Attachment-4-3-7-1-Waste Hierarchy Consideration

The EU Waste Framework Directive (WFD) (Directive 2008/98/EC) as subsequently amended (Directive 2018/851/EC), requires the application of the revised waste hierarchy as a priority order in waste prevention. The Circular Economy values the role of waste management based on the waste hierarchy as the way to lead to the best overall environmental outcome and to get valuable materials back into the economy. The Directive also places a greater emphasis on optimising resource efficiency, preparing for re-use, recycling and the recovery of waste materials. The waste hierarchy is shown in Figure 1 below.

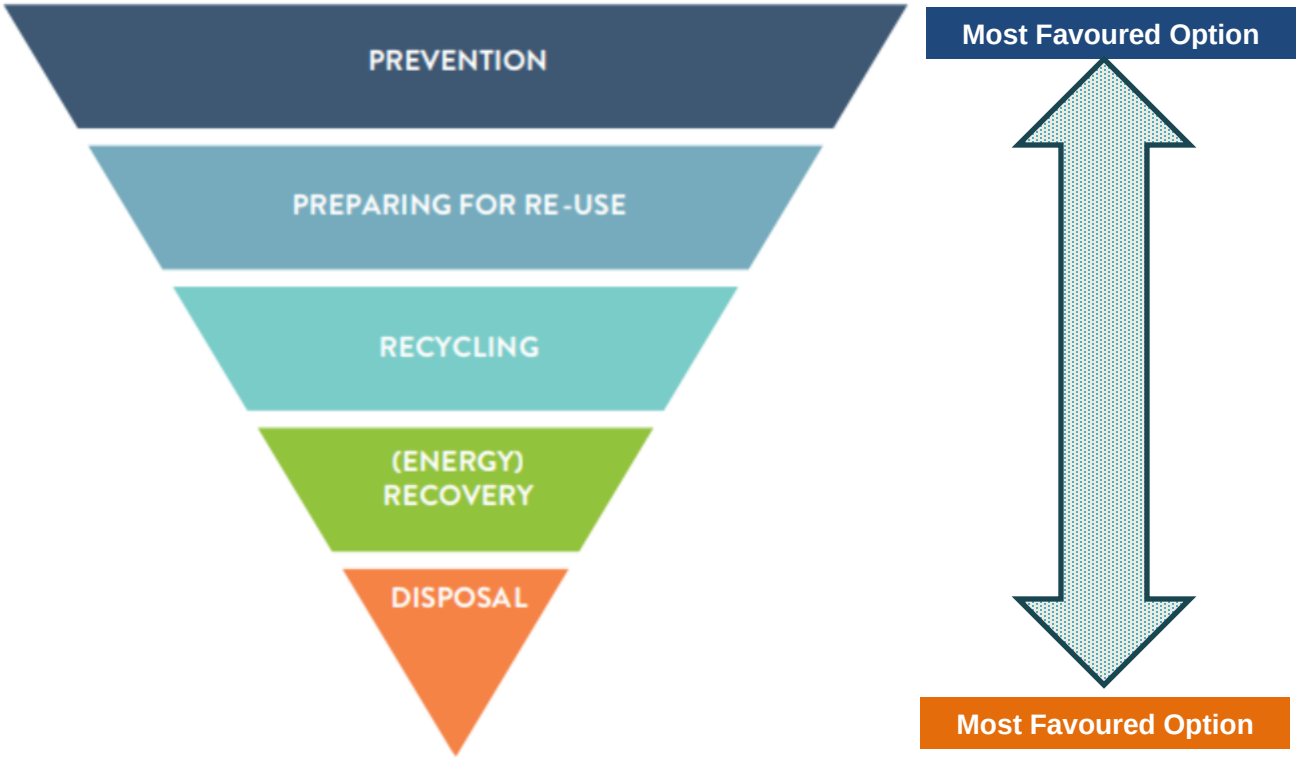

Figure 1: European Union Waste Hierarchy (Source: EPA, Circular Economy Programme 2021-2027 (Page 5), 2022)

The existing and proposed landfill infrastructure at the Drehid Waste Management Facility (WMF) is designed for the sustainable processing, recycling, recovery and disposal of incoming waste materials. While waste disposal is the least favoured path for waste management, it is acknowledged that landfilling is still a requirement in Ireland. In particular, the MSW Landfill capacity provided by Bord na Móna at the Drehid WMF has been fully absorbed in each year of operation to date. There is also a demand from the waste market to facilitate additional waste capacity in Ireland for certain waste types, as set out in Chapter 4 of the Further Development EIAR.

The following measures will be implemented to reduce the waste volume going to landfill and to ensure the landfilling of appropriate waste materials:

- All incoming municipal waste to the Landfill is subject to pre-treatment to minimise the biodegradable and recyclable content of the waste;

The landfill infrastructure has been designed in accordance with EPA Landfill Design requirements and best practice so as to ensure maximum protection to the surrounding environment. In addition, the collection of landfill gas from the existing Landfill and the proposed additional Landfill capacity will provide a renewable source of energy at the facility.

The proposed MSW Processing and Compost Facility will cater for the acceptance of MSW material which has not been subject to any pre-treatment previously. The MSW proposed for intake will typically be direct from black bin waste and is likely to contain a high degree of recyclable and recoverable materials, such as plastic and metals, oversize material that can be recovered and used as a fuel, as well as biodegradable materials. The undersize organic material will then be composted which enables the treatment of biodegradable waste and comprises a recovery activity. There are waste quantity losses from the composting processes and the biostabilised waste output from the compost facility can be recovered as daily cover in the Landfill, avoiding the need to import additional engineering materials to the site for this purpose.

The proposed Soil & Stones and C&D Waste (Rubble) processing facility will have the capacity to process and recover 70,000 TPA of suitable materials for engineering purposes such as stone and recycled aggregates for construction of roads, turning areas or tipping area and soils for use as daily/intermediate/final capping. This will reduce the need to import virgin materials into the site for engineering purposes. This will ensure maximum utilisation of existing waste materials in accordance with the principles of the circular economy. Leachate/process wastewater will be generated in the existing Landfill, the proposed additional Landfill, and within the MSW Processing and Composting Facility. This leachate/process wastewater will be transferred into raw leachate storage tanks installed within a concrete bund located adjacent to the landfill gas management compound. Some of this leachate will be recirculated to promote the generation of landfill gas and encourage further degradation of the waste within the landfill. Suitably permitted waste haulage contractors will collect leachate from the storage tanks on a regular basis and remove off-site in tankers for disposal at approved municipal wastewater treatment plants (WWTP).

Landfill gas will be generated from the biodegradation of waste placed within the landfill. A new landfill gas collection system will be installed to safely collect and divert this gas to the existing landfill gas management compound. In late 2013, Bord na Móna opened a 5 MW Landfill Gas Utilisation Plant at

the facility to consume the methane-rich landfill gas in order to generate renewable electricity. It is proposed that the electricity generated on the site will in the first instance be used to power the Drehid WMF as a renewable energy source and then to export the excess onto the ESB grid.

Any silt and sludge materials retained in the surface water interceptors at the site will be collected by a dedicated hazardous waste contractor and transferred off-site for recovery, where possible. Similarly, any waste oils generated from maintenance works will be collected by a suitably authorised waste contractor and opportunities will be sought for off-site recycling or recovery of the waste oil.

Waste materials generated by operational and construction staff at the facility will be source segregated to maximise the recyclable and recovery potential of the waste. Dedicated wheelie bins will be provided suitable locations on the site for segregation of waste materials into mixed dry recyclables, organic waste and mixed non-recyclables. Mixed non-recyclable (residual) waste will be disposed of to the MSW Landfill and organic waste will be transferred to the compost facility, ensuring the minimal transfer of waste off-site from the facility.