order of precedence, to the methods and protocols specified in the following:

(a) the Ministry's publication "Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater" (August 1994), ISBN 0-7778-1880-9, as amended from time to time by more recently published editions; and

(b) the publication "Standard Methods for the Examination of Water and Wastewater" (20th edition) as amended from time to time by more recently published editions.

(4) The temperature and pH of the effluent from the works shall be determined in the field at the time of sampling for total ammonia. The concentration of un-ionized ammonia shall be calculated using the total ammonia concentration, pH and temperature using the methodology stipulated in "Ontario's Provincial Water Quality Objectives" dated July 1994, as amended, for ammonia (un-ionized).

(5) The monitoring locations referenced in Table 1 shall be as shown on Figure 2 and 3 of the letter and attachments dated November 4, 2005 from Donald McQuay of Gartner Lee to Randy Chin of the Ministry of the Environment.
(6) The measurement frequencies specified in subsection (2) in respect of any parameter are minimum requirements which may, after 12 months of monitoring in accordance with this Condition, be modified by the District Manager in writing from time to time.

(7) The Owner shall measure, record and calculate the flow rate for each effluent stream on each day of sampling.

(8) Notwithstanding subsection (7), the Owner shall monitor and record the volume of flow directed to the Discharge Channel for each day of discharge to the channel.

(9) The Owner shall retain for a minimum of three (3) years from the date of their creation, all records and information related to or resulting from the monitoring activities required by this certificate.

6. REPORTING

(1) The Owner shall report to the District Manager or designate, any exceedance of any parameter specified in Condition 3 orally, as soon as reasonably possible, and in writing within seven (7) days of the exceedance.

(2) In addition to the obligations under Part X of the Environmental Protection Act, the Owner shall, within 10 working days of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

(3) The Owner shall prepare and submit a performance report to the District Manager on an annual basis within sixty (60) days following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

(a) a summary and interpretation of all monitoring data and a comparison to the effluent limits outlined in Condition 3, including an overview of the success and adequacy of the sewage works;

(b) a record of local precipitation events from closest weather station;

(c) report of daily discharge volumes;

(d) water quality and quantity information for each receiver monitoring station and an assessment of the impact of the discharge on the receiver;

(e) report of potential erosion and flooding of the receiver;

(f) a description of any operating problems encountered and corrective actions taken; and
(g) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the sewage works.

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is imposed to ensure that the works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Certificate and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.

2. Condition 2 is included to ensure that the Ministry records are kept accurate and current with respect to approved works and to ensure that subsequent owners of the works are made aware of the certificate and continue to operate the works in compliance with it.

3. Conditions 3 and 4 are imposed to ensure that the effluent discharged from the works to the stream discharging to Lake Dalrymple meets the Ministry's effluent quality requirements thus minimizing environmental impact on the receiver.

4. Condition 5 is included to require the owner to demonstrate on a continual basis that the quality and quantity of the effluent from the approved works is consistent with the effluent limits specified in the certificate and that the approved works does not cause any impairment to the receiving watercourse.

5. Condition 6 is included to provide a performance record for future references and to ensure that the Ministry is made aware of problems as they arise, so that the Ministry can work with the Owner in resolving the problems in a timely manner.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Review Tribunal and in accordance with Section 47 of the Environmental Bill of Rights, S.O. 1993, Chapter 28, the Environmental Commissioner, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

1. The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Certificate of Approval number;
6. The date of the Certificate of Approval;
7. The name of the Director;
8. The municipality within which the works are located;
And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
2300 Yonge St., 12th Floor
P.O. Box 2382
Toronto, Ontario
M4P 1E4

The Environmental Commissioner
1075 Bay Street, 6th Floor
Suite 605
Toronto, Ontario
M5S 2B1

The Director
Section 53, Ontario Water Resources Act
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

AND

* Further information on the Environmental Review Tribunal’s requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

This instrument is subject to Section 38 of the Environmental Bill of Rights, that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek leave to appeal within 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry at www.ene.gov.on.ca, you can determine when the leave to appeal period ends.

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

DATED AT TORONTO this 1st day of December, 2005

THIS CERTIFICATE WAS Mailed
ON Dec. 1, 2005
(Signed)

Mohamed Dhalla, P.Eng.
Director
Section 53, Ontario Water Resources Act

RC/
c: District Manager, MOE Peterborough
Donald McQuay, Gartner Lee Limited ✓
May 27, 2015

Mr. Jones
Miller Paving Limited
505 Miller Avenue
Markham, Ontario
L3R 9R8

Dear Mr. Jones

RE: Permit To Take Water For
Carden Quarry
Lots: 8-12
10-11, Concessions: 2
3
Geographic Township of Carden
Kawartha Lakes
Reference Number 4514-9UHSLC

Please find attached Permit To Take Water 3474-9VLLYE which authorizes the withdrawal of water in accordance with the application for this Permit To Take Water, dated March 4, 2015 and signed by Barrie Brayford.

Please note the attached Permit cancels and replaces Permit 8054-9NYSJR and expires on May 28, 2025.

Ontario Regulation 387/04 (Water Taking and Transfer) requires all water takers to report daily water taking amounts to the Water Taking Reporting System (WTRS) electronic database (https://www.lrcsde.irs.gov.on.ca/wtrs/). Daily water taking must be reported on a calendar year basis. If no water is taken, then a “no taking” report must be entered. Please consult the Regulation and Section 4 of this Permit for monitoring requirements.

If you have questions about reporting requirements, please call the WTRS Help Desk at 416-235-6322 (toll free: 1-877-344-2011) or by email, WTRSHelpdesk@ontario.ca. It is preferred that you submit your data directly and electronically to the WTRS. Where this is impracticable, please contact the WTRS Help Desk to arrange for written submission of your data.

Take notice that in issuing this Permit, terms and conditions pertaining to the taking of water and to the results of the taking have been imposed. The terms and conditions have been designed to allow for the development of water resources, while providing reasonable protection to existing water uses and users.
Yours truly,

Greg Faaren
Director, Section 34.1, Ontario Water Resources Act, R.S.O. 1990
Eastern Region

File Storage Number: SI KL 3474 220 (TS)

c: Patty Wong, B. Sc., P. Geo., AECOM Canada Ltd., patty.wong@aecom.com

Peterborough District Office
Pursuant to Section 34.1 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

Miller Paving Limited  
505 Miller Ave  
Markham, Ontario, L3R 9R8  
Canada

For the water taking from: Carden Quarry Sump Pond and Freshwater Pond

Located at: Lot 8-12 10-11, Concession 2 3, Geographic Township of Carden Kawartha Lakes

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

(a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34.1, OWRA.

(b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.

(c) "Ministry" means Ontario Ministry of the Environment and Climate Change.

(d) "District Office" means the Peterborough District Office.

(e) "Permit" means this Permit to Take Water No. 3474-9VLLYE including its Schedules, if any, issued in accordance with Section 34.1 of the OWRA.

(f) "Permit Holder" means Miller Paving Limited.

(g) "OWRA" means the Ontario Water Resources Act, R.S.O. 1990, c. O. 40, as amended.
You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. Compliance with Permit

1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated March 4, 2015 and signed by Barrie Brayford, and all Schedules included in this Permit.

1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.

1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.

1.4 This Permit is not transferable to another person.

1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.

1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.

1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

2. General Conditions and Interpretation

2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the Environmental Protection Act, R.S.O. 1990, the Pesticides Act, R.S.O. 1990, or the Safe Drinking Water Act, S.O. 2002.
2.2 Other Approvals
The issuance of, and compliance with this Permit, does not:

(a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the Ontario Water Resources Act, and the Environmental Protection Act, and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

2.3 Information
The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

(a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or

(b) acceptance by the Ministry of the information’s completeness or accuracy.

2.4 Rights of Action
The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

2.5 Severability
The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

2.6 Conflicts
Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

3. Water Takings Authorized by This Permit

3.1 Expiry
This Permit expires on May 28, 2025. No water shall be taken under authority of this Permit after the expiry date.
3.2 Amounts of Taking Permitted
The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

<table>
<thead>
<tr>
<th>Source Name/Description:</th>
<th>Source: Type:</th>
<th>Taking Specific Purpose:</th>
<th>Taking Major Category:</th>
<th>Max. Taken per Minute (litres):</th>
<th>Max. Num. of Hrs Taken per Day:</th>
<th>Max. Taken per Day (litres):</th>
<th>Max. Num. of Days Taken per Year:</th>
<th>Zone/Easting/Nothing:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sump Pond (Normal Operation)</td>
<td>Pond Quarry</td>
<td>Pits and Quarries</td>
<td>Dewatering</td>
<td>4,000</td>
<td>24</td>
<td>5,760,000</td>
<td>200</td>
<td>17 650606 4941090</td>
</tr>
<tr>
<td>2 Sump Pond (Spring Freshet &amp; Heavy Precipitation)</td>
<td>Pond Quarry</td>
<td>Pits and Quarries</td>
<td>Dewatering</td>
<td>4,500</td>
<td>24</td>
<td>6,500,000</td>
<td>30</td>
<td>17 650606 4941090</td>
</tr>
<tr>
<td>3 Sump Pond (Dust Control)</td>
<td>Pond Quarry</td>
<td>Other - Industrial</td>
<td>Industrial</td>
<td>40,000</td>
<td>2</td>
<td>50,000</td>
<td>100</td>
<td>17 650606 4941090</td>
</tr>
<tr>
<td>4 Freshwater Pond</td>
<td>Pond Quarry</td>
<td>Aggregate Washing</td>
<td>Industrial</td>
<td>4,000</td>
<td>24</td>
<td>5,760,000</td>
<td>180</td>
<td>17 650606 4941090</td>
</tr>
</tbody>
</table>

Total Taking: 6,500,000

3.3 Notwithstanding Table A above, the Permit Holder shall ensure that no water is taken prior to March 1st or after November 30th from source 3 and 4 in Table A above for each year this Permit is valid.

3.4 The Permit Holder shall ensure that water taken from source 3 in Table A above is used exclusively for dust control.

3.5 The maximum daily water taking at the site shall never exceed 6,500,000 litres per day.

3.6 The Permit Holder shall ensure that the maximum daily taking from the office well (OW5) does not exceed 450 litres per day and that the maximum rate of taking does not exceed 71 litres per minute.

4. Monitoring

4.1 The Permit Holder shall maintain a record of all water takings. This record shall include the dates and times of water takings, and the total measured amounts of water pumped per day for each day that water is taken under the authority of this Permit. A separate record shall be maintained for each source. The Permit Holder shall keep all required records up to date and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The total amounts of water pumped shall be measured using a calibrated flow meter and totalizer.
4.2 The Permit Holder shall monitor water levels in the following monitoring wells on a monthly basis: OW1, OW3, OW4, OW5, GL1-I, GL1-II, GL1-III, GL2-I, GL2-II, GL2-III, GL3, GL4-I, GL4-II, GL5-I, GL5-II, GL6-I, GL6-II, GL7-I and GL7-II.

The Permit Holder shall monitor water levels in the domestic well known as the "Miller" well on a quarterly basis (at minimum), if permission to do so is granted by the well owner. The Permit Holder shall also seek permission to monitor water levels in the domestic well known as the "Boyd" well on a quarterly basis (at minimum), if permission to do so is granted by the well owner.

4.3 The Permit Holder shall monitor water quality at the domestic well known as the "Miller" well and the "Boyd" well on an annual basis (at minimum) if permission is granted to do so by the well owner.

Groundwater samples collected from these wells shall be analysed for the following parameters:
alkalinity, aluminum, ammonia, antimony, arsenic, barium, beryllium, bicarbonate, bismuth, boron, bromide, cadmium, calcium, chloride, chromium, cobalt, conductivity, copper, dissolved organic carbon, flourine, hardness, iron, lead, magnesium, manganese, molybdenum, nickel, nitrate, nitrite, pH, phosphate, phosphorous, potassium, selenium, silicon, silver, sodium, strontium, sulphate, thallium, tin, titanium, total dissolved solids, uranium, vanadium and zinc.

Groundwater samples shall be analysed by an accredited laboratory to levels (method detection limits) which are lower than the applicable Ontario Drinking Water Standard, Objective or Guideline as indicated in the MOE document entitled "Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines" dated June 2003, revised June 2006 (MOE document PIDS 4449e01).

4.4 Monitoring locations are shown on Figure 1 included as Schedule A of this Permit. The domestic wells referred to in Conditions 4.2 and 4.3 are located northwest of the quarry site and are identified as the "Miller" well and the "Boyd" well also shown on Figure 1.

4.5 The Permit Holder shall retain a qualified consultant to investigate the ongoing decrease in water levels at the "Miller" Domestic well. Figure 14 of the 2014 Annual Monitoring Report for the Carden Quarry shows a steady decline in water levels at the "Miller" well over the monitoring period. Declining water levels are also apparent in site monitoring wells indicating that the water taking at the Carden Quarry is the likely cause of water level decreases in the "Miller" domestic well. As part of their investigation, the qualified consultant shall (at a minimum) investigate the depth of the well to determine available yield at the well and interview the well owner to determine if the decrease in water levels at the well have resulted in an adverse effect in terms of the use of the well. Based on the investigation, the qualified person shall also develop a trigger water level at the domestic well that will ensure that the well can continue to be used by the well owner. The qualified person shall also develop mitigation measures that will be implemented by the Permit Holder if water levels fall below the established trigger level. The work completed by the qualified person based on Condition 4.5 shall be submitted in a report to the Director and the District Office within 3 months of the issuance of the amended Permit.
4.6 For the duration that this Permit is valid, the Permit Holder shall maintain the quarry depth (quarry base floor elevation) at an elevation at least two (2) metres above the geologic unit known as the “Upper Green Marker Bed” located in the limestone bedrock of the Gull River Formation. Further impact assessment must be submitted at the time of renewal or amendment of this Permit in order to modify this quarry depth limitation.

4.7 The Permit Holder shall retain a qualified consultant to prepare an annual report on the water taking. The report shall contain, but not be limited to, the following:

a) daily amounts of water taken;
b) maintenance assessment of all wells used for the monitoring program;
c) interpretation of all pertinent hydrogeological and operational data including groundwater levels and quality, quarry depth and discharge rates;
d) an assessment of trends in groundwater levels and groundwater quality;
e) figures / site plans showing: current quarry depths, groundwater elevations, and the zone of influence from quarry dewatering in key hydrostratigraphic units;
f) interpretation of potential or observed impact to area groundwater users and/or surface water features;
g) if interpretation of monitoring results indicates potential or observed adverse impacts to area groundwater users and/or surface water features, an action plan shall be submitted to the Director that aims to prevent or mitigate this impact;
h) an assessment of the need for additional groundwater monitoring locations to better delineate potential impacts as quarrying progresses, particularly in the eastern and southeastern areas of the licensed site area where the need for future construction of additional wells has been identified by AECOM Canada Ltd.;
i) a summary of all complaints, mitigative actions, deviations from the monitoring program, deviations from the predicted impacts of the water taking, an operational summary, and any associated anomalies related to the water taking.

4.8 If any of the following events occur during the annual monitoring period, the Permit Holder shall contact the Ministry's District Office within three (3) days of identification of the event:

- mitigation or contingency actions are proposed or undertaken;
- deviations from the predicted impacts of the water taking are observed; and/or
- potential or observed adverse impact to area groundwater users and/or surface water features is determined.

4.9 Any well water supply interference complaint received by the Permit Holder or any significant change in monitored groundwater levels / quality shall be reported immediately to the Ministry's District Office. As recommended in the Gartner Lee Limited report dated April 1995, the Permit Holder will retain a qualified hydrogeological consultant to investigate, report on and make recommendations for remedial measures in the event of a well water supply interference complaint. MOE shall be advised of the results of the interference complaint. The Permit Holder will be responsible for the rectification of all incidents of well water supply interference caused by the quarry operation.
4.10 The Permit Holder shall provide the annual report to the Ministry’s District Office on or before April 30th of the year following the reporting year. The report shall be directed to the attention of the District Manager.

4.11 On an annual basis, the Permit Holder shall provide copies of the annual report to the City of Kawartha Lakes Development Services Planning Division and the Peterborough District Office of the Ministry of Natural Resources.

4.12 The Permit Holder shall participate in a cumulative impact assessment for the Carden Plain Area with other quarry operators who have been issued a Permit to Take Water in this area.

5. Impacts of the Water Taking

5.1 Notification
The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry’s Spills Action Centre at 1-800-268-6060.

5.2 For Surface-Water Takings
The taking of water (including the taking of water into storage and the subsequent or simultaneous withdrawal from storage) shall be carried out in such a manner that streamflow is not stopped and is not reduced to a rate that will cause interference with downstream uses of water or with the natural functions of the stream.

For Groundwater Takings
If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

If permanent interference is caused by the water taking, the Permit Holder shall restore the water supplies of those permanently affected.
6. **Director May Amend Permit**
   The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act*, Section 100 (4).

   *The reasons for the imposition of these terms and conditions are as follows:*

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.

2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.

3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.
In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me, the Environmental Review Tribunal and the Environmental Commissioner, Environmental Bill of Rights, R.S.O. 1993, Chapter 28, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, as amended provides that the Notice requiring a hearing shall state:

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

The Secretary  
Environmental Review Tribunal  
655 Bay Street, 15th Floor  
Toronto ON  
MSG 1E5  
Fax: (416) 314-4506  
Email: ERTItribunalsecretary@ontario.ca

AND

The Environmental Commissioner  
1075 Bay Street  
6th Floor, Suite 605  
Toronto, Ontario M5S 2W5

AND

The Director, Section 34.1,  
Ministry of the Environment and Climate Change  
1259 Gardiners Rd, PO Box  
22032  
Kingston, ON  
K7P 3J6

Further information on the Environmental Review Tribunal’s requirements for an appeal can be obtained directly from the Tribunal:

by telephone at (416) 314-4600  
by fax at (416) 314-4506  
by e-mail at www.ert.gov.on.ca

This instrument is subject to Section 38 of the Environmental Bill of Rights that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek to appeal for 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry, you can determine when the leave to appeal period ends.

This Permit cancels and replaces Permit Number 8054-9NYSJR, issued on 2014/09/16.

Dated at Kingston this 28th day of May, 2015.

Greg Faaren  
Director, Section 34.1  
Ontario Water Resources Act , R.S.O. 1990
Schedule A

This Schedule “A” forms part of Permit To Take Water 3474-9VLLE, dated May 28, 2015.

Figure 1 entitled "Site Plan" submitted by AECOM Canada Ltd. as part of the document entitled "Amendment Application for PTTW #97-P-4005, Part Lots 10, 11, Concession III, Lots 7, 8, 10, Concession II, Part Lots 11, 12, Concession II, Carden Township, City of Kawartha Lakes, Miller Paving Limited" dated March 2010.
Amendment Application for PTTW #97-P-4005, Part Lots 10, 11, Concession III, Lots 7, 8, 10, Concession II, Part Lots 11, 12, Concession II, Carden Township, City of Kawartha Lakes Miller Paving Limited

Prepared by:
AECOM
300 – 300 Town Centre Boulevard 905 477 8400 tel
Markham, ON, Canada L3R 5Z6 905 477 1456 fax
www.aecom.com

Project Number:
60116874-107433

Date:
March, 2010
Appendix B

Asphalt Plant Operations and Maintenance Manual
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3.0 MAINTENANCE PROCEDURES

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3.4 Bins/Chutes/Grizzlies

3.5 Screens

3.6 Batch Tower

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4.0 IMPLEMENTATION SCHEDULE

5.0 IMPLEMENTATION PLAN

6.0 RECORD KEEPING

7.0 CONCLUSION

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1.0 INTRODUCTION

An Operations and Maintenance Manual is a detailed document that outlines the procedures at a given site and describes the measures that shall be used to maintain the facility. The manual is used to manage and maintain plant equipment at facilities such as asphalt plants to meet or exceed the standards set out by The Miller Group.

2.0 OPERATION

Please refer to the Manufacturer’s Operations manual located in the control room.

3.0 PLANT MAINTENANCE

Proper maintenance of the equipment will not only minimize on site emissions, but increase plant revenue with reduced lost time for major repairs.

The following maintenance guideline should be considered minimum required maintenance in order to maintain an efficient plant operation. The following should be used in conjunction with your equipment’s maintenance checklists:

3.1 General

Compressor should be serviced regularly as outlined by the manufacturer/supplier. This service is currently covered conducted by a third party contractor.

Grease all bearings as outlined in the manufacturer’s recommended service schedule.

Remove dirt build-up where necessary. Remove accumulated piles where necessary to maintain access to conveyor components.

Keep the yard and work areas free of obstruction and debris.

Generators will be maintained to manufacturer’s specifications and all maintenance records must be accessible on site.

3.2 Hydraulics

Regularly check service indicators on filters, water traps, and air breathers regularly. If they indicate they require maintenance, do so as soon as possible. Keep the breather/indicators clean to ensure proper operation. If you suspect they are not working correctly, change them.

Flush hydraulic system yearly at a minimum. If the oil condition dictates otherwise, do it on a more regular basis.

Regularly monitor the filters for signs of metal – this can be an early indicator that maintenance is required in the hydraulic system.

If your crushe is equipped with a mobile track unit, be sure to replace this oil every 1000 hours.
3.3 **Conveyors**

Be sure to keep material piles from building up around the conveyor, particularly near the tail pulley. Buildup can wear the belts, pulley, and bearings prematurely. Clean the area if often to ensure adequate clearance around the equipment.

Inspect the tail and head pulleys for buildup. Buildup can cause belt tracking problems and creates unnecessary wear on the belt and pulley. Lockout the equipment and clean the pulley as required.

Inspect the drive motor, gearbox, sheaves, and belts for wear or debris buildup. Clean as necessary. Inspect the seal on the gearbox shaft seals for leaks – if there is a leak, schedule to have the gearbox repaired. The sheaves should have even wear and smooth surfaces where the belts run. If there is abnormal wear, check the belts and inspect for proper alignment. Belt edges should not be frayed or have exposed cords. If damage is apparent, replace the belts and ensure they are properly tensioned. Proper tensioning is imperative to long belt life and reduced slipping. Refer to manufacturer’s manual for proper tensioning procedures. Grease head and tail pulley bearings as per checklist’s recommendations.

3.4 **Bins/Chutes/Grizzlies**

Inspect the high wear areas on a regular basis for signs of wear, holes, tears, and cracking. Repair and replace any areas of concern. Any areas with repeated wear issues may require the addition of hard plate to this area.

Any bolted chute or bin liners should be inspected for signs of tearing at the bolt holes. Bolt heads should be inspected for wear and tightened as needed.

Grizzlies should be inspected regularly for lodged material. This material should be removed. The welds on the grizzly should be inspected for cracking as they are subject to vibration and high strain from the loader.

3.5 **Screens**

Screens should be visually checked on a regular basis for loose bolts and cracks in the screen box. Due to the high level of vibration, it is easy for welds and bolts to break or come loose. Tighten any loose bolts as required and note the location of problem cracks for repair at the next shut down.

The screen cloth should be monitored for even wear and life expectancy. Screen changes are usually scheduled for the winter months when production is slow or halted.

3.6 **Batch Tower**

The batch tower should be inspected for wear. Experienced operators will be able to hear or see irregularities in the operation and can inspect the unit during operation or shutdown if required. Grease the bearings as needed.

Inspect and ensure proper operation of the pneumatics daily to ensure longevity and proper function. Examine liner plates and bin walls for wear. Check pugmill liners and paddles tips for signs of damage and excessive wear.

Additional items to inspect are listed in the maintenance checklists.
3.7 Dryer
Inspect dryer tracking regularly to minimize wear on the trunnions and tires. If you suspect the drum is not tracking correctly, contact the Maintenance Manager immediately.
If the burner is having problems lighting or you suspect it is not running efficiently, contact the Maintenance Manager.

3.8 Boiler
Boiler repairs and service are conducted by a contractor. Please contact them, via the Maintenance Manager, if you have any problems.

3.9 Baghouse
Inspect baghouse door seals and bags for tears on a regular basis. Ensure proper operation of the pulse jet or roto-aire cleaning system – refer to magnahelic gauge for improper operation. If you suspect leakage across the baghouse, please contact the Maintenance Manager.

3.10 Safety Equipment/Guarding/Other
All horns, alarms, and beacons should be verified daily for proper operation. Yard lighting should be fixed if an issue is noted. All guards, catwalks, and safety railings should be routinely checked for deficiencies and repaired immediately if required.
If a guard is removed for maintenance, it must be reinstalled prior to equipment start-up. E-Stops on all equipment should have their performance verified regularly. Yards signs should be kept clearly visible and cleaned/replaced as necessary.

Note: All maintenance performed must be recorded in the attached maintenance log. This log must be kept with the equipment at all times. Include outside services on the log and keep a copy of the invoice filed with the record. This document is to be followed in conjunction with the manufacturer’s suggested maintenance terms and procedures.

4.0 IMPLEMENTATION SCHEDULE
All control measures are in place.

5.0 IMPLEMENTATION PLAN
The following outlines how the plan shall be implemented, including training of facility personnel:

- The Operation and Maintenance Manual shall be kept on file in the control room or office.
- Training on new and existing operating procedures shall be provided to relevant new and existing staff.
• Training shall be provided to relevant new staff and refresher training shall be provided at a minimum of once every three years.
• The company’s management shall communicate the O&M Manual to responsible supervisors, who shall ensure staff are following operating procedures defined in the O&M Manual.
• The Site Manager shall be responsible for ensuring the O&M Manual is followed.
• Management shall ensure the plan is reviewed annually.
• The staff shall follow the O&M procedures.

6.0 RECORD KEEPING

Records will be kept for a minimum of two years on site in the control room or office.

7.0 CONCLUSION

The Miller Group considers the procedures outlined in this Operation and Maintenance Manual to either meet or exceed industry standards and best engineering practices for operating and maintaining this facility. Miller Group will implement these measures to successfully operate and maintain the facility.

8.0 APPENDICES

Appendix A – Equipment Maintenance Check List
Appendix B – Equipment Maintenance Log
# ASPHALT BATCH PLANT CHECKLIST

**Daily**

<table>
<thead>
<tr>
<th>Plant:</th>
<th>[ ]</th>
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</thead>
<tbody>
<tr>
<td>Location:</td>
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<tr>
<td>Review by:</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
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<table>
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<tr>
<th>Item.</th>
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<tr>
<td><strong>Safety</strong></td>
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<tr>
<td>Lock Out Equipment</td>
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<tr>
<td>First Aid Kit</td>
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</tr>
<tr>
<td>Fire Extinguisher(s)</td>
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<td>Plant Site clean and free of potential hazards</td>
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<td>Personal Protective Equipment</td>
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</tr>
<tr>
<td>Hardhat, Glasses, Harness, Ear Protection</td>
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</tr>
<tr>
<td><strong>Stock Piles</strong></td>
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<tr>
<td>Are stock piles contaminated?</td>
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<td>Can stock piles drain water freely?</td>
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<td><strong>Guarding, Is the appropriate guarding in place?</strong></td>
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<td>Cold Feed Bins</td>
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<tr>
<td>Collector Conveyor</td>
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<tr>
<td>Slinger (Drum Delivery Conveyor)</td>
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<tr>
<td>Drier</td>
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</tr>
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<td>Aggregate Screen / Scalping Screen</td>
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</tr>
<tr>
<td>RAP Feeder</td>
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<tr>
<td>RAP Breaker</td>
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<tr>
<td>RAP Belt</td>
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<tr>
<td><strong>Hot-Oil System</strong></td>
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<tr>
<td>Leaks, Repair leaks</td>
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</tr>
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<td>Hot-Oil Pump, check operation</td>
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<tr>
<td><strong>Air System</strong></td>
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<td>Leaks, Repair oil and air leaks</td>
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<td>Filters and Lubricators, check operation</td>
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<td>Air valve, check operation (Asphalt Cement Syst)</td>
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<td><strong>Bag House</strong></td>
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<td>Pulse valves and diaphragms, check for leaks</td>
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<td><strong>Filler Systems</strong></td>
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<td>Vane feeder, check for proper operation</td>
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<tr>
<td>Blower, Check oil</td>
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<tr>
<td><strong>RAP Breaker</strong></td>
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<td>Rollers, check for wear, rotation and buildup</td>
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<td><strong>Batcher</strong></td>
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<td>Batcher, check limits</td>
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<tr>
<td><strong>Truck Scales</strong></td>
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<td>Debris, clean under scales</td>
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<tr>
<td><strong>Comments</strong></td>
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# ASPHALT BATCH PLANT CHECKLIST

**Weekly**  
Plant:  
Location:  
Review by:  
Date:  

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<td>Rollers, check for wear and free rotation</td>
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<td>Hoppers, inspect for wear</td>
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<td><strong>Collector Conveyor</strong></td>
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# Asphalt Batch Plant Checklist

**Monthly**

**Plant:**

**Location:**

**Review by:**

**Date:**

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<td>Thermocouple, Infrared temp. sensor, check</td>
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<td>Clearances, Is the scale hanging freely ?</td>
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<td>Discharge gate, check operation</td>
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<td>Gear Box, check for leaking seals, change oil</td>
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<td>Cones, check for loose brick or mortar</td>
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<td>Zero speed sensors, check operation</td>
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<td>Damper, check condition and operation</td>
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<td><strong>Asphalt Cement Storage / Delivery System</strong></td>
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<td><strong>RAP Belt</strong></td>
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<td>Conveyor Belt, check for excessive wear/damage</td>
<td>6 MO.</td>
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<td>Drive Belts, check for excessive wear/damage</td>
<td>6 MO.</td>
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<td>Discharge chute check for wear</td>
<td>6 MO.</td>
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<td>Belt Scraper, check condition, adjust if required</td>
<td>6 MO.</td>
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<td><strong>RAP Feeder</strong></td>
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<td>Rollers, check for wear and free rotation</td>
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<td>Belt Scraper, check condition, adjust if required</td>
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<td>Belt Scraper, check condition, adjust if required</td>
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<td>Cone Thickness, check use appropriate technique</td>
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<td>Floor plate, check for wear</td>
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<td>Side Box, check for wear</td>
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<td><strong>Truck Scales</strong></td>
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<td>Load Cell, inspect for damage</td>
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<td>Calibration, Has scale been calibrated this year ?</td>
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<td><strong>RAP Feeder</strong></td>
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<td>Motor &amp; Wiring, check condition and operation</td>
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<td>Hoppers, inspect for wear</td>
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<td><strong>Truck Scales</strong></td>
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<td>Calibration, Has scale been calibrated this year?</td>
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<td>Wiring and Switches, check condition</td>
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<td>Idler Sprockets &amp; Shafts, check for wear</td>
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<td>Driver Sprocket &amp; Shaft, check for wear</td>
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<td>Elevator walls, check for wear and leaks</td>
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<td>Chain, check for wear and adjustment</td>
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<td>Buckets, check for wear</td>
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<td>Electrical Equipment and wiring</td>
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<td><strong>Aggregate Scale</strong></td>
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<td>Liners, check for wear</td>
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<td>Shaft Arms &amp; Mixing Paddles, check for wear</td>
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<td>Gear Box, change oil</td>
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Appendix C

Emergency Response Plan
– Spill Procedure
The Miller Group
SOUTHERN AGGREGATE RESOURCES
Carden Quarry

Emergency Response Plan

Spill Procedure
The information presented here is, to the best of our knowledge, current at the time of printing and is intended for general application. This publication is to be used as a guide only. It is not intended for replacement of any government regulations, or practices and procedures wholly applicable under every circumstance.

NO JOB IS SO IMPORTANT THAT WE CANNOT TAKE THE TIME TO DO IT SAFELY.

Any questions as to the content of this procedure should be addressed to any one of the following:

Scott Boyle
Robert Lindsay
Robert Lloyd-Owen
Purpose:

Canadian federal and provincial agencies that administer safety, transportation or environmental programs hold the discharger of a pollutant into the natural environment responsible to ameliorate the adverse effects of a spill. Aggregate Resources might, through the transportation or application of products be faced with the accidental release of hazardous material into the environment. As such, Aggregate Resources would be expected to contain and clean up the spilled contaminant or cause the contaminant to be contained and cleaned up. We would also be expected to restore the spill site, where this can reasonably be done, by removing the contaminant, contaminated soil and debris, and dispose of these materials in an acceptable manner at an approved disposal site.

The purpose of this spill procedure is to prepare for the most efficient deployment of resources to achieve the following objectives:

- Immediate notification within the company to ensure that an appropriate and timely response is initiated;
- Compliance with legislated notification requirements to municipal, provincial and federal agencies as applicable;
- The earliest possible response to a spill with available or contracted resources;
- The earliest possible establishment of liaison with municipal and regulatory authorities at the spill site and a mechanism to work in a coordinated manner with these groups;
- A response consistent with remedial measure requirements;
- A mechanism to deal with affected third parties;
- A mechanism to deal with claims and payment; and,
- A mechanism to deal with the media and interest groups.
Spill Procedure

In the event of a problem involving equipment operated by Aggregate Resources those results in the release of a hazardous substance into the environment the following steps are to be taken immediately. Hazardous materials that are likely to be released from equipment operated by Aggregate Resources are fuel oil (diesel fuel), engine oils, transmission fluid or engine coolant as well as the product being transported.

If a spill of these materials is discovered ensure (as far as is practical) that the unit being operated is stopped and secured in safe location.

Try to stay away clear of any location that might be affected by the release of these materials.

Where practical stay away from catch basins and do not allow liquids to enter any sewer system. Drain inlets, catch basins and culvert inlets should be blocked to prevent the entry of contaminants.

If stopped on a grade try to prevent liquids from flowing down hill and entering catch basins at some location remote from your location.

Call dispatch giving them your location and an estimate of what is spilled.

Isolate the location and restrict access.

**Equipment Operator:**

Upon detecting a liquid spill or spill of material take necessary steps to contain the spill.

- Identify the material and the applicable hazards. Try to determine the quantity of material Spilled.
- If flammable remove all sources of ignition including electricity and rope off the area if possible.
- Ensure the proper PPE is obtained before entering spill area.
- Stop product loss by closing valves and stopping pumps as required.
- Remove injured persons from danger area.
- Block off any sewer entrances. Use absorbing material or sand/soil to create a dike around the spill area. Create walls of sand or absorbing material ahead of the product flow.
- Secure the area and ensure only the required people are present. Keep the area clear for the emergency vehicles.

Call Quarry Manager to report problem and to obtain help for containment and clean up.

*Muskoka Quarries – Rob Lindsay*
Call 1-705-715-5589 between the hours of 6:00 am and 6:00 pm.
Monday/Friday
Or
Call 1-705-715-5589 between the hours of 6:00pm and 6:00am and on
Saturdays, Sundays and Holidays.

*MRT Havelock – Darren Rogerson*
Call 1-705-877-8423 between the hours of 6:00 am and 6:00 pm.
Monday/Friday
Or
Call 1-905-260-7094 between the hours of 6:00pm and 6:00am and on
Saturdays, Sundays and Holidays.
**Operations Supervisor**

Upon being notified of a spill ensure that the following information is obtained:

Who is reporting the spill (employee or member of the public)

A recall number

Injury or equipment damage

Unit involved (tractor #, trailer #)

Location (be precise)

What is spilled and estimated quantity?

Is spill contained?

Environmental Factors: i.e. enter lake, watercourse, drainage systems

Have any emergency personal been called (if so, who)

**Operations Supervisor**

1. **Quarry Manager**

Who will respond to the emergency.

**Quarry Manager**

Will notify the following authorities:

- Local Police
  911

- Ministry of the Environment
  Spills Action Centre
  1-800-268-6060
  (24 hour, province wide, toll-free Number)
  See local office directory for other Offices at Tab 3

- Local Municipality
  See Municipal directory

- Ministry of Labour
  If fatal or critical injury
  See directory at Tab 3
Maintain a log of events related to the spill.

When reporting to the Ministry of Environment they will request the following information:

Person reporting the spill
Time when the incident occurred
Company Name
Material spilled or leaked
Approximate quantity
Location of spill
Sensitivities if known, i.e. waterways, sewers/drainage systems, marshes
Current status of spill containment- is it contained
Other agencies called

Obtain the following information:

Name of the individual taking report or persons spoken with
Time of call

_____________________

Upon being advised of the incident will contact the following:

General Manager  Scott Boyle
See Telephone List Tab 3

Manager, OH&S   Robert Lloyd-Owen
See Telephone List Tab 3

Act as control centre and obtain assistance and equipment as required by personnel at spill site. Maintain a log of events related to the spill.
General Manager:

Provide all necessary assistance in containment and clean up and contact the following:

Sr. V.P Miller Paving **Ryan Essex**  
President & CEO Miller Group (Leo McArthur)

Responding Manager:

All managers carry a spill kit. These kits contain absorbent pads, absorbent material, containment socks and protective gloves.

Upon being notified of a spill immediately attend the scene and ensure that any spill is contained and arrange for clean up. Stay at the spill site until clean up is complete or relieved by another manager.

Maintain a log of events related to the spill.

Responding Clean Up Crew:

Upon being notified of a spill will respond with additional spill kits, shovels, brooms and containers to receive contaminated waste from spill clean up.

Assist with clean up of spill.

Training:

All operators of equipment operated by Miller Paving Limited will be instructed in this spill procedure and their function when reacting to a spill of hazardous materials involving the unit they are operating.

All supervisory and responding clean up crew personal will receive training in spill management, containment and spill cleanup.

Media Relations:

All requests for information from reporters or other media sources must be referred to the office of the Senior Vice President.
Spill Procedure

Check List

Date: ________________  Time: __________ am/pm

When notified of a spill obtain and record the following information.

1. Spill reported by: name,
   Employee/Non-Employee.

2. Recall telephone number,
   Cell Phone/Landline.

3. Any injury or equipment damage,
   Injury to Employee/Non-Employee.
   Damage to Company Property/ Non-Company Property.

4. Exact Location,
   Street, Road, Highway, Landmarks.

5. Units involved,
   Unit #’s.

6. What is the spill,
   Estimated quantity.

7. Is spill contained,
   Yes,  No,  How,
   Is this sufficient,

8. Environmental Factors,
   Lakes, Water Courses, Drainage Systems.

9. Emergency personal contacted,
   Police
   Fire Department
   Ambulance
   Other
Miller Group

Internal Resource Directory

Miller Paving Limited
Carden Quarry
Brechin, Ontario
705-484-1101
Contact Person
Bill Parsons
705 833 1195 (Home)
705 333 2403 (Cell Phone)

Miller Paving Limited
Prince Edward Island
Picton, Ontario
613-476-6203
Contact Person
Don Hutcheson
613 849 7598 (Cell Phone)

Miller Aggregates
Haliburton, Ontario

Contact Person
Bruce Rennie
705 448 1354 (Home)
705 457 8772 (Cell Phone)

Miller Aggregates
Patterson Quarry
705-385-0249

McClellan Sand & Gravel

Contact Person

FOR ALL SPILLS CONTACT ROB LINDSAY FIRST
Rob Lindsay
705 689-1402 (Home)
705 715 5589 (Cell Phone)

Patterson and McClellan’s
Alex Brooks
705 765 0665 (Home)
705 645 3936 (Cell)
<table>
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<th>Position</th>
<th>Name</th>
<th>Office Phone</th>
<th>Home Phone</th>
<th>Cell Phone</th>
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<td>General Manager</td>
<td>Scott Boyle</td>
<td>905-655-3889</td>
<td>905260543</td>
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<tr>
<td>Manager, OH&amp;S</td>
<td>Robert Lloyd-Owen</td>
<td>9054756356</td>
<td>7057265778</td>
<td>4169912849</td>
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<tr>
<td>Safety/Driver Trainer:</td>
<td>Bill Scott</td>
<td>9054756356</td>
<td>9058368977</td>
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Ministry of Labour Directory

Many of the 1-800 or toll-free numbers listed below are accessible only within the area code of the relevant office.

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<th>Western Region</th>
<th>Central Region</th>
<th>Eastern Region</th>
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<td><strong>Sudbury, Timmins, Thunder Bay, Sault Ste. Marie</strong></td>
<td><strong>Hamilton, Halton, Brant, Niagara, London, Windsor, Kitchener</strong></td>
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<td>Sudbury West</td>
<td>1 Jarvis Street, Main Floor</td>
<td>2275 Midland Avenue</td>
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<tr>
<td>159 Cedar Street, Suite 301</td>
<td>Hamilton ON L8R 3J2</td>
<td>Unit #1, Main Floor</td>
<td>1111 Prince of Wales Drive</td>
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<td>Sudbury ON P3E 6A5</td>
<td>905-577-6221</td>
<td>Scarborough ON M1P 3E7</td>
<td>Suite 200</td>
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<tr>
<td>705-564-7400</td>
<td>1-800-263-6906</td>
<td>416-314-5300</td>
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<td>1-800-461-6325</td>
<td>Fax: 905-577-1200</td>
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<td>1-800-267-1916</td>
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<td><strong>Timmins</strong></td>
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<td>51 Heakes Lane</td>
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<td>Ontario Government Complex</td>
<td>905-577-6221</td>
<td>905-433-9416</td>
<td>Kingston ON K7M 9B1</td>
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<tr>
<td>P. O. Bag 3050 &quot;D&quot; Wing</td>
<td>1-800-263-6906</td>
<td>1-800-263-1195</td>
<td>613-545-0989</td>
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<tr>
<td>Highway 101 East</td>
<td>Fax: 905-577-1324</td>
<td>Fax: 905-433-9843</td>
<td>Fax: 613-545-9831</td>
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<td>1 Jarvis Street, Main Floor</td>
<td>1201 Wilson Avenue</td>
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<td>1-800-461-9847</td>
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<td>3rd Floor, South Tower</td>
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<tr>
<td>Fax: 705-235-1925</td>
<td>905-577-6221</td>
<td>Downsview ON M3M 1J8</td>
<td>Peterborough ON K9J 8M5</td>
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<tr>
<td><strong>Thunder Bay</strong></td>
<td>1-800-263-6906</td>
<td>416-235-5330</td>
<td>705-755-4700</td>
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<tr>
<td>435 James Street South, Ste. 222</td>
<td>Fax: 905-577-1324</td>
<td>Fax: 416-235-5080</td>
<td>Fax: 705-755-472</td>
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<tr>
<td>Thunder Bay ON P7E 6S7</td>
<td>Niagara</td>
<td>Toronto West</td>
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<tr>
<td>807-475-1691</td>
<td>301 St. Paul St, 8th Floor</td>
<td>1201 Wilson Avenue,</td>
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<tr>
<td>1-800-465-5016</td>
<td>St. Catharines ON L2R 7R4</td>
<td>Building E, 2nd Floor, West</td>
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<tr>
<td>Fax: 807-475-1646</td>
<td>905-704-3994</td>
<td>Building Downsview ON M3M 1J8</td>
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<tr>
<td>70 Foster Dr, Ste. 480</td>
<td>Fax: 905-704-3011</td>
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<tr>
<td>Sault Ste. Marie ON P6A 6V4</td>
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<td>705-945-6600</td>
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<tr>
<td>1-800-461-7268</td>
<td>217 York St., 5th Floor</td>
<td>1290 Central Parkway West,</td>
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<tr>
<td>Fax: 705-949-9796</td>
<td>London ON N6A 5P9</td>
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<td>519-439-2210</td>
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<td>1-800-265-1676</td>
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<td>Fax: 519-672-0268</td>
<td>Fax: 905-615-7098</td>
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<td><strong>Windsor</strong></td>
<td><strong>London North</strong></td>
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<td>4510 Rhodes Drive, Suite 610</td>
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<td>Windsor ON N8W 5K5</td>
<td>416-235-5090</td>
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<td>1-800-265-5140</td>
<td>Peel South</td>
<td>1-888-299-3138</td>
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<tr>
<td>Fax: 519-258-1321</td>
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<td><strong>Kitchener</strong></td>
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<td>155 Frogshoiwer Drive, Unit 2G13</td>
<td>217 York St., 5th Floor</td>
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<td>Waterloo ON N2V 2E1</td>
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<td>1-800-265-2468</td>
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<td>705-722-6642</td>
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<tr>
<td>Fax: 519-883-5694</td>
<td>Fax: 519-672-0268</td>
<td>1-800-461-4383</td>
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## A SUMMARY OF ONTARIO’S ENVIRONMENTAL LEGISLATION

### The Environmental Protection Act

The purpose of the Act is to provide for the protection and conservation of the natural environment and to achieve this purpose the Act prohibits anyone from discharging a contaminant into the natural environment (Section 3 and 14).

### General Provisions of the Act related to Spills

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**Northern Region**

**Thunder Bay Regional Office**

- Suite 331
- 435 James St. S.
- 3rd Floor
- Thunder Bay ON P7E 6S7
- Toll free from area codes 705/807: 1-800-875-7772
- Tel: (807) 475-1205
- Fax: (807) 475-1754

**Sault Ste Marie Area Office**

- 289 Bay Street
- 3rd Floor
- Sault Ste. Marie ON P6A 1W7
- Tel: 705-942-6354
- Fax 705-942-6327

**Kenora Area Office**

- 808 Robertson St.
- P. O. Box 5150
- Kenora ON P9N 3X9
- Toll free from area code 807: 1-888-367-7622
- Tel: (807) 497-4866
- Fax: (807) 497-6866

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**Central Region**

**Central Region Office**

- 5775 Yonge St. 8th floor
- North York ON M2M 4J1
- Toll free: 1-800-810-8048
- Tel: (416) 326-6700
- Fax: (416) 325-6345

**Halton-Peel District Office**

- 4145 North Service Road
- Suite 300
- Burlington ON L7L 6A3
- Toll free: 1-800-335-5906
- Tel: (905) 319-3847
- Fax: (905) 319-9902

**Metro Toronto District Office**

- 5775 Yonge St.
- 8th floor
- North York ON M2M 4J1
- Toll free: 1-800-810-8048
- Tel: (416) 326-6700
- Fax: (416) 325-6346

**York-Durham District Office**

- 230 Westney Rd. S.
- 5th floor
- Ajax ON L1S 7J5
- Toll free: 1-800-376-4547
- Tel: (905) 427-5600
- Fax: (905) 427-5602

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**Eastern Region**

**Kingston Regional Office**

- Box 820
- 133 Dalton Ave.
- Kingston ON K7L 4X6
- Toll free for area codes 613/705/905: 1-800-267-0974
- Tel: (613) 549-4000
- Fax: (613) 548-6908

**Belleville Area Office**

- Bay View Mall
- 470 Dundas St. E.
- Belleville ON K8N 1G1
- Toll free from area code 613: 1-800-860-2763
- Tel: (613) 962-9208
- Fax: (613) 962-6809

**Cornwall Area Office**

- 113 Amelia St.
- Cornwall ON K6H 3P1
- Toll free number for area code 613: 1-800-860-2760
- Tel: (613) 933-7402
- Fax: (613) 933-6402

**Kingston District Office**

- Box 820
- 133 Dalton Ave.
- Kingston ON K7L 4X6
- Toll free for area codes 613/705/905: 1-800-267-0974
- Tel: (613) 549-4000
- Fax: (613) 548-6920

---

**West-Central Region**

**Hamilton Regional Office**

- 12th floor
- 119 King St. W.
- Hamilton ON L8P 4Y7
- Toll free: 1-800-668-44
- Tel: (905) 521-7640
- Fax: (905) 521-7820

**Guelph District Office**

- 1 Stone Road W.
- Guelph ON N1G 4Y2
- Toll free: 1-800-265-85
- Tel: (519) 826-4255
- Fax: (519) 826-4286

**Niagara District Office**

- 54 Cedar Pointe Dr.
- 2nd Floor.
- St. Catharines ON L2R 3M8
- Toll free number: 1-800-634-8901
- Tel: 905 763 387
- Fax: 905 764 800

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**Southern Region**

**London Regional Office**

- 4510 Rhododendron Dr.
- 2nd Floor.
- London ON N6G 3X7
- Toll free number: 1-800-634-8901
- Tel: 519 646 387
- Fax: 519 645 800

**Sarnia District Office**

- 1580 7th Avenue S.
- Sarnia ON N7S 1P1
- Toll free number: 1-800-634-8901
- Tel: 519 680 730
- Fax: 519 679 800

**Windsor Area Office**

- 4510 Rhododendron Dr.
- Unit 620
- Windsor ON N8W 5K5
- Toll free number: 1-800-387-8826
- Tel: 519 948 1464
- Fax: 519 948 387
A contaminant is defined as any solid, liquid, gas, odor, sound, vibration or radiation resulting from the activities of man, which is likely to:

i. Impair the quality of the natural environment;
ii. Cause injury or damage to property or to plant or animal life;
iii. Cause harm or material discomfort to any person;
iv. Adversely affect the health or impair the safety of any person;
v. Render any property or plant or animal life unfit for use by man;
vi. Cause loss of enjoyment of normal use of property; or
vii. Interfere with the normal conduct of business (Section 1).

The discharger of a spilled contaminant is required to notify the Ministry of the occurrence immediately. If the discharger does not respond to the spill adequately and damage or injury occurs to land, water, property, animal life or plant life, a designated director may issue an Order, which requires the discharger to repair the damage or injury (Section 15 and 17). The Director may also cause the work to be done at the expense of the discharger defaults on the Order (Section 147).

The Act makes it an offence for anyone to give false information to the Minister, to a provincial officer or to any employee of the Ministry with respect to any matter under the Act including information pertaining to spills (Section 184).

Offences are subject to various fine structures and imprisonment (Section 186).

For spill prevention, the Regional Director may issue orders requiring those with a potential for spills: to prepare contingency plans; to train staff; to install monitoring, detection and spill alarm devices; and to construct spill prevention facilities (Section 18).

**Part X – Spills**

Part X of the EP Act deals with spills of pollutants which cause, or are likely to cause, defined adverse effects discharged:

- Into the natural environment,
- From or out of a structure, vehicle or other container, and
- That are abnormal in quantity or quality in light of all the circumstances of the discharge (Section 91).

The major components of the Part are summarized as follows:
Part X:

- Establishes prompt and broad notification requirements for the person who caused the spill, the person who had control of the material immediately prior to the spill, and for employees of all public authorities (Section 92).
- Establishes a duty on the person who had control of the pollutant spilled, as well as on the owner, to clean up the spill (Section 93).
- Establishes the responsibility for proper disposal and re-use of materials from spill sites and permits a Director to expedite related matters (Section 96).
- Provides for liability for loss and damage, as well as costs and expenses without the proof of fault (Section 99);
- Provides for the right of municipalities to respond to spills, for entry and for compensation from the owner and the person having control of the pollutant (Section 100);
- Provides for the authority of the Ministry to have ministry employees or agents respond to spills under certain conditions (Section 94).
- Provides for the authority for the Minister to issue orders to those liable at law and others who may be able to assist (Section 97);
- Establishes the right to compensation and a compensation mechanism with respect to orders (Section 101);
- Establishes a right-of-entry for those with a duty, those under order or direction, and municipalities for the purpose of carrying out their respective duty, order or role as applicable (Section 95 and 100);
- Provides for regulations (Section 176).

Other Legislation:

In addition to requirements under the Environmental Protection Act, requirements for spills response exist under other legislation as follows:

**Pesticides Act**

Every person who discharges a pesticide or substance or thing containing a pesticide into the natural environment, must notify the Ministry of the Environment forthwith and make reasonable
measures to clean up the environment. The required notification can be made to the MOE Spills Action Centre at 1 800 263 6060.

**Ontario Water Resources Act**

Every person who causes or permits a discharge of any material to water, which may impair water quality, must notify the Ministry of the Environment forthwith. This notification can be made to the MOE Spills Action Centre at 1 800 263 6060.

**Fisheries Act**

A spill under this Act is considered to be a significant deposit of a deleterious substance (e.g.: a significant amount of sediment) into a water body, that occurs out of the normal courses of events and that could cause adverse effects to fish or fish habitat.

The notification of such a spill will be made to the local Ministry of Natural Resources (MNR) District Offices as soon as possible following the spill.

Miller Paving Limited shall take reasonable corrective action to address the adverse effects of the deposit and shall advise the MNR District Office of these actions.

**Transportation of Dangerous Goods Regulations**

The person in control of dangerous goods, which are released during transport, must comply with Dangerous Occurrence Reporting requirements under the Transportation of Dangerous Goods Regulations. Dangerous Occurrence as set out in the Regulations shall be reported to the local police.
Appendix D

Emergency Preparedness and Response Plan
### Purpose:

To provide planning for the identification of potential for incidents and emergency situations as well as the mitigation of the environmental impacts that may be involved with incidents and emergency situations.

### Scope:

This program applies to all divisions of The Miller Group of Companies. Shorter duration jobs, less than one day lasting to one week only, a JHA may be used as the emergency preparedness and response plan.

### Application:

All emergency preparedness and response situations pertaining to this location's specific plan will be reviewed and implemented (e.g., information specific to communications systems, emergency teams, fire wardens, evacuation plans, etc.). This document will be adjusted in coordination between the operations team and a health and safety representative if required. The location specific plan should be posted on the health and safety board in the workplace.
**Roles and Responsibilities:**

Managers, Supervisors and Foremen are responsible for developing workplace and job site emergency plans in the event of an incident or a rescue is required.

Managers, Supervisors and Foremen must be notified of any incident as per the Incident Reporting Procedure PRO-SAF-001.

The **Incident Coordinator** is the person that serves as the main contact for the company in an emergency. The Incident Coordinator is responsible for making decisions and following the steps described in this emergency response plan. The event of an emergency occurring within or affecting the worksite, the primary contact will serve as the Incident Coordinator. If the primary contact is unable to fulfill the Incident Coordinator duties, the secondary contact will take on this role. If needed, Senior Manager on site can also appoint an Incident Coordinator.

Managers, Supervisors and Foremen must maintain a current set of Company personnel telephone numbers as well as contact telephone numbers to obtain equipment, material or expertise that may be needed in the event of an emergency.

Managers, Supervisors and Foremen are responsible for ensuring that emergency telephone numbers are posted in conspicuous locations available to all staff and employees. Supervisors and Foremen must carry the telephone numbers to job sites and all workers must know where to find them.

Managers, Supervisors and Foremen must ensure adequate personnel are trained in first aid and CPR. Certificates must be posted on the Health and Safety Communication Board.

Supervisors and Foremen are responsible for discussing and communicating the basic emergency response plans during the daily Job Hazard Analysis.

All employees must know the location of fire extinguishers, first aid kits, emergency meeting location in the event of an evacuation and the directions to the nearest hospital.

Evacuation drills must be carried out at a minimum of once per year. All Laboratories managed by the Miller Group of Companies that use or store flammable and/or combustible liquids must hold drills at intervals not greater than six months. The Record of Fire and Emergency Drill Report should be used to document all drills ensuring effectiveness and corrective action when required.

**Planning and Awareness:**

Before an emergency happens the following items must be included as part of the planning in order to effectively deal with potential problems.

- Have all hazards been analyzed?
- Are the right people doing the job?
• Do we know the route to the nearest hospital?
• Do you require satellite or similar communication devices for remote locations?
• Do fire, police and emergency medical services respond to 911 or do we use another telephone number?
• Do all employees know their exact location in case they are the person who must call for help?
• Who will be the competent person in charge if the Supervisor or Foreman must leave the job?
• Are there any workers trained in first aid and CPR?
• Are there any workers knowledgeable in the use of rescue techniques?
• Is there equipment available to affect a rescue?
• Are all employees aware of the Incident Reporting Procedure?

This plan has been communicated to all employees and is posted on the Health and Safety Communication Board or located in the Supervisor’s truck onsite if no board available.

Procedure:

The Incident Coordinator and delegates will have the overall administrative responsibility for any serious accident or emergency situation. Supervisors and operations personnel will usually be the first people to respond.

The following are potential emergencies:

1. Building or Site Evacuation
2. First Aid/ Medical Aid
3. Fire, Explosion
4. Severe Weather
5. Hazardous Material Spills
6. Transportation or Material Handling Incident
7. Violence in the Workplace
8. Bomb Threats
9. Utility Outages
10. Unexpected Natural Disaster
11. Animal Risks to Life or Health
12. Motor Vehicle Collision
13. Property Damage
14. Power Line Contact
15. Fall from Heights
16. Confined/Restricted Spaces
17. Water Emergency – Drowning
1. **Building or Site Evacuation**

All Employees Should:
- Know the way out from their work area
- Know the location of the nearest fire extinguisher
- Know the location of the emergency meeting location
- Report to the supervisor in charge of the meeting area and ensure you are accounted for
- Do not return to your work area unless specifically told to do so when the area is safe and is given the all clear by emergency response personnel
- Know and understand what areas of the building need to be evacuated and at what times.

The Supervisor in charge of the meeting area will:
- Post and ensure employees are aware of the location specific map or building plan (See Appendix B for an example)
- Utilize a check sheet to take attendance help ensure everyone is accounted for
- Give permission to return to work area when safe to do so

2. **First Aid/ Medical Aid Emergency**

If the person is conscious:
- Report injury to supervisor/ co-worker/ first aider
- Supervisor / co-worker/ first aider to assess the level of injury
- If trained, perform first aid and reassess

If the person is unconscious:
- Call 911 for assistance or reception if available
- Reception to page for assistance and call 911 if required
- Assess injury and provide first aid and / or CPR

When the EMS / Fire Department Arrives:
- A responsible person should be present to guide arriving EMS personnel
- The location map and/or facility floor plan complete with drawings and / or descriptions of the building fire emergency fire systems, electrical panels and hazardous material should be available to fire department personnel
3. **Fire and/or Explosion Emergency**

If you discover a fire:
* **Fight the fire ONLY if you have been trained and are confident that it may be controlled with the firefighting equipment available***

- Leave the fire and/or explosion area
  - If in a building, close all doors behind you
  - Activate the building fire alarm, which may be a pull station, air horn, fire whistle, or paging system.

- Notify supervision of the emergency as soon as safe to do so
  - Evacuate the area using the closest safe exit route and gather at designated meeting area **FRONT GATE**

- Ensure the Fire Department has been called - 911

- Give 911 Operator the following information:
  - 356 Miller Rd City of Kawartha Lakes ((Rd 6 (Kirkfield Rd) & County Rd 47)(Main intersections)) , Ontario LOK 1BO
  - Your Name (Caller)
  - 1-705-484-1101 - Miller Paving Ltd.

If you hear the fire alarm/emergency notification:
- Leave the building using the closest safe exit
- Before opening any doors test the door and knob for heat
- If door or knob is hot do not open- if cool open door slightly and check for fire and smoke before proceeding

When the Fire Department arrives:
- A responsible person should be present to guide arriving fire department personnel
- The location map and/or facility floor plan complete with drawings and / or descriptions of the building fire emergency fire systems, electrical panels and hazardous material should be available to fire department personnel.

4. **Severe Weather Emergency**

**If a severe thunderstorm is imminent**: Mobile Trailers offer little protection, even if tied down. Leave these for a sturdy shelter before the storm approaches.

- Close all building doors
- Tune a radio to a local weather advisory channel
- Anyone working outside should get inside and stay inside (lightning & flying debris hazards)
• Move away from exterior walls and window
• Area supervisor is to account for whereabouts of personnel

If a severe thunderstorm is imminent: Driving

• Tune in to your radio to stay informed of approaching storms
• Turn on your headlights (low beams) and slow down
• Do not drive unless necessary
• Pull safely onto the shoulder of the road away from any trees that could fall on the vehicle
• Stay in the vehicle and turn on the emergency flashers until the heavy rains subside
• An automobile provides better insulation against lightning than being in the open
• Avoid contact with any metal conducting surfaces either inside your car or outside
• Avoid flooded roadways
• Avoid downed power lines
• Check your windshield wipers and tires regularly to insure that they are ready for severe weather
• Approach intersections with caution
• Treat traffic lights at intersections as stop signs

If a tornado is imminent: Buildings

Note: Mobile trailers offer little protection, even if tied down. Leave these for a sturdy shelter or permanent building before the storm approaches.

• Close all building doors
• Tune a radio to a local weather advisory channel
• Anyone working outside should get inside and stay there
• Go to an inside location on the ground floor where you are away from exterior walls and windows and in a strong part of the building (this location should be marked on a site plan – if applicable)
• Avoid places with wide span roofs
• Get under cover (a piece of furniture such as a desk or table and hold on)
• Use arms to protect head and neck
• Area supervisor is to account for whereabouts of personnel

If a tornado is imminent: Driving

• Do not drive during tornado conditions
• Never try to out-drive a tornado in a vehicle. Tornadoes can change direction quickly and can lift a car or truck and toss it through the air
Get out of your vehicle immediately and seek shelter in a nearby building
If there is no time to get indoors, or if there is no nearby shelter, get out of the car and lie in a ditch or low lying area away from the vehicle. Be aware of the potential for flooding

**If a tornado is imminent: Outside** - if you are unable to get to shelter

- Lie flat in the nearest depression, ditch or ravine if there is not time to escape
- Avoid areas with many trees, protect your head with your arms
- Move away from the path of the tornado at a right angle direction
- Stay out of the water as lightning sometimes come before a tornado

5. **Hazardous Materials-Spills Emergency**

Hazardous spills of propane or a natural gas line rupture:
- If a leak is severe, evacuate the building using evacuation procedure and contact authorities
- If leak is minor, such as a lift truck or cutting torch propane tank, get the tank outside and minimum of 20 feet from the building
- Supervisor will contact proper authorities as outlined in Appendix A

Hazardous spills of lubricants/ oils, etc.
- If the spill is minor contain the spill using suitable spill kit or absorbal
- If the spill is major report to supervisor and evacuate the area
- Supervisor will contact proper authorities as outlined in Appendix A

Hazardous spill of gasoline or diesel fuel
- Turn off pump immediately- emergency stop
- Remove all ignition sources
- Wear appropriate PPE before entering spill area
- Block off any catch basins using spill socks or by building a dike with absorbing material or sand
- Secure the area and call supervisor immediately
- Supervisor will contact proper authorities as outlined in Appendix A

6. **Transportation or Materials Handling Incident / Emergency**

This may include heavy equipment, vehicles, cranes or conveyors.
- Assess the level of emergency and secure the area
- Contain any fluids that may be hazardous to people or the environment
- Contact Supervisor
• If personnel are injured contact first aider on site and arrange for emergency medical assistance if required
• Complete the Incident Report Form

7. **Violence in the Work Place Emergency**

   This may be indicated by warning signs such as: Poor impulse control/ disrespectful to others/ making intimidating comments or threats/ alluding to violence toward others/ hostile attitude/ blaming others for life’s problems/ belief they are being treated unjustly or unfairly/ history of difficulty accepting others/ history of previous violence/ substance abuse or mental health problems.

   • To summon immediate assistance contact your supervisor or the nearest person immediately
   • Take charge of situation, do not endanger yourself, maintain personal space (arm’s length)
   • Call police if situation cannot be diffused by supervision on site
   • Isolate violent person if possible
   • Talk calmly, be a good listener and use empathy
   • Once the situation is under control talk with employees and let them air their concerns

8. **Bomb Threat Emergency**

   Bomb threats are not to be taken lightly. Persons responsible for such treats can be prosecuted. Discontented employees may make bomb threats. Procedures for bomb threats are as follows:

   **Phone Bomb Threats**- Employees receiving telephoned threats will:
   • Stay calm- do not alarm others. Immediately notify your supervisor who will report the threat
   • Supervisor will contact 911 for instructions
   • Decision to evacuate the building will be made by a Senior Manager with Police guidance
   • Take personnel list with you if the building is evacuated

9. **Utilities Outages**

   This may be an outage of electrical power, natural/ propane gas or water.
   • Contact supervisor- report to Facilities Manager or most senior manager onsite
• If electrical outage, stay in a safe location and await instructions—may include evacuation
• If the office area temperature drops below 18 degrees Celsius in the event of a power outage Management will advise the steps to be taken by all employees
• If the area is without the normal use of water or washroom facilities the management team at the location will advise the steps to be taken by all employees

10. **Unexpected Disaster Emergency**

Provincial Emergency Management Organizations deal with public safety in the event of a major disaster.
* Communication of such events will be widely published using such channels as the media (television, radio) email and social media feeds (Twitter, Facebook)
* If you are in close vicinity to such events, follow the advice and direction of emergency service personnel
* Events may be classed as Advisories, Critical or Red Alerts

Some situations in which a Public Emergency Alert may be issued include:
* **Large fire or explosion**
* **Chemical leak or spill**
* **Nuclear emergency**
* **Major Transportation incident**
* **Terrorist Attack**

11. **Animal Risks to Life or Health**

This may include risks from wild animals or domesticated animals in rural and urban work locations. Daily Job Hazard Analysis will address risks. Controls put in place should be identified to all workers of the dangers.

12. **Motor Vehicle Collision**

All Miller Group drivers should be equipped with an emergency response card for **What to do after an Incident/ Motor Vehicle Collision** Card. Emergency contact numbers should be written on this card before driving a Miller Vehicle.

If you are involved in an incident or motor vehicle collision:
1. Assess the situation
2. Contact emergency services (call 911) if necessary
3. Notify your supervisor immediately
4. Secure the area
5. Do not admit fault
6. Do not speak to the media
7. Complete an Incident Report Form

13. **Property Damage**

Property damage could be related to another emergency, report all damage to Supervisor
- Assess the area for potential risks
- Take photos of the scene
- Complete Incident Report Form

14. **Power Line Contact**

No object shall be brought closer to an energized over-head electrical conductor with a nominal phase to phase voltage rating set out in Column 1 of the table below; the minimum distance to stay away is set out in Column 2.

<table>
<thead>
<tr>
<th>Nominal Phase-to-Phase Voltage Rating</th>
<th>Minimum Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>750-150,000 volts</td>
<td>3.0 metres</td>
</tr>
<tr>
<td>More than 150,000 to 250,000 volts</td>
<td>4.5 metres</td>
</tr>
<tr>
<td>More than 250,000 volts and over</td>
<td>6.0 metres</td>
</tr>
</tbody>
</table>

- Do not stockpile, load or unload material near power lines
- Do not locate access roads or ramps near power lines
- Treat line as energized until notified to the contrary
- Ensure the Daily Job Hazard Analysis and Overhead Power Line Protection Check List are completed, reviewed with crew and kept onsite.
- Ensure all warning signs are posted and legible

**In Case of Contact**
- If contact has been made with equipment, operator must stay in equipment until instructed by proper authority
- Never touch equipment and ground at the same time
- Get someone to call local utility company to shut off power
- Follow instructions of all emergency personnel
- Supervisor to fill out Incident Response Form
15. **Falls From Heights**

This information is to be reviewed prior to performing any activities associated with working at heights that may require an emergency rescue related to a fall.

- Notify immediate supervisor that a fall has happened.
- Assess the scene and make sure that there are no other hazards that will injure another worker if a rescue is required.
- If accessible, place a ladder or an Elevated Work Platform under the individual to support the weight of the fallen worker; this will remove stress from the limbs being restricted.
- If the worker does not require immediate first aid then place the equipment under the worker and allow them to egress safely to the ground.
- First Aid should be rendered by qualified personnel only; wait for help to arrive and keep the worker calm.
- If it is not safe to rescue the worker call 911.
- Supervisor to appoint a worker to guide the Emergency Services to the location of the fallen worker.
- Have someone call the head office to notify the appropriate people.
- Accident scene is to be sectioned off; no access allowed other than Emergency Services, Company Accident Investigators and the MOL.
- Notify Safety Representatives, JHSC and Union officials if applicable.

If the worker is **unconscious** call 911 immediately
- Notify immediate supervisor
- Stay with fallen worker until help arrives
- Send someone to guide Emergency Services
- Section off accident area, allow access to Emergency Services, Accident Investigation Team and respective government officials.
- Notify company officials of the incident.
- Notify Safety Representatives, JHSC and Union officials if applicable.

16. **Confined Space Emergency**

Confined Space requires a site specific rescue plan, contact your health and safety representative for more information.

17. **Water Emergency- Drowning**

Make a quick assessment of the emergency situation; in order to determine what the emergency is we need to talk to the victim. If a victim does not respond it likely means a significant emergency and they may be gasping for air or unconscious.
**When a victim is conscious and struggling**

- Locate a line, rope, shepherds hook, or life preserver
- Locate a safe, stable place where you can position yourself
- Try reaching the victim by holding out the line or throwing them a life preserver with rope attached
- Instruct the victim to grab the line as cold water can have significant effect on the physical and mental capabilities of a person (hypothermia)
- Tow the conscious victim to shore slowly and steady. Maintain communication with the victim, instructing them to hold on.

**If the victim is unconscious:**

- **Contact emergency services immediately- Call 911**
- Remove person from water
- First aid person must assess the situation
- Follow directions of 911 operator and start CPR if required
## Emergency Response Roll Call

<table>
<thead>
<tr>
<th>Employee Name</th>
<th>Attendance (circle (yes/no))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rob Lindsay</td>
<td>yes or no</td>
</tr>
<tr>
<td>Christina Watts</td>
<td>yes or no</td>
</tr>
<tr>
<td>Vannessa Dewell</td>
<td>yes or no</td>
</tr>
<tr>
<td>Jessica Harrington</td>
<td>yes or no</td>
</tr>
<tr>
<td>Bill Parsons</td>
<td>yes or no</td>
</tr>
<tr>
<td>Lance Gammon</td>
<td>yes or no</td>
</tr>
<tr>
<td>Brandon Parsons</td>
<td>yes or no</td>
</tr>
<tr>
<td>Dave Lee</td>
<td>yes or no</td>
</tr>
<tr>
<td>Nathan Lagrandeur</td>
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</tr>
<tr>
<td>Scott Loughnan</td>
<td>yes or no</td>
</tr>
<tr>
<td>Steven Cleaveley</td>
<td>yes or no</td>
</tr>
<tr>
<td>Ross Brethour</td>
<td>yes or no</td>
</tr>
<tr>
<td>Mark Owen</td>
<td>yes or no</td>
</tr>
<tr>
<td>Mark Olson</td>
<td>yes or no</td>
</tr>
<tr>
<td>Jeff Stewart</td>
<td>yes or no</td>
</tr>
<tr>
<td>Stewart MacDonald</td>
<td>yes or no</td>
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<tr>
<td>Hugh Ainsworth</td>
<td>yes or no</td>
</tr>
<tr>
<td>Sarah Erwin</td>
<td>yes or no</td>
</tr>
<tr>
<td>Cindy McCarthy</td>
<td>yes or no</td>
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<tr>
<td>Stephen Rowland</td>
<td>yes or no</td>
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</table>
## Emergency Response Roll Call

<table>
<thead>
<tr>
<th>Night Shift</th>
<th>Attendance (circle (yes/no))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ray Lahay</td>
<td>yes or no</td>
</tr>
<tr>
<td>Dale Roberts</td>
<td>yes or no</td>
</tr>
<tr>
<td>Mike Dingman</td>
<td>yes or no</td>
</tr>
<tr>
<td>Mike Winchester</td>
<td>yes or no</td>
</tr>
<tr>
<td>Ryan Purdy</td>
<td>yes or no</td>
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</table>

<table>
<thead>
<tr>
<th>Portable #2, When at this location</th>
<th>Attendance (circle (yes/no))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jesse Spencley</td>
<td>yes or no</td>
</tr>
<tr>
<td>Dennis Gauthier</td>
<td>yes or no</td>
</tr>
<tr>
<td>Brandon Wise</td>
<td>yes or no</td>
</tr>
<tr>
<td>Richard Cardwell</td>
<td>yes or no</td>
</tr>
<tr>
<td>Ashley Bain</td>
<td>yes or no</td>
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</table>

<table>
<thead>
<tr>
<th>Summer/Co-op Student</th>
<th>Attendance (circle (yes/no))</th>
</tr>
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<tbody>
<tr>
<td>Adam Bates</td>
<td>yes or no</td>
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<tr>
<td>Summer Student</td>
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</table>

<table>
<thead>
<tr>
<th>Portable #1, When at this location</th>
<th>Attendance (circle (yes/no))</th>
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<tbody>
<tr>
<td>Ryley Balsdon</td>
<td>yes or no</td>
</tr>
<tr>
<td>Glenn Pond</td>
<td>yes or no</td>
</tr>
<tr>
<td>Doug Filmore</td>
<td>yes or no</td>
</tr>
<tr>
<td>Mike Graham</td>
<td>yes or no</td>
</tr>
<tr>
<td>Paul Duffy</td>
<td>yes or no</td>
</tr>
<tr>
<td>Bill Fountaine</td>
<td>yes or no</td>
</tr>
<tr>
<td>Emergency Contact Numbers</td>
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</tr>
<tr>
<td>---------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Fire:</strong></td>
<td>911</td>
</tr>
<tr>
<td><strong>Ambulance:</strong></td>
<td>911</td>
</tr>
<tr>
<td><strong>Police:</strong></td>
<td>911</td>
</tr>
<tr>
<td><strong>Hospital Name:</strong></td>
<td>Orillia Solidiers Memorial Hospital</td>
</tr>
<tr>
<td><strong>Address:</strong></td>
<td>170 Colborne Street West, Orillian, Ontario, L3V 2Z3</td>
</tr>
<tr>
<td><strong>Phone Number:</strong></td>
<td>(705) 327-9100</td>
</tr>
<tr>
<td><strong>Provincial Government Office:</strong> (Health and Safety/MOL):</td>
<td>1-800-461-1425</td>
</tr>
<tr>
<td><strong>Provincial Government Office:</strong> (Environment):</td>
<td>1-800-268-6060</td>
</tr>
<tr>
<td><strong>Local Hydro Utility Company:</strong></td>
<td>1-800-461-0345</td>
</tr>
<tr>
<td><strong>Spills Reporting Agency:</strong></td>
<td>(705) 755-4700</td>
</tr>
<tr>
<td><strong>Transportation Ministry:</strong></td>
<td>1-800-268-4686</td>
</tr>
<tr>
<td><strong>OTHER</strong></td>
<td></td>
</tr>
<tr>
<td>Robert Lindsay Cell</td>
<td>(705) 715-5589</td>
</tr>
<tr>
<td>Scott Boyle Cell</td>
<td>(905) 261-0543</td>
</tr>
<tr>
<td><strong>The Miller Group Head Office:</strong></td>
<td>Markham, Ontario (905) 475-6660</td>
</tr>
<tr>
<td><strong>Miller Group Division,</strong> Regional Headquarters:**</td>
<td>Location - Carden Quarry (705) 484-0195</td>
</tr>
</tbody>
</table>
Appendix E

Public Complaint Procedure and Complaint Response Form
Miller Paving Carden Quarry
Public Complaint Procedure
Re: CofA #9412-6GWJM6

Miller Paving Carden Quarry uses a standard “Complaint Response Form” that is used for all public complaints. If there was a complaint received regarding any issues regarding the CofA #9412-6GWJM6 the appropriate quarry personnel would speak to the complainant and identify the problem. The appropriate steps will be completed on the complaint form and logged with a log number. Either the Quarry Operations manager or Manager of Transportation and Compliance will write a report with all of the findings and along with a copy of the complaint form and send it to the Cathy Curlew, Senior Environmental Officer as soon as reasonably possible and in writing.

Reporting must be made to:

Cathy Curlew, Senior Environmental Officer
Ministry of the Environment and Climate Change – Eastern Region
Peterborough District Office
2nd Floor South Tower
300 Water Street South
Peterborough, ON
K9J 8M5

Email: Cathy.Curlew@ontario.ca
Tel: (705) 755-4338

Attach: MPL Complaint Response Form
CARDEN QUARRY
COMPLAINT RESPONSE FORM

Complaint Log #

Source of Complaint

Date ___________________ Time ___________________

Complaint Received
☐ In Person  ☐ By Telephone  ☐ Other ___________________

Nature of Complaint
☐ Ground Vibration  ☐ Noise  ☐ Particulate Emission  ☐ Other

Give Specific Details of Complaint

Example Only

Enviromental Data
Air Temperature ______ Wind Speed ______ Wind Direction ______

☐ Sunshine  ☐ Overcast  ☐ Rain  ☐ Snow

Identify suspected source of problem

Identify measures taken to resolve complaint

Identify measures taken to follow up with complaint

Other Comments

Form Completed By

Signature ___________________ Date ________________