

## 3. Overview of the Undertaking

This section of the EA Study Report describes the project, otherwise known as the Undertaking, and discusses the purpose and alternatives to the project.

### 3.1 Description of the Undertaking

The proposed undertaking is to develop the remaining areas of the existing landfill at the EOWHF – Stages 3B and 4 (**Figure 1-2**). The development of these stages will provide approximately 4.2 million m<sup>3</sup> of landfill disposal capacity and extend the operating life of the landfill by approximately 5 to 10 years. The proposed undertaking will be within the existing EOWHF site boundaries allowing GFL to continue its existing integrated business operations at this site which are closely linked to the landfill operation. In addition, the additional capacity will also allow GFL to honour existing long term contracts which extend beyond the current estimated life of the remaining approved disposal capacity at the EOWHF.

### 3.2 Purpose of the Undertaking

The purpose of the proposed undertaking is to provide additional landfill disposal capacity at the existing EOWHF, which will enable GFL to continue to provide disposal services for residual non-hazardous solid waste to their customers once it reaches its currently approved disposal capacity. Based upon the historical and forecasted filling rate at the landfill, GFL estimates that the landfill will reach its approved capacity in 2019.

GFL understands there is an ongoing need to continue to develop the existing EOWHF landfill to its originally planned capacity for the following reasons:

- The company can continue to provide its customer base with an integrated set of services including collection, transfer, processing and disposal in a reliable and cost effective manner;
- long term contractual obligations to municipalities across Ontario can be honoured and fulfilled;
- the Province's waste diversion programs and objectives are and will continue to be supported; and,
- environmental impacts of greenhouse gas (GHG) emissions will be minimized through:
  - reducing the number of waste related trucks hauling material long distances;
  - diversion of organic material and composting;
  - closure of small municipal landfill sites without gas collection systems; and
  - the capture of landfill (methane) gas and generation of green energy at the EOWHF.

The existing EOWHF landfill site was approved in accordance with the requirements of the OEAA and Ontario *Environmental Protection Act* (EPA) in 1999. The approved EA document and supporting design and operation report prepared in 1998 identified the development of the EOWHF landfill in two phases through four stages. The total capacity of the landfill will be approximately 11.6 million m<sup>3</sup> when fully developed. The two landfill development phases and associated stages are:

- **Phase 1** - approved in 1999, including Stages 1 to 3A, with a total capacity of 7.4 million m<sup>3</sup>.
- **Phase 2** – considered during the original EA process for the future development of Stages 3B and 4, providing approximately 4.2 million m<sup>3</sup> of landfill disposal capacity. The MOECC approved the landfilling of Stages 1, 2, and 3A with the requirement to obtain authorization for landfilling in Stages 3B and 4 when required. This would also allow the owner to establish themselves and develop their experience in landfill operations. GFL has subsequently established a proven track record of excellence in landfill, compost, wastewater treatment and co-generation operation and is now proposing the development of Stages 3B and 4. **Figure 1-2** illustrates the layout of the four stages and the associated on-site infrastructure at the EOWHF.

Following approval of the EA in 1999, the EOWHF began operation of Phase 1 (i.e., Stages 1, 2 and 3A) as a landfill serving a broad customer base across Eastern Ontario. Phase 2 lands (i.e., Stages 3B and 4) were reserved for future development as landfill. Since that time the business has grown in part through GFL's acquisition of the Lafleche operating company in combination with a number of other waste service companies across Ontario and Canada. GFL has expanded its operations into a broad series of waste management services integrated with the landfill including:

- providing collection services (including collection of recyclables, source separated organics, leaf and yard material, and waste, both at the curb and at the EOWHF);
- processing of recyclables;
- composting of source separated organic material; and
- collection of used tires, waste electrical and electronic equipment and construction and demolition (C&D) waste.

Many of these services are provided at the EOWHF and supported by a number of smaller collection facilities located in Eastern Ontario. The distribution of these facilities and service capabilities continues to expand as GFL enters into new business contracts with municipalities and businesses across Ontario.

GFL has established themselves as a leader in waste diversion activities and services to support the needs of their growing customer base. In addition to the landfill component, the EOWHF provides a number of additional integrated waste management services. GFL's EOWHF composting facility is among the few in Ontario able to manage an expanded stream of organic materials, including diapers, sanitary and pet waste. As organics processing capacity is limited in Ontario, the GFL composting facility plays an important role in providing processing capacity to Ontario municipalities, particularly those larger municipalities who accept this type of waste in their curbside Green Bin programs. The continued operation of the EOWHF landfill is integrated with, and critical

to, the on-site composting facility by providing efficient access to dispose of non-compostable materials from the composting process.

In 2017, the company was responsible for the curbside collection of approximately 4,700 tonnes of residential recyclables which were processed at the company's material recovery facility (MRF). In addition, approximately 113,200 tonnes of residential source separated organics and 47,600 tonnes of leaf and yard material were received from Ontario households and composted at the EOWHF. A further 180 tonnes of tires, 750 tonnes of waste electronics, and 18,900 tonnes of C&D waste were collected at the EOWHF in 2017 for recycling. Additional quantities of materials are received at the EOWHF for proper management and include Specified Risk Material (SRM), contaminated soils, asbestos and international waste. This landfill is the only one in Ontario permitted to dispose of SRM (e.g., cattle). GFL continually looks at opportunities to grow its service offering and maximize waste diversion activities.

The GFL EOWHF landfill now provides landfill disposal capacity to over 500 villages/towns/cities across Eastern Ontario. This includes municipalities within the United Counties of Stormont, Dundas and Glengarry, United Counties of Prescott and Russell, United Counties of Leeds and Grenville, Lanark County, Renfrew County, Lennox and Addington County, Hastings County and Prince Edward County. A list of these municipalities is appended to the end of this chapter. In addition, the EOWHF also provides landfill disposal capacity to Indigenous communities within the region.

The majority of these municipalities have long term (e.g., 15 years) waste disposal contracts at the EOWHF through their responsible authority (i.e., Township, Town, City or County). Many of these municipalities have been faced with the need to close their own landfill sites due to increased regulatory requirements and associated costs, plus the risks and costs associated with long term liabilities. Faced with these economic uncertainties, GFL has partnered with these municipalities to provide this necessary service in a cost effective manner into the future at the EOWHF.

The landfill is permitted to receive up to 755,000 tonnes of waste per year for disposal. Landfill development at the EOWHF is now progressing into Stage 3A, the last of the approved stages. Based on current disposal volumes, the landfill is estimated to reach its current approved capacity in 2019.

The approval and development of the landfill Stages 3B and 4 will provide an additional 4.2 million m<sup>3</sup> of disposal capacity and extend the operating life of the landfill by approximately 5 to 10 years, depending on the annual rate of filling. The completion of Phase 2 (Stages 3B and 4) supports the build-out of the landfill site as originally planned and described in the previous EA.

### 3.3 Rationale for the Undertaking

In June 2016, the Ontario government passed the *Waste Free Ontario Act*, which enacted two Acts: the *Resource Recovery and Circular Economy Act*, 2016, and the *Waste Diversion Transition Act*, 2016. Under the new legislation, the province is moving toward a circular economy framework by establishing a producer responsibility regime. Subsequently in 2017, the MOECC released the Strategy for a Waste-Free Ontario: Building the Circular Economy (the Strategy). The Strategy outlines a vision for Ontario

where waste is considered a resource that can be recovered, reused and reintegrated to achieve a circular economy. The ultimate goal of the Strategy is to achieve zero waste and zero greenhouse gas emissions from the waste sector. The Strategy further identifies four overall objectives which include a total of 15 actions to be taken and implemented by 2050. A number of the actions relate to the need for landfill including increased resource recovery, disposal bans, reduction of food and organic wastes, and ensuring landfills are well planned and managed to minimize their need and reduce greenhouse gas emissions.

The Province of Ontario has also released their Climate Change Action Plan 2016 – 2020. The plan describes the actions Ontario will take over the next five years to fight climate change, reduce greenhouse gas pollution and transition to a low-carbon economy. The waste sector is reported to contribute 5% of the overall GHG emissions. The Climate Change Action Plan aligns with the *Waste Free Ontario Act*, outlining increased recycling efforts and a reduction in the amount of organic material being directed to landfill in order to reduce GHGs. Another action is the capture of methane generated from landfill for use as a renewable natural gas.

The EOWHF landfill includes a landfill gas (LFG) collection system to collect methane generated from waste decomposition. In 2011, GFL received approval from the Ontario Power Authority as part of the Feed-in-Tariff (FIT) program to produce 4.5 MW of renewable energy from the collected methane. The plant is operational and has the capacity to manage additional gas volumes collected from the expanded landfill.

GFL's integrated waste management services and facilities are well positioned to continue to support Ontario's transition to becoming waste-free and achieving a circular economy, while supporting a reduction in greenhouse gas production. As described previously, the company currently provides a range of services to maximize the diversion of materials away from disposal. This includes one of the largest composting facilities in Ontario capable of managing food and organic wastes and producing a high quality marketable end product. GFL is very active in providing organics management as a key business service to a diverse range of clients across Ontario and Canada.

Continued operation of the EOWHF landfill aligns with the Province of Ontario's Strategy for a Waste Free Ontario and Climate Change Action Plan goal of reducing GHG emissions as follows:

- GFL has installed an LFG collection system at the EOWHF to collect methane gas (a major source of GHGs) which is converted to produce green energy. The LFG collection system is being expanded as additional cells and stages of the landfill are completed. This now includes all of Stages 1 and 2 of the landfill.
- GFL's EOWHF composting facility keeps organic material out of landfills which also reduces GHG emissions through the avoidance of methane generation produced through the decomposition of organic materials. This facility is one of very few composting facilities in Ontario able to manage organic materials such as diapers and sanitary products.
- GFL supports further reductions in greenhouse gas emissions by providing disposal services to smaller municipalities allowing them to close their landfills which do not have gas control systems. As an example, GFL worked with Russell Township

Council to assist the municipality in the environmentally sound closure of their landfill and provided a state of the art transfer station for waste, recyclables and organics transfer. In addition, the transfer station site also includes a residential drop-off area that allows the efficient sorting of all waste streams, recyclables, electronic waste, metal, etc.

- GFL has partnered with Habitat for Humanity to allow individuals to drop off items for redistribution, instead of being disposed, at GFL transfer station locations and at the EOWHF public drop off area.
- GFL has developed a large pollinator garden on the EOWHF site. Working with the local horticultural society on the pollinator garden design, the garden was constructed in 2017 and includes over 4,300 specific plants. The pollinator garden has received praise and commendations from local, municipal and provincial agencies.
- GFL is an active educator and during a year provides presentations, tours and information to thousands of individuals. Numerous local and Ottawa schools come as part of their curriculum to the EOWHF to learn about diversion, composting, recycling and their role in making Ontario Waste Free.
- GFL is in the initial planning stages for developing a process to recycle mattresses at the EOWHF.
- GFL in partnership with the Ontario Centres of Excellence, St. Lawrence Institute of Environmental Science and St. Lawrence College have funded and conducted extensive research on the beneficial use of the leachate generated from the EOWHF organics processing / composting facility. This research has included an assessment of the effect on plant growth rates. The study was finalized in January 2018 and the results have shown excellent benefits to nutrient growth. Based on these successful results, GFL intends to take the leachate from the composting facility and provide it as a viable, highly enriched liquid organic fertilizer and soil additive. This will eliminate the need to treat the leachate as waste water and offer an excellent example of the circular economy in practice.
- GFL is in the planning process for the development of greenhouses and/or an aquaponics facility at the EOWHF utilizing the heat generated from the existing LFG utilization facility.
- GFL provides a network of regional transfer stations to collect material from a larger number of generators and consolidate the material for transport, the number of vehicles travelling long distances to appropriate processing and disposal facilities is significantly reduced. This also supports a substantial decrease in the emission of greenhouse gases associated with transportation of waste.
- GFL staff is actively involved at the director level with the Compost Council of Canada, and has been instrumental in working with them and the MOECC as a member of the Organics Working Committee to develop the Organics Strategy as part of Waste-Free Ontario.
- GFL is an active member of the Ontario Waste Management Association participating in various committees on organics, recycling and soil remediation.

## 3.4 Alternatives to the Undertaking

“Alternatives to” the undertaking are functionally different ways of addressing the problem or opportunity (i.e., provision of additional waste disposal capacity). As outlined in the ToR, GFL has focused the preparation of the EA and the consideration of alternatives to the undertaking to address their specific needs and circumstances. In the ToR, GFL considered specific “alternatives to” the proposed undertaking that address the opportunity and are within its business mandate and ability to implement. This section provides an overview of that analysis.

Consistent with the MOECC Code of Practice for Preparing and Reviewing Terms of Reference for Environmental Assessments in Ontario, GFL identified a range of “alternatives to” for providing disposal capacity that are appropriate and reasonable for them (i.e., a private sector company) to implement. The following four alternatives were identified:

1. Do nothing;
2. Establish a new landfill at another location;
3. Export waste to a disposal facility elsewhere; and
4. Expansion of the approved capacity of the EOWHF.

Five screening criteria were then applied to each of the alternatives. The purpose of the screening was to determine if the alternative is feasible, achievable and reasonable for GFL to implement.

These alternatives were presented to stakeholders during consultation on the development of the ToR. No comments were received on the alternatives to be considered, or on GFL’s identification of the fourth alternative – expansion of the approved capacity of the EOWHF landfill – as the only reasonable option for the company. The other alternatives – do nothing, establish a new landfill at another location, or export waste to a disposal facility elsewhere – were all determined to be unreasonable alternatives that were either impractical or would not meet the needs of GFL or its customers.

Expansion of the approved capacity of the EOWHF consists of developing additional disposal capacity at the EOWHF as identified in the original 1998 approved EA Study Report. This alternative includes the development of landfill disposal capacity through a lateral expansion of the existing landfill, within the current EOWHF property boundaries, as owned by GFL. This alternative will support the integrated facilities at the EOWHF including management of residuals from the composting facility operation, enhancing the on-going operation of the LFG utilization facility, and receiving post-diversion residual wastes, provides cost effective disposal services to generators across Ontario integrated with their local collection. The ongoing integration of these operations further enhances the reduction of greenhouse gas emissions.

GFL and its predecessor companies have been successfully operating the EOWHF since 1999 and the EOWHF has become an important addition to the local community by creating employment opportunities, hosting educational events and tours, contributing financially to the Township of North Stormont, and supporting local initiatives within the community. The expansion of the approved capacity of the EOWHF is the most



financially and economically viable option; making the most efficient use of land already designated for this purpose and site infrastructure already developed. This alternative is the only practical, environmentally sound and cost-effective option to address the identified business need to allow GFL to operate in the long-term.

GFL has determined that expansion of the EOWHF landfill disposal capacity is the only reasonable option for the company, its customers and the Province of Ontario. The other alternatives do not address GFL's opportunity to meet long-term customer commitments or avoid business risks, and they are not consistent with the Ontario government priorities of addressing waste diversion and climate change.

## 3.5 Summary

GFL Environmental wishes to maintain its current integrated business operations at the EOWHF. This includes a range of waste management services including waste collection, recycling, composting and disposal. GFL's services support the goals and objectives of Ontario's Strategy for a Waste Free Ontario: Building the Circular Economy and Climate Change Action Plan. The landfill component of the EOWHF remains an essential component to support these activities until a zero waste Ontario is achieved.

The proposed undertaking is to develop the remaining areas of the existing landfill at the EOWHF – Stages 3B and 4. The development of these stages will provide approximately 4.2 million m<sup>3</sup> of landfill disposal capacity and extend the operating life of the landfill by approximately 5 to 10 years. The proposed undertaking will be within the existing EOWHF site boundaries allowing GFL to continue its existing integrated business operations at this site which are closely linked to the landfill operation. The additional capacity will also allow GFL to honour existing long term contracts which extend beyond the current estimated life of the remaining approved disposal capacity at the EOWHF

GFL will continue to support provincial initiatives to maximize waste diversion from disposal and for Ontario to become waste-free. Given the provincial transition to a circular economy is projected to occur between now and 2050, the proposed landfill expansion will continue to provide necessary disposal capacity in the short term of this projected 30 year plus transition period.