




1MCo4 Main Works - Contract Lot S2

Application and Non-Technical Summary (Installation Permit) - Waste Transfer and Treat Station (RSSP-WTS) S2

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1 Introduction

1.1 Overview

- 1.1.1 This application has been prepared to apply for a variation to an existing environmental permit (reference EPR/GB3301GY) for the Waste Transfer and Treatment Station - Ruislip Southern Sustainable Placement (RSSP-WTS), also referred to as the facility within this document.
- 1.1.2 The facility is operated by Skanska Costain STRABAG Joint Venture (SCSJV), for the management of Tunnel Boring Machines (TBM) arisings material generated from HS2 Phase One (Northolt Tunnels West, West Ruislip Portal).
- 1.1.3 The application site is located in an area of semi-rural, former agricultural land located immediately north west of Ickenham and to the west of West Ruislip, in the London Borough of Hillingdon. Centred around Grid Reference TQ06517 87233.
- 1.1.4 The RSSP-WTS constructed facility will treat TBM materials with lime, prior to permanent placement in the Southern Sustainable Placement Area (SSPA). The SSPA is a designated landfill area (permit reference EPR/WP3029SW), adjacent to the RSSP-WTS.
- 1.1.5 The material generated as part of the TBM drive will arrive at the RSSP-WTS facility directly via a conveyor system, or by road in tipper lorries, should the conveyor system be unavailable for any reason.
- 1.1.6 The fundamental sustainability principles of HS2 determine that all materials generated by earthworks are managed foremost in accordance with the objectives of reuse, and of minimising road haulage and distances from place of origin.
- 1.1.7 The RSSP-WTS facility will also handle non-waste material arisings. Non-waste TBM arisings required in engineering fill for the Cophall Cut & Cover Tunnel are sent via return conveyor back over the Chiltern Railway line to Cophall East. This non-waste material is handled in accordance with HS2 Technical Standard – Materials Management Plan (document reference HS2-HS2-EV-STD-000-000006).
- 1.1.8 The handling of excavated material from tunnel construction works that cannot be used in engineering, and therefore requiring disposal, will need to be undertaken in line with the Environmental Permitting (England and Wales) Regulations 2016 (EPR). In accordance with the HS2 Waste Environmental Permitting Framework (document reference HS2-HS2-EV-STD-000-000007).
- 1.1.9 This application relates to the treatment (by lime addition in pugmills) of waste TBM arisings at the RSSP-WTS facility. The single destination of the treated waste is permanent deposit (disposal) in the neighbouring SSPA. The treatment capacity of the RSSP-WTS exceeds 50 tonnes per day, therefore an installation permit in accordance with the EPR (Schedule 1) is required.

1.2 Summary of Permit Variation Application

1.2.1 A waste activity permit for the RSSP-WTS (reference EPR/GB3301GY) has been granted (15/06/2023). However, the limits of the activities in Table S1.1 are insufficient for the treatment capacity of the facility.

1.2.2 The RSSP-WTS facility will receive an approximate total of 1,250,000m³ (approximately 2,500,000 tonnes) of material from TBM arisings during its operational lifetime. SCSJV is expecting a maximum monthly output from the TBMs of up to 200,000 tonnes per month. Therefore, TBM material requiring treatment is estimated to be a maximum of 6,800 tonnes per 24-hours.

1.2.3 The treatment capacity (limit) is the only change sought by this variation application.

1.3 Type of Variation

1.3.1 It is understood that this will be a substantial variation.

1.3.2 The application fee will be paid by SCSJV on confirmation by the Environment Agency (EA) of the variation type.

1.4 Application Forms

1.4.1 The application forms have been completed and submitted as a separate document (document reference 1MCo4-SCJ-EV-APP-SSo5_SLo7-000178), accompanying this document to form the application.

1.4.2 The application forms completed are:

- Part A
- Part C2
- Part C3
- Part F1

1.4.3 The application forms document includes accompanying information of an administrative nature required by the forms.

1.4.4 Further technical information required by the forms is provided in Section 3 of this document.

1.5 Non-Technical Summary

1.5.1 A short non-technical summary of the facility is presented in section 2 of this document.

1.6 Technical Documents

1.6.1 A summary of the management system and the Operating Techniques documents already in place at the RSSP-WTS is provided in section 3 of this document.

1.6.2 A Best Available Techniques Assessment will be provided with this variation application, using the Waste Treatment BREF.

2 Non-Technical Summary

2.1 Transfer & Treatment Facility Overview

2.1.1 The RSSP-WTS facility is a large built structure consisting of a conveyor system, pugmills and silos, and covered storage bays known as 'muck bins' (soil storage bins). The facility is shown in Figure 1 below. TBM arisings will arrive at the facility on the conveyor, from the tunnel boring location at West Ruislip Portal. Whether the material arriving at the RSSP-WTS is destined for placement as waste, or for use as engineering fill will be decided based on overall earthworks strategy (i.e. daily). The suitability of the material will be confirmed by visual inspection along the conveyor route (and by communication foremen / operatives). Material arriving at the RSSP-WTS on the conveyor will be directed on the conveyor system either in to the lime treatment system (also referred to as a Pugmill) for treatment, or directly into soil storage bins if not requiring treatment (i.e. due to low moisture content), or directly to the return conveyor (if not requiring treatment).

2.1.2 There are no restrictions on the hours of operations of the facility. The site will operate twenty-four hours per day, seven days per week including bank holidays. This includes operation in all weather conditions to replicate the TBM operations.

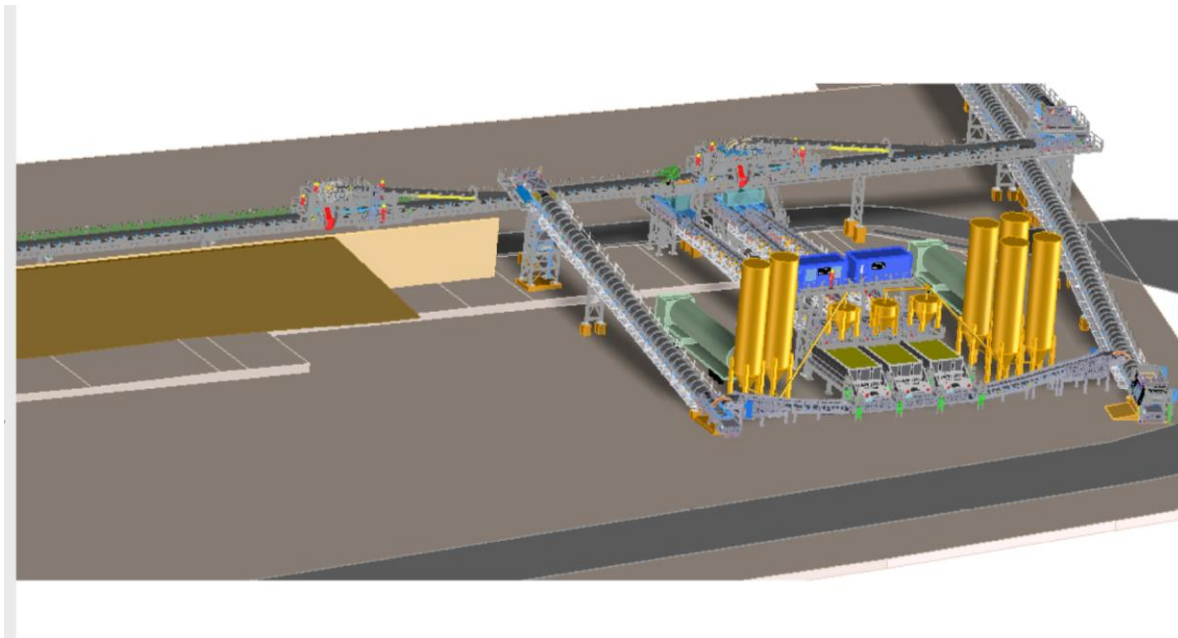


Figure 1 – RSSP-WTS Transfer & Treatment facility (overview)

2.1.3 The treatment in pugmills is the addition of lime (mixing). The purpose of lime treatment is to improve the physical properties of the material to make it suitable for permanent placement.

The material is clayey soil and can have a high moisture content. The liming process binds the material and reduces the moisture content.

- 2.1.4 Once treated, the material can be loaded directly into Articulated Dump Trucks (ADT) for transportation, or directed on the conveyor system into the soil storage bins for interim storage on site.
- 2.1.5 Treated and untreated materials are kept segregated. A tracking system is in place, and the status (treated / untreated), volume, and destination of all materials is tracked. The tracking system is described in the Site Operating Plan for the RSSP-WTS (document reference 1MCo4-SCJ_SDH-EV-PLN-SSo5_SLo7-000016).
- 2.1.6 The haul road connecting the RSSP-WTS and the SSPA has been included in the permitted area boundary. To show continuity between the RSSP-WTS and SSPA. Waste material from the RSSP-WTS is single source homogenous waste, destined exclusively for permanent deposition in the SSPA.
- 2.1.7 The weighbridge (along the haul road south of the RSSP-WTS) has been included in the RSSP-WTS permitted area boundary. This weighbridge is used to verify waste volumes travelling from the RSSP-WTS to the SSPA.

2.2 Waste Type and Quantity

- 2.2.1 The RSSP-WTS facility will receive an approximate total 1,250,000m³ (approximately 2,500,000 tonnes) of material from TBM arisings during its operational lifetime.
- 2.2.2 The storage capacity of the facility is the combined capacity of the soil storage bins – 30,000 m³.
- 2.2.3 The TBM material is estimated to arrive at this facility at a rate of between 500m³ to 3,000m³ (approximately 1,000 to 6,000 tonnes) per 24-hour day, dependent on the type of material the TBM is currently driving through. The amount of material accepted daily will be dependent on the progress of the TBMs.
- 2.2.4 The waste codes (EWC¹) for the permitted facility are shown in (Table 1):

Table 1 – EWC Codes

Waste Code	Waste Description
17 05 04	Soil and stones (TBM arisings)
19 03 07	Solidified waste (TBM arisings solidified with lime)

¹ European Waste Catalogue

2.3 Treatment Capacity

2.3.1 The treatment capacity of the facility is up to 6,800 tonnes per day (24-hours).

2.3.2 The treatment is a physico-chemical process – lime mixing.

3 Additional Information – Application Forms

3.1 Site Plans and Layout

With reference to application form Part C2 question 5a.

3.1.1 The site layout and the following site plans *do not change* as a result of this variation:

- Site boundary plan – remains as in Schedule 7 of the current permit, and Figure 2 (below);
- Site drainage – the drainage is discharged to an ordinary watercourse via a single outlet – consented by the EA under the HS2 Act 'Schedule 33' as referred to in the current permit introductory note;
- Plant design and process – see Figure 1 (above) for an overview of the treatment plant configuration.

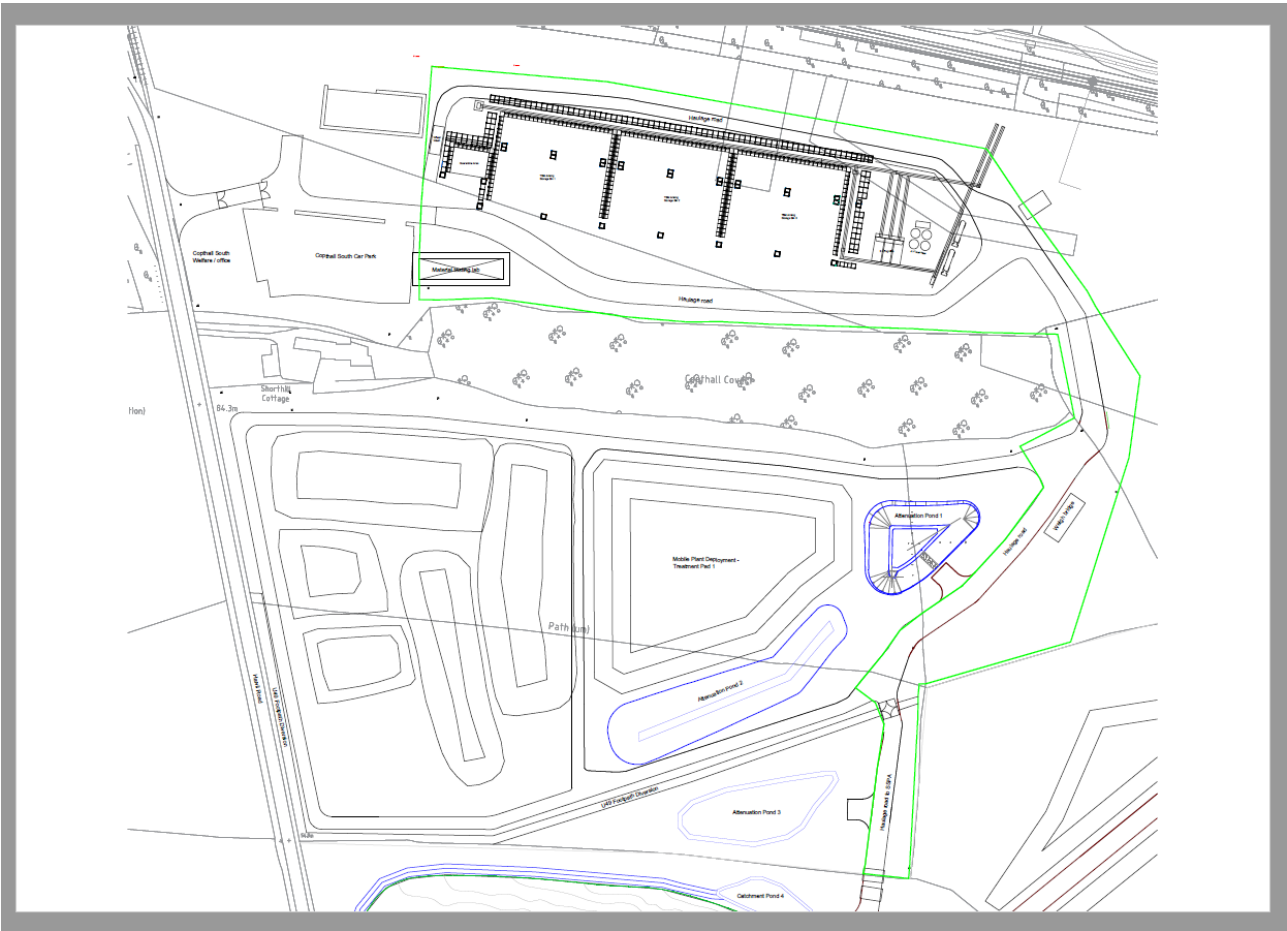


Figure 2 – Permitted Area Boundary

3.2 Operating Techniques

With reference to application Part C3 question 3a1

- 3.2.1 The technical documents in operation at the facility, and agreed with the EA during determination of the current permit, include those cited in Operating Techniques (table S1.2) in the existing permit.
- 3.2.2 These documents remain valid and *are not superseded* by this variation application.
- 3.2.3 The Operating Techniques (current permit table S1.2) includes the following documents (Figure 3):

Description	Parts	Date Received
Non-hazardous and inert waste: appropriate measures for permitted facilities	<ul style="list-style-type: none"> - General management appropriate measures – all parts. - Waste pre-acceptance, acceptance and tracking – all parts. - Waste storage – all parts. - Waste treatment – all parts. - Emissions control – all parts. - Emissions monitoring and limits – all parts. - Process efficiency appropriate measures are not applicable to waste operations. - Waste minimisation, recovery and disposal – all parts. 	N/A
Further information received	Dust and emissions management plan Version C03 – Reference 1MC04-SCJ_SDH-EV-PLN-SS05_SL07-000013	02/06/2023
Further information received	Noise and vibration management plan Version C02 – Reference 1MC04-SCJ_SDH-EV-PLN-SS05_SL07-000015	02/06/2023
Further information received	Management Systems and Procedures Version C01 – Reference 1MC04-SCJ_SDH-EV-PRO-SS05_SL07-000004	02/06/2023
Further information received	Site operating plan Version C02 – Reference 1MC04-SCJ_SDH-EV-PLN-SS05_SL07-000016	02/06/2023

Figure 3 – Operating Techniques (current permit)

3.3 Management Systems

With reference to application form Part C2 question 3d

- 3.3.1 SCSJV operates an externally audited Environmental Management System (EMS) which is certified to ISO14001:2015 and in line with the overarching HS2 Environmental Management Plan.
- 3.3.2 The Management System and Procedures document (document reference 1MCo4-SCJ_SDH-EV-PRO-SS05_SL07-000004) – is cited in the Operating Techniques (table S1.2) within the existing permit.
- 3.3.3 Environmental nuisance control measures have been developed to minimise impact, particularly for dust, vapours, mud, noise and vibration, adhering to HS2 standards and control measures for the wider site. Management plans specific to the permitted operation include Dust and Emissions Management Plan (document reference 1MCo4-SCJ_SDH-EV-PLN-SS05_SL07-000013) and Noise and Vibration Management Plan (document reference 1MCo4-SCJ_SDH-EV-PLN-SS05_SL07-000015). These documents are also within the Operating Techniques (table S1.2) in the existing permit.

3.4 Baseline Report

With reference to application form Part c2 question 5f

- 3.4.1 A baseline report was submitted with the waste permit activity application – Site Condition Report (document reference 1MCo4-SCJ_SDH-EV-REP-SS05_SL07-000009).

3.5 Specification of Raw Materials

With reference to application Part C3 – 3c Table 5

- 3.5.1 A safety data sheet for the Lime was provided as part of the application for the waste facility permit. The specification is Manufacturer: Clogrenane Lime Ltd – Product name: Limbase 60 – as cited in permit Table S2.1

3.6 Energy Efficiency

With reference to application Part C3 section 6

- 3.6.1 Responses to the questions on Resource Efficiency and Climate Change in section 6 can be summarised as follows (Table 2):

Section 6 Question	Response Summary
6a – energy efficiency basic measures	The use of the treatment facility to mix with Lime is more efficient than alternative methods e.g. in-situ lime treatment using mobile plant, in terms of diesel usage and emissions.
6b – energy usage	SCSJV has a 'decarbonising construction' objective. Generators currently in use are 'Stage 5' – NRMM ² emissions standard, and are as energy efficient as possible, with minimal emissions. Power will be switched to mains when possible as a preferred option.
6d – raw materials	The use of the treatment facility to mix with Lime is more efficient than alternative methods e.g. in-situ lime treatment using mobile plant, in terms of raw material usage, Lime per tonne of treated waste.
6d – water	Potable water is used for the dust suppression misting system for the facility. Rainwater is harvested (2No. 10,000 litre tanks) for use in additional dust suppression and wash down activities using a bowser. Surface water

² Non-Road Mobile Machinery

	(including rainwater) is returned to the water environment via the drainage system (including oil interceptor and treatment through a Siltbuster).
6e – waste recovery and disposal	Waste treated in the facility is placed (disposal) in the SSPA – which meets the HS2 sustainability principle of management of waste soils in as close proximity to source as possible. The SSPA will be restored and returned to agricultural use.

Table 2 – Resource Efficiency and Climate Change (Part C3 section 6)