

# ATTACHMENT-4-3-4 RECOVERY CAPACITY CALCULATIONS

## TABLE OF CONTENTS

1.1 INTRODUCTION .....	1
1.1 CONTRIBUTION TO NATIONAL TARGETS.....	2

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## 1.1 INTRODUCTION

This attachment describes how the capacity for the recovery activities proposed was established.

### **R05 - Recycling/reclamation of other inorganic materials, which includes soil cleaning resulting in recovery of the soil and recycling of inorganic construction materials**

The applicant proposes to fill the quarry voids with imported waste inert soils and stone materials. The proposed final filled levels will tie in with the surrounding existing ground levels so as to restore the ground profile back to levels comparable to the original pre-quarrying profile, with minimal visual evidence in the landscape of the former quarrying activity.

The quarry will be backfilled on a phased basis. The volume of material required to backfill and restore the quarry voids to tie in with surrounding ground profile was estimated using a model developed in Civils 3D software. A required volume of 1,400,000 m<sup>3</sup> of material was estimated; assuming a bulk density of 1.8 t/m<sup>3</sup>, this equates to 2,520,000 tonnes.

The maximum quantity of material to be accepted for this activity annually was based on the permissible numbers of trucks (HGVs) on the road accessing the site. Chapter 7 of the Environmental Impact Assessment Report (EIAR) assessed the traffic and transportation aspects of the proposed development in order to establish the potential impact it could have on the operational capacity of the local road network. As outlined in the EIAR, there are two quarries situated on adjacent sites; both the Midleton and Coppingerstown Quarries are permitted to extract stone and export this from the two sites. Under these permissions, a total of 172 daily truck (HGVs) movements (86 trucks in each direction) are permitted to travel the L-3626 from the two quarries west as far as the N25. It is proposed to maintain this number of HGVs and balance importation and extraction activities to ensure there will be no increase in the combined current permitted 172 daily truck (HGVs) movements (86 trucks in each direction) travelling the L-3626.

It is anticipated that approximately 56 trucks a day will arrive on site with soil and stone material. Based on an average truck carrying approximately 10m<sup>3</sup> of this material and assuming that the site will be operational for approximately 295 days per year; this gives an annual intake of 166,666m<sup>3</sup> or 300,000 tonnes.

### **R13 - Storage of waste pending any of the operations numbered R 1 to R 12 (excluding temporary storage (being preliminary storage according to the definition of 'collection' in section 5(1)), pending collection, on the site where the waste is produced)**

A nominal capacity of 100 tonnes has been assigned to Class R13 based on Roadstone's experience of operating similar facilities.

Waste produced from the development will be minimal. The principal waste arisings at the proposed waste facility will be those materials moved to/stored in the Waste Quarantine skips or area (e.g., wood, plastics, metals, etc.). The Waste Quarantine skips will be provided by and removed by an authorised Waste Collection Permit Holder, for disposal or recovery to an authorised waste facility for segregation and recycling, where possible; they will be removed.

Batteries, scrap metal, disused plant and machinery, etc., will be removed from the site for recycling by approved contractors. A licensed waste collection contractor will remove any domestic waste requiring disposal to a licensed waste management facility.

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. It is expected that in a worst-case scenario a maximum of two loads of quarantined material will be stored at any one time and that the material will be removed from site by a haulier with a waste collection permit to an appropriately authorised facility within one week.

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.

Similarly, soil may be stored in temporary storage mounds awaiting placement as part of the restoration scheme.

## 1.1 CONTRIBUTION TO NATIONAL TARGETS

The Waste Framework Directive (2008/98/EC) requires a target for Member States to achieve 70 per cent material recovery of non-hazardous, non-soil & stones construction and demolition (C&D) wastes by 2020. Ireland achieved 68 per cent recovery in 2014.

The Waste Framework Directive target only applies to a portion of all C&D wastes generated, as hazardous wastes and soil & stones wastes are excluded from the calculation. Regardless of the absence of targets for soil and stone materials, it is a priority that these materials are adequately catered for.

The proposed development of the Midleton Quarry Soil Recovery Facility is aligned to the objectives of the Southern Region Waste Management Plan which was launched in May 2015. At the time of the Plan it was found that [soil and stone] backfilling activities represented significant treatment capacity in the Southern Region and the analysis of the 2012 data showed plenty of available capacity. The plan noted that the “relatively low level of utilisation” was a reflection of “the depressed activity in the construction sector in Ireland”. Since the analysis carried out in the plan activity in the construction sector has increased significantly to the extent that market operators are faced with a deficit of capacity for soil recovery activities. In terms of providing future capacity the Plan provides guidance on the type of soil recovery sites required and other considerations. In summary these are:

- The authorisation of future backfilling or soil recovery capacity in the region should be coordinated by regulatory bodies so the right scale and balanced capacity is developed. Imbalances in a region are to be avoided where possible as well as inadequate supply;
- The plan favours the development of large longer life restoration sites, such as old quarries, ahead of shorter span sites (e.g. permitted or registered sites) for soil recovery activities;
- The environmental protection criteria as set out in the plan which guide the siting of new facilities must be complied. The regulatory threshold for environmental protection has been

increased and applicants must demonstrate the protection of environmental receptors from future site activities.

The development of future soil recovery facilities is identified in the Southern Region Waste Management Plan as a role for industry operators. The plan does not identify sites suitable for the development of soil recovery activities – a role which is the responsibility for the site developer. However, the waste plan clearly supports the development of new capacity with a preference for large restoration sites which would typically require a waste licence.

In December 2016 a report<sup>1</sup> was published on construction and demolition waste including analysis of soil and stone recovery / disposal capacity on behalf of the three Regional Waste Authorities. It analysed the national waste capacity market for the safe treatment of soil wastes from construction and demolition processes. The report reviewed existing soil recovery facilities and quantified the capacity available to meet current and future market demand. It identified the increased rates of construction and development experienced in the country during 2013 – 2016, and the subsequent associated rise in collection rates of soil and stones material which it states increased by 42% in 2014 and 22% in 2015. It goes on to state that future growth is expected.

The report concludes by stating again that there is an identified shortfall of capacity in each region, and particularly close to urban centres where construction activity is growing and that there is a requirement for a secure long-term solution to this issue. It states:

*“Secure and long-term sites for soil recovery facilities are preferred. Locations which offer these benefits include exhausted quarries or pits.”*

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<sup>1</sup> Construction & Demolition Waste Soil and Stone Recovery / Disposal Capacity published jointly in December 2016 by the Eastern Midlands / Connacht Ulster / Southern Waste Management Regions