Attachment 8-2-1

Waste Hierarchy

Refer also to Attachment 4.3.2 with respect to consideration of the Waste Hierarchy for the Soil Recovery Facility at Garryhesta.

Section 29(2A) of the Waste Management Act 1996, as amended states that it shall be the duty of waste producers and holders to ensure that waste undergoes recovery operations in accordance with sections 21A and 32(1) of the Acts. i.e.

Section 21A. (1) of the amended Waste Management Acts 1996 to 2011 states that:-

The following waste hierarchy shall apply as a priority order in waste prevention and management legislation and policy:

(a) prevention;

(b) preparing for re-use;

(c) recycling;

(d) other recovery (including energy recovery); and

(e) disposal.

Section 32 General duty of a holder of waste

(1) A person shall not—

(a) cause or facilitate the abandonment, dumping or unauthorised management or treatment of waste, or

(b) hold, transport, recover or dispose of waste, or treat waste, in a manner that causes or is likely to cause environmental pollution.

Measures at the top of the hierarchy have the inherent potential to be more environmentally beneficial and resource efficient. It implies that higher order strategies should be considered first and used where practicable.

Waste prevention is the top priority and when this has been exercised to its full potential then one should attempt to get the maximum benefit from the remaining waste at minimum environmental cost. This is the basis of the **'3 Rs'** which take account of the next steps in the hierarchy:

Reduction (Minimisation) is top of the list since it is the only complete way to reduce environmental impacts.

Reuse is generally better than recycling since there is no processing stage which would use energy and create its own waste.

Recycling is generally better than recovery of secondary materials or energy since it achieves a greater reduction in the demand for primary resources.

To increase the likelihood of applying the Reuse, Recycling, Recovery and Treatment strategies to the best potential it is usually important that the various components in the waste stream are segregated as much as possible to minimise contamination. This usually requires segregation at source and systems to prevent the mixing of different waste streams.

As described in Section 2.15 (Alternative Processes) of the EIAR which accompanied the Waste Licence Application; Waste recovery lies at the second lowest tier in the European Waste Hierarchy, and as such is the process of last resort prior to disposal. Process alternatives diminish as we descend the tiers of the hierarchy from the pinnacle of prevention to reduction, reuse, recycling, recovery and ultimately to disposal/landfill at the base. The inert soil and stone can be used for beneficial restoration purposes subject to basic characterisation, inspection and verification without the requirement for any secondary recovery operations.

The opportunities to exploit process alternatives lie further up the waste hierarchy with designers, producers, users and other participants in product lifecycles, and where adoption of the principles of product stewardship could significantly reduce the environmental impact of products, particularly resource utilisation. However, at this point in the product lifecycle, higher level alternatives are not necessary, and waste recovery by backfilling waste inert soils and river dredged material represents the optimum economic utilisation of these materials. Diverting waste soil and stone and river derived dredge spoil for the improvement of land as part of the reinstatement of a quarry offer significant environmental gains.

The proposed facility will involve the recovery/reuse of inert soil and stones and river dredging spoil, and as such the recovery operations are further up the waste hierarchy, insofar as the wastes are prepared for re-use. Clean, uncontaminated soils and dredged materials are suitable as intake in waste recovery facilities for quarry restoration projects. The facility will result in a reduction of quantities of such waste being sent to landfill sites in the region and will also enable the lands to be restored to agricultural use.

The Southern Regional Waste Management Plan 2015-2021 (SRWMP 16.4.4) recognises that Backfilling activities (of inert waste), which meet the recovery definition and are in compliance with Articles 4 and 13 of the Waste Framework Directive (WFD), sit on the other recovery tier of the waste hierarchy. It is acknowledged that EPA authorisations cover more substantial operations with a longer lifetime capacity (Refer to EIAR Appendix 5.1.1.2.2 further details).

Material not suitable for recovery at the facility will be rejected either at the pre-approval stage, the onsite verification stage, or before recovery stage at the customers expense. If reloading cannot occur immediately, it will be separated and moved to the quarantine area. The recycling manger will be informed immediately. A waste acceptance/rejection procedure will be put in place (Refer to EIAR Appendix 5.3.3).

All waste accepted for recovery will undergo a site pre-approval procedure (Refer to EIAR Appendix 5.3.4).

Each consignment of material arriving at the facility will be inspected at the point of entry by trained personnel to ensure it complies with what was agreed in the pre-approval stage. Basic characterisation of the material will be carried out in accordance with the Waste Inspection Procedure (Refer to EIAR Appendix 5.3.2).

Only suitable material will be permitted to be accepted in the facility (i.e. inert soil and stones and river dredging spoil (EWC 17-05-04 and 17-05-06)).

Any non-natural materials in the consignment will be manually removed where possible and transferred to the appropriate waste skip for disposal at an appropriate facility.

Material accepted at the facility will undergo routine testing as detailed in the Roadstone Waste Intake Sampling Procedure (Refer to EIAR Appendix 5.3.1).

Basic characterisation will be undertaken a second time, upon tipping. Only after this second inspection will the waste be accepted. Following the second inspection the material will be accepted and placed within the infill area (placement by bulldozer/excavator).

Refer also to EIAR Sections 3.3.3.2.9 and 3.3.3.2.10 for further details regards waste acceptance procedures.

The only waste to be accepted at the proposed facility will be inert soil and stone and river dredged spoil. As such it is not expected that the waste recovery activities on site are likely to give rise to litter (Refer to EIAR Section 3.3.3.4.6.1).

Litter, especially foodstuffs brought on site by employees, will be disposed of properly, and adequate facility for such will be maintained. Litter control as an integral element of vermin control, will be monitored as part of the Environmental Management System. It is considered that there will be no need for any specific controls for birds (Refer to EIAR Section 3.3.3.4.6.2).

Roadstone have not participated in any projects under the National Waste Prevention Programme. Roadstone has NSAI accreditation for both Environmental Management (ISO 14001) and Energy Management (ISO 50001). It is a key objective of their Environmental Policy to *"Managing efficiently our resources and managing the generation and disposal of waste and ensuring the prevention of pollution on all our sites*". They contribute to the development of technical standards and industry best practice and participate in a number of industry technical committees including Repak, the Irish Concrete Federation (ICF) and Construction Industry Federation (CIF).

The recovery of waste is essential to divert reusable inert waste from disposal in landfill, as required under the Waste Framework Directive 2008 (2008/98/EC), and the European Communities (Waste Directive) Regulations, 2011 (S.I. 126 of 2011). Thus, the facility will result in a reduction of quantities of such waste being sent to landfill sites in the region. Furthermore, the recovery of waste also has the environmental benefit of enabling the lands to be reclaimed and improved for agricultural use in accordance with the restoration scheme proposed.