

WASTE ACCEPTANCE PROCEDURE

Twyford Embankment – Application for a Waste Recovery Permit

JER9490

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1 INTRODUCTION

1.1 Background

- 1.1.1 These Waste Acceptance Procedures have been developed in support of an application for a permit for the deposition of waste for recovery at Twyford Embankment, Portway Road, Twyford, Buckinghamshire, MK18 4EB.
- 1.1.2 At this particular location, a landscape bund is to be constructed to mitigate against the landscape and visual impacts generated by the HS2 railway and to assist with screening of noise effects. The landscape bund is to be constructed of circa 10% non-hazardous waste excavated from the Finmere Quarry historic landfill site and screened/treated prior to transfer to the Twyford site. The remainder of the material in the landscape bund will be non-waste material. The construction using waste material constitutes a recovery activity.
- 1.1.3 A pre-application meeting was held with the Environment Agency (EA) regarding the Conceptual Site Model (CSM) for the proposed Chetwode Embankment DfR activity. The material to be used in the Chetwode DfR recovery is the same material, extracted from and processed at Finmere Quarry, as proposed for use in this DfR activity at Twyford Embankment. Therefore, it is reasonable to assume that the advice given by the EA regarding the waste acceptance criteria for the processed Finmere Quarry waste would also apply to the waste to be deposited into the Twyford Embankment, i.e.:
- The contaminant concentrations on the post remediated samples are significantly below the non-hazardous/hazardous waste threshold;
 - the remediated waste would likely pose a low risk to the environment (subject to detailed assessment).
- 1.1.4 This document, which will form part of the management system for the activity, details Waste Acceptance Procedures (WAPs) to demonstrate that the proposed waste is suitable for the activity and allowed under a bespoke permit by:
- Detailing and classifying the waste,
 - Defining the waste acceptance procedures,
 - Setting out the testing regime,
 - Describing the procedure for identifying and removing non-conforming waste,
 - Explaining how waste will be tracked.
- 1.1.5 These waste acceptance procedures apply to the waste material to be deposited for the construction of the landscape bund. Other non-waste materials used in constructing the bund are not subject to this procedure.
- 1.1.6 In producing this document, Environment Agency guidance - Waste acceptance procedures for deposit for recovery¹ has been followed.

¹ [Waste acceptance procedures for deposit for recovery - GOV.UK \(www.gov.uk\)](https://www.gov.uk/guidance/waste-acceptance-procedures-for-deposit-for-recovery)

2 PERMITTED WASTES

- 2.1.1 Waste materials to be deposited as part of the recovery activity must comply with the permitted waste types and descriptions below. All materials to be used have been assessed to comply with the materials criteria detailed in the Specification for Highway Works, Series 600 Earthworks².

2.2 Waste Types

- 2.2.1 The waste to be deposited under the waste recovery activity is non-hazardous and inert waste that has been excavated from Finmere Quarry landfill and then screened/treated at the Finmere Quarry site prior to being transferred to the Twyford Embankment site. No additional waste material is to be sourced for the development. The proposed waste will comprise circa 10% of the material to construct the landscape bund with the remaining circa 90% being non-waste material.
- 2.2.2 The Waste Classification Report (Appendix A) identified that the wastes from Finmere Quarry landfill to be used at the site are non-hazardous. This waste would be classified under European Waste Catalogue (EWC) code 17 05 04 if not for the mechanical treatment undertaken by the mobile plant prior to being moved from Finmere Quarry.
- 2.2.3 Following treatment at the Finmere Quarry site, the waste to be accepted and used in the waste recovery activity is detailed in Table 2.1 below:

Table 2-1: Waste Types

EWC Code	Description
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
2.2.4	Whilst the waste material will be accepted under the 19 12 12 code it will be expected to have a similar composition to the extracted material as set out in the Waste Classification Report in Appendix A.
2.2.5	It should be noted that waste testing indicated extremely low amounts of asbestos (<0.001 %v/v). Waste will be visibly inspected at Finmere prior loading for transfer to the Twyford Embankment site. Any material with visible signs of asbestos will not be transferred to Twyford Embankment. Separate arrangements for transfer of this material to a suitably permitted facility will be made.
2.2.6	This evidence was presented to the EA in relation to the CSM for a separate DfR activity at Chetwode Embankment that will use the same material extracted from Finmere Quarry. The EA concurred that the remediated waste would likely pose a low risk to the environment.
2.2.7	The materials to be used as fill must meet the grading requirements for Highways Specification Class 2A4 / 2B4 / 2C4 / 2D4 and 4A1 materials. Based on this specification, 2A4 / 2B4 / 2C4 / 2D4 materials must pass the 125mm sieve therefore all materials exceeding 125mm will be screened out using the trommel screen and crushed.

² <https://www.standardsforhighways.co.uk/ha/standards/mchw/vol1/pdfs/600.pdf>

3 WASTE ACCEPTANCE PROCEDURES

- 3.1.1 EKFB will be responsible for the Finmere Quarry site as well as the deposition site. The waste materials to be recovered at Twyford Embankment will be excavated and treated as part of the overall HS2 operation by the Mobile Treatment Plant Contractor on behalf of EKFB. The waste will then be handed over to EKFB for onward transport with the production of a waste report from the Mobile Treatment Plant Contractor. EKFB will ensure that only suitable waste will be transported from Finmere Quarry to Twyford Embankment. No other wastes will be accepted at the site.
- 3.1.2 All material will be subject to this Waste Acceptance Procedure prior to final deposition to ensure that it fulfils the waste acceptance criteria, and no unacceptable waste is present.

3.2 Waste Characterisation

- 3.2.1 Testing to characterise the waste materials present at the source site (Finmere Quarry) has been undertaken, details of the sampling location and monitoring results are included in Appendix A. A summary of the findings of these investigations can be found in Table 3-1 below. Unacceptable waste will be removed during the treatment process that takes place at Finmere Quarry.

Table 3-1: RPS Waste Classification Report

Year	Scope of Investigations	Summary of Findings
2021	HazWasteOnline™ Waste Classification Report	The majority of samples (131 of 133 samples) were classified as non-hazardous. Sample ML090-TP407[4] was identified as hazardous due to high pH (12). Sample ML089-TT413[7] was identified as hazardous due to high levels of zinc.

- 3.2.2 As part of the waste screening undertaken prior to the waste being transferred to the Twyford Embankment site, recyclable and unacceptable waste materials will be removed from the waste for further management.

3.3 Waste Acceptance Criteria

- 3.3.1 Waste acceptance criteria are aimed at ensuring the material accepted for deposit is suitable for re-use in the bund construction. Waste will only be accepted at the Twyford Embankment site if it meets **all** of the following criteria:
- It comprises treated waste material from the Finmere Quarry; and
 - It is classified as non-hazardous; and
 - It is classified under EWC code 19 12 12; and
 - It meets the Highways specification class 2A4 / 2B4 / 2C4 / 2D4 and 4A1; and
 - The results of visual and olfactory monitoring of the load do not show evidence of unacceptable waste, signs of discoloration or odours or visible signs of asbestos.
 - It meets the criteria for Zone 2B as set out in Appendix B.
- 3.3.2 Any wastes not meeting the above criteria will be quarantined and rejected, see section 3.7.

3.4 Waste Acceptance Procedures

- 3.4.1 All materials will undergo visual inspection prior to use as fill material in the waste recovery activity. Waste materials may be rejected if they differ from the waste identified in the Waste

Recovery Plan or Conceptual Site Model for use as fill material or if signs of unacceptable wastes are found (e.g., discoloured/odorous soils or evidence of asbestos containing materials (ACMs)).

- 3.4.2 The bulldozer driver responsible for profiling the deposited waste material will be trained to carry out the visual assessment and to isolate and report any suspected non-conforming material.

3.5 Compliance Testing

- 3.5.1 The Mobile Treatment Plant Contractor will produce a handover report for each stockpile of processed waste produced at Finmere Quarry which will confirm that the waste meets the criteria for deposition for recovery (see Section 3.3, above).
- 3.5.2 As detailed in technical guidance WM3³ - Guidance on the classification and assessment of waste, and EA guidance - Waste acceptance procedures for deposit for recovery⁴, it is proposed that further testing to confirm that materials still match the materials previously tested at the site will be carried out against non-hazardous waste acceptance criteria and the agreed reuse criteria.
- 3.5.3 A sample will be taken from the waste transferred to the Twyford Embankment site for every 1000 m³ of material transferred. The sample will be tested to ensure that it still meets the criteria for deposition for recovery. EKFB will be responsible for this sampling and testing.
- 3.5.4 If any obvious signs of previously unidentified wastes are found, further testing will be undertaken to assess the degree of contamination and whether the material is suitable for use in the recovery activity. Should it be found not to be suitable for use, it will be removed as detailed in Section 3.6.

3.6 Waste Records / Tracking

- 3.6.1 EKFB teams at Finmere Quarry and Twyford embankment will communicate to plan the transfer of material between the two sites. Transfer will be by EKFB vehicles. Movements will be tracked by the EKFB "DIGGER" (DIGital Geographical Earthworks Reporting) software tool and by the HS2 materials tracking system. The DIGGER system has been developed for EKFB as part of the HS2 delivery strategy. In order to track and record material movement within the DIGGER system, all dump trucks will have payload technology combined with GPS that identifies load location, deposition location and load weight.
- 3.6.2 Waste transfer notes will not be required since the material is simply being moved between EKFB work locations, i.e. Sections C2 and C3 of the HS2 scheme, and is not passed to a different legal entity.
- 3.6.3 Waste records will contain a day-by-day account of material movements and treatment or processing and will contain the following information:
- Volume of material incorporated into the landscape bund,
 - Description of materials included in movements,
 - Any non-conforming waste identified and removed to quarantine area,
 - Any non-conforming waste removed from site and accompanying waste transfer note.
- 3.6.4 Records of all sampling, monitoring, testing and analysis results will be retained.
- 3.6.5 The above records will be held by EKFB JV for a period of at least two years from the date the records were made.

³ [Waste classification technical guidance WM3.pdf \(publishing.service.gov.uk\)](#)

⁴ [Waste acceptance procedures for deposit for recovery - GOV.UK \(www.gov.uk\)](#)

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- 3.6.6 The site diary will be used to record any incidents that occur during the waste acceptance, discharge and emplacement process, including action taken in relation to unauthorised waste.
- 3.6.7 All records will be available for inspection by the EA as required.

3.7 Non-Permitted Wastes and Waste Rejection

- 3.7.1 Non-permitted waste that is detected before deposition will not be accepted at the site and will be returned immediately to the source or quarantined pending transfer to an offsite suitably permitted facility.
- 3.7.2 Waste materials to be brought to the site have previously been screened to remove unsuitable waste under the mobile treatment processing carried out at the Finmere Quarry landfill. However, in the event of non-permitted wastes being detected, these will be segregated and moved into the quarantine area of the site for storage until an appropriate method of disposal has been determined and they are removed from the site.
- 3.7.3 In the event that asbestos is found to be present in the waste the whole load will be considered contaminated and quarantined and removed off site to a suitably permitted facility.
- 3.7.4 The quarantine area may change over the duration of the deposit for recovery activity. However, at all times a clearly identified and dedicated area for quarantined waste will be maintained.
- 3.7.5 Where waste is rejected, this will be followed up with the EKFB team at Finmere Quarry to establish improvements where necessary to avoid similar occurrences.



Appendix A

WASTE CLASSIFICATION REPORT



Appendix B

MADE GROUND ACCEPTANCE CRITERIA

Made Ground Acceptance Criteria

Contaminants	Limit of Detection (mg/kg, unless stated)	Controlled Waters SCAC (mg/kg) Zone 2b
Asbestos		N/A
Metals		
Arsenic	<1	-
Beryllium	<1	-
Boron	<1	-
Cadmium	<0.2	-
Chromium III	<1	-
Chromium VI	<1	-
Copper	<1	-
Lead	<2	-
Mercury	<0.3	-
Nickel	<2	-
Selenium	<1	-
Vanadium		-
Zinc	<2	-
Inorganics		
Total Cyanide	<1	-
TPH Aliphatics		
C5-C6	<0.01	469
>C6-C8	<0.01	2,500
>C8-C10	<0.1	-
>C10-C12	<0.1	-
>C12-C16	<0.1	-
>C16-C35	<0.1	-

Contaminants	Limit of Detection (mg/kg, unless stated)	Controlled Waters SCAC (mk/kg) Zone 2b
TPH Aromatics		
>EC05-EC07	<0.01	-
>EC07-EC08	<0.01	-
>EC8-EC10	<0.1	33
>EC10-EC12	<0.1	10
>EC12-EC16	<0.1	45
>EC16-EC21	<0.1	90
>EC21-EC35	<0.1	-
<EC35-EC44	<0.1	-
BTEX		
Benzene	<0.001	0.003
Toluene	<0.01	10.8
Ethylbenzene	<0.01	9.7
o xylene	<1	-
m xylene	<1	-
p xylene	<1	-
Total Xylenes		16.7
PAH₅		
Naphthalene	<0.01	0.02
Benzo(k)fluoranthene	<0.1	-
Benzo(b)fluoranthene	<0.1	-
Benzo(a)pyrene	<0.1	-
Indeno(123cd)pyrene	<0.1	-

Contaminants	Limit of Detection (mg/kg, unless stated)	Controlled Waters SCAC (mk/kg) Zone 2b
Benzo(ghi)perylene	<0.1	-
Acenaphthene	<0.1	-
Acenaphthylene	<0.1	-
Anthracene	<0.1	-
Benzo(a)anthracene	<0.1	-
Chrysene	<0.1	-
Dibenz(a,h)anthracene	<0.1	-
Fluoranthene	<0.1	-
Fluorene	<0.1	-
Phenanthrene	<0.1	-
Pyrene	<0.1	-
Phenolics		
Phenol	<0.05	0.23