

## 10. Monitoring and Commitments for the Undertaking

This section of the EA Study Report presents a summary of the monitoring and commitments identified for the undertaking. A list of commitments made in the approved ToR and how and where the commitments are addressed in the EA Study Report are provided in **Appendix B**.

Monitoring strategies were developed so that environmental effects can be monitored during construction, operation and maintenance of the landfill to confirm that:

- predicted net effects are not exceeded;
- unexpected negative effects are addressed; and
- implemented mitigation measures are effective.

A Compliance Monitoring Program will be developed to demonstrate compliance with the commitments made in the EA Study Report. Compliance monitoring is an assessment of whether an undertaking has been designed, constructed, and/or operated in accordance with the commitments in the EA Study Report and the conditions of approval. Under the Compliance Monitoring Program, the results of compliance monitoring will be reported to the MOECC and will include details of the implementation of mitigation measures and completion of commitments.

**Table 10-1** summarizes the environmental effects, mitigation commitments, commitments for monitoring, and proposed compliance monitoring for the Preferred Alternative.

**Table 10-1. Environmental Effects and Compliance Monitoring Commitments**

Environmental Component	Evaluation Criteria	Commitment for Mitigation	Commitment for Monitoring	EA Compliance Monitoring
<b>Natural Environment</b>				
Atmospheric Environment	Air Quality	<ul style="list-style-type: none"> <li>Continued implementation of the existing Fugitive Dust Management Plan.</li> <li>LFG collection system to be installed as cell development progresses.</li> <li>Install a second enclosed flare.</li> </ul>	<ul style="list-style-type: none"> <li>On-going seasonal dustfall monitoring as per the existing ECA requirements.</li> <li>Continuation of seasonal monitoring of LFG collection system wells for flammable gas concentration, with new wells tested as new waste cell areas are developed.</li> </ul>	<ul style="list-style-type: none"> <li>Annually during construction and operation as part of the current monitoring program.</li> </ul>
	Odour	<ul style="list-style-type: none"> <li>Continued implementation of Odour Management Plan to include Stages 3B and 4.</li> <li>LFG collection system to be installed as cell development progresses.</li> <li>Install a second enclosed flare.</li> </ul>	<ul style="list-style-type: none"> <li>Maintain log of any odour-related complaints and follow-up actions.</li> <li>Continue to report on public complaints and responses regarding odour on an annual basis.</li> <li>Continuation of seasonal monitoring of LFG collection system wells for flammable gas concentration, with new wells tested as new waste cell areas are developed.</li> </ul>	<ul style="list-style-type: none"> <li>Annually during construction and operation as part of the current monitoring program.</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>Maintain equipment to prevent excessive noise emissions.</li> <li>Continue anti-idling policy on-site.</li> </ul>	<ul style="list-style-type: none"> <li>Continue with existing annual noise monitoring program.</li> <li>Track all noise complaints and follow up as appropriate.</li> <li>Monitor construction equipment to confirm that it complies with the requirements of NPC-115.</li> </ul>	<ul style="list-style-type: none"> <li>Annually during construction and operation as part of the current monitoring program.</li> </ul>
Geology and Hydrogeology	Groundwater Quality	<ul style="list-style-type: none"> <li>No mitigation measures required beyond the in-design mitigation measures included in the CDR (<b>Supporting Document 2</b>).</li> </ul>	<ul style="list-style-type: none"> <li>On-going water quality monitoring under the landfill within the silty clay, the glacial till and the bedrock as per the ECA requirements.</li> <li>On-going water quality monitoring along the property boundary (the compliance boundary) as per the ECA requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Annually during operation as part of the current monitoring program.</li> </ul>
	Groundwater Quantity	<ul style="list-style-type: none"> <li>No mitigation measures required beyond the in-design mitigation measures included in the CDR (<b>Supporting Document 2</b>).</li> </ul>	<ul style="list-style-type: none"> <li>On-going monitoring of water levels as per the ECA requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Annually during operation as part of the current monitoring program.</li> </ul>

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Environmental Component	Evaluation Criteria	Commitment for Mitigation	Commitment for Monitoring	EA Compliance Monitoring
Surface Water Environment	Surface Water Quality	<ul style="list-style-type: none"> <li>• Confirm detailed design of on-site surface water quantity control storage and conveyance is appropriately sized to remove 80% of TSS.</li> <li>• Sedimentation ponds need maintenance to enable proper quality control.</li> <li>• Complete ECA amendment for the proposed increase in total leachate volume to be treated.</li> <li>• Effluent contaminant concentrations will continue to comply with the effluent discharge limits prescribed in the ECA.</li> <li>• Implement proposed run-off and leachate controls.</li> <li>• An ECA amendment application along with supporting documentation/assessments is submitted to the MOECC to obtain approval for the treatment of the increased effluent volume. The supporting documentation will include a surface water impact assessment.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue existing surface water quality monitoring program.</li> </ul>	<ul style="list-style-type: none"> <li>• Annually during construction and operation as part of the current monitoring program.</li> </ul>
	Surface Water Quantity	<ul style="list-style-type: none"> <li>• Confirm detailed design of on-site surface water quantity control storage and conveyance is appropriately sized to meet the site operational practice.</li> </ul>	<ul style="list-style-type: none"> <li>• Annual maintenance inspections of SWM ponds during operation, and annual maintenance to address sediment accumulation and excessive vegetative growth.</li> </ul>	<ul style="list-style-type: none"> <li>• Annually during construction and operation as part of the current site inspection program.</li> </ul>
Ecological Environment	Terrestrial Ecosystems	<ul style="list-style-type: none"> <li>• Avoid vegetation clearing during peak nesting season (April 15 to August 15).</li> <li>• Conduct clearing and grading of treed swamp area outside of the amphibian breeding and early life stage development window (typically from snow-melt to mid-summer).</li> </ul>	<ul style="list-style-type: none"> <li>• No monitoring required.</li> </ul>	<ul style="list-style-type: none"> <li>• As required during construction to confirm adherence to the timing windows to avoid vegetation clearing and clearing/grading of the treed swamp area.</li> </ul>
	Aquatic Ecosystems	<ul style="list-style-type: none"> <li>• No additional mitigation required.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue existing annual ECA compliance monitoring for water quality, including: continued monitoring of the SWM ponds for a</li> </ul>	<ul style="list-style-type: none"> <li>• Annually during construction and operation as part of the</li> </ul>

**Table 10-1. Environmental Effects and Compliance Monitoring Commitments**

Environmental Component	Evaluation Criteria	Commitment for Mitigation	Commitment for Monitoring	EA Compliance Monitoring
			specified list of contaminants, and for concentrations of trigger parameters to identify potential leachate impacts to stormwater; and continued surface water monitoring for contaminants of concern at existing monitoring locations already established in the monitoring program under the current ECA. The monitoring program includes monitoring for temperature and leachate indicator contaminants.	current monitoring program.
<b>Socio-Economic Environment</b>				
Economic	Economic Effects on / Benefits to Local Community	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<ul style="list-style-type: none"> <li>No monitoring required.</li> </ul>	<ul style="list-style-type: none"> <li>No compliance monitoring required.</li> </ul>
Social	Effects on Local Community	<ul style="list-style-type: none"> <li>Continue to implement the odour control measures outlined in <b>Section 5.3.8.6</b>, and provide prompt attention to nuisance complaints to mitigate any adverse effects to the surrounding community.</li> <li>Continue to employ proactive measures to minimize nuisance effects related to noise, dust, litter, and vectors and vermin as outlined in <b>Section 5.3.8.6</b>.</li> </ul>	<ul style="list-style-type: none"> <li>No monitoring required. Air quality, odour and noise monitoring are described above.</li> </ul>	<ul style="list-style-type: none"> <li>No compliance monitoring required. Air quality, odour and noise compliance monitoring are described above.</li> </ul>
	Visual Impact of Facility	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<ul style="list-style-type: none"> <li>No monitoring required.</li> </ul>	<ul style="list-style-type: none"> <li>No compliance monitoring required.</li> </ul>
<b>Cultural Environment</b>				
Cultural Environment	Cultural Heritage Resources	<ul style="list-style-type: none"> <li>Construction and staging will be suitably planned and undertaken to avoid impacts to identified cultural heritage resources. No cultural heritage resources are identified within the on-site area.</li> <li>Should future work require an expansion of</li> </ul>	<ul style="list-style-type: none"> <li>No monitoring required.</li> </ul>	<ul style="list-style-type: none"> <li>No compliance monitoring required.</li> </ul>

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		the on-site study area, a qualified heritage consultant will be contacted in order to confirm the impacts of the proposed work on potential heritage resources.		
	Archaeological Resources	<ul style="list-style-type: none"> <li>No mitigation required. In the unlikely event that previously undocumented archaeological resources are discovered on the site during construction activities, work will cease and the MTCS will be notified immediately. Similarly, if human remains are encountered during construction, the police and Registrar of Cemeteries, Ministry of Consumer Services will be notified.</li> </ul>	<ul style="list-style-type: none"> <li>No monitoring required.</li> </ul>	<ul style="list-style-type: none"> <li>No compliance monitoring required.</li> </ul>
<b>Built Environment</b>				
Transportation	Effects from Truck Transportation along Access Roads	<ul style="list-style-type: none"> <li>No mitigation measures required beyond the in-design mitigation measures included in the CDR (<b>Supporting Document 2</b>). GFL will continue to support the minimization of environmental impacts associated with GHG emissions through reducing the number of waste related trucks hauling material long distances.</li> </ul>	<ul style="list-style-type: none"> <li>No monitoring required.</li> </ul>	<ul style="list-style-type: none"> <li>No compliance monitoring required.</li> </ul>
Current and Planned Future Land Use	Effects on Current and Planned Future Land Uses	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<ul style="list-style-type: none"> <li>No monitoring required.</li> </ul>	<ul style="list-style-type: none"> <li>No compliance monitoring required.</li> </ul>
Aggregate Resources and Agricultural	<ul style="list-style-type: none"> <li>Aggregate Resources</li> <li>Effects on Agricultural Land</li> </ul>	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<ul style="list-style-type: none"> <li>No monitoring required.</li> </ul>	<ul style="list-style-type: none"> <li>No compliance monitoring required.</li> </ul>

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Design and Operations	Site Design and Operational Characteristics	<ul style="list-style-type: none"> <li>No mitigation required.</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring of engineered systems will occur as part of construction and regular site operations and performance will be reported as part of annual monitoring report as per ECA (Waste) requirements.</li> <li>Establish and maintain contingency measures to address any potential unexpected occurrences related to the leachate collection system, landfill liner, leachate treatment facility, stormwater management system or the lateral migration of LFG.</li> </ul>	<ul style="list-style-type: none"> <li>Annually during construction and operation.</li> </ul>