

Summary of sites operating in the asbestos treatment sector

This document outlines the current sites permitted and undergoing permitting within the sector and gives a summary of the site's permit conditions and proposed operating techniques

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1) Dunton Environmental Limited - Horseley Field Waste Treatment Facility

1.1 Site details

Horseley Field Waste Treatment Facility
Lower Horseley Field
Union Mill Street
Wolverhampton
WV1 3DW

EPR/BP3331DD

Grid reference SO9231298612

1.2 Permit introduction

Section 5.3 Part A (1) (a) (ii) – Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment of hazardous waste (asbestos treatment). This activity consists of the storage and picking of asbestos containing materials from contaminated waste. **The Operator will utilise enclosed storage and enclosed treatment served by an appropriate extraction and abatement system.** This activity will not include the treatment of wastes containing hazardous levels of fibrous asbestos

1.3 Table S1.1 activities

AR2	S5.3 Part A (1) (a) (ii)	<p>Ex-situ treatment of waste contaminated with asbestos containing materials by picking.</p> <p>R5 Recycling/reclamation of other inorganic compounds</p> <p>D9 Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations numbered D1 to D12</p>	<p>From receipt of waste to storage and treatment of waste in enclosed picking station with abatement prior to being subject to bioremediation or sent offsite for disposal or recovery.</p> <p>The extraction system must be operational during storage and treatment.</p> <p>Waste subject to this process shall only be hazardous due to asbestos contamination or hydrocarbon contamination.</p> <p>This activity will not include the treatment of wastes containing hazardous levels of fibrous asbestos.</p> <p>Storage of waste shall not exceed 4000 tonnes (pre-treatment) and 4000 tonnes (post-treatment).</p> <p>Waste types as specified in Table S2.3.</p>
AR10	Screening of soils post treatment.	Screening of soils to remove the hardcore.	<p>All treatment must take place on an impermeable surface with sealed drainage.</p> <p>Material must have undergone the required treatment process (Activity AR2) and not contain asbestos or hydrocarbons.</p>

AR11	Crushing of resultant hardcore.	Crushing of hardcore prior to removal from site.	<p>All treatment must take place on an impermeable surface with sealed drainage.</p> <p>Material must have undergone the required treatment process (Activity AR2) and not contain asbestos or hydrocarbons.</p>
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1.4. Improvement conditions

IC6b	<p>Following completion of IC6a, if emissions of asbestos fibres are demonstrated as being less than 0.01 fibres/ml, once approved by the Environment Agency, the Operator may reduce asbestos monitoring frequency to weekly for the next 5 weeks and submit results to the Environment Agency. If Following the 5 week period referred to above, if emissions are demonstrated as being consistently less than 0.01 fibres/ml, if approved by the Environment Agency, the Operator may reduce asbestos monitoring frequency to monthly.</p> <p>In the event asbestos emissions above 0.01 fibres/ml are detected during monthly monitoring the Operator shall propose more frequent monitoring and timescales for implementation to the Environment Agency for written approval.</p> <p>The Operator shall implement more frequent monitoring in line with the timescale agreed with the Environment Agency.</p>	Complete.
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1.5 point source emissions to air

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
Location to be confirmed in line with Pre operational condition 8	Carbon abatement system exhaust	VOC	-	-	-	-
Location to be confirmed in line with Pre operational condition 8	Carbon abatement system exhaust	VOC15	-	-	-	-
Location to be confirmed in line with Pre operational condition 8	Electrostatic precipitator/bag filter exhaust	Asbestos fibres, dust and PM ₁₀	-	-	-	-

1.6 Ambient air emissions

Location or description of point of measurement	Parameter	Limit (incl. Unit)	Reference period	Monitoring frequency	Monitoring standard or method	Other specifications
A,B,C,D drawing reference Appendix D – Dust Monitoring Locations submitted with application EPR/BP3331DD/A001	Particulate matter	As agreed with the Environment Agency in line with Improvement condition IC5.	As agreed with the Environment Agency in line with Improvement condition IC5.	As agreed with the Environment Agency in line with Improvement condition IC5.	In line with M17 monitoring guidance	<p>Monitoring equipment should meet the MCERTS Performance standards for indicative ambient particulate monitors or similar standard agreed in writing with the Environment Agency.</p> <p>The equipment shall be calibrated in accordance with the manufacturers recommendations or 6 monthly, whichever is first</p> <p>The system must be managed and maintained by suitably trained personnel.</p> <p>The system must obtain representative data that must accurately reflect PM₁₀ levels produced by the site's activities.</p>
Downwind of asbestos treatment area	Asbestos fibres	0.01 fibres/ml	1 hour at 8 l/min	As per IC6a and IC6b	In line with M17 monitoring guidance	<p>Pumped sampling</p> <p>1m above ground level</p> <p>Flow rate = 4 litres/minute</p> <p>Minimum sample volume = 480 litres</p> <p>Filter pore size = 1.2µm</p> <p>Asbestos fibre limit of detection = 0.001 fibres/ml</p>

1.7 Decision Document EPR/BP3331DD

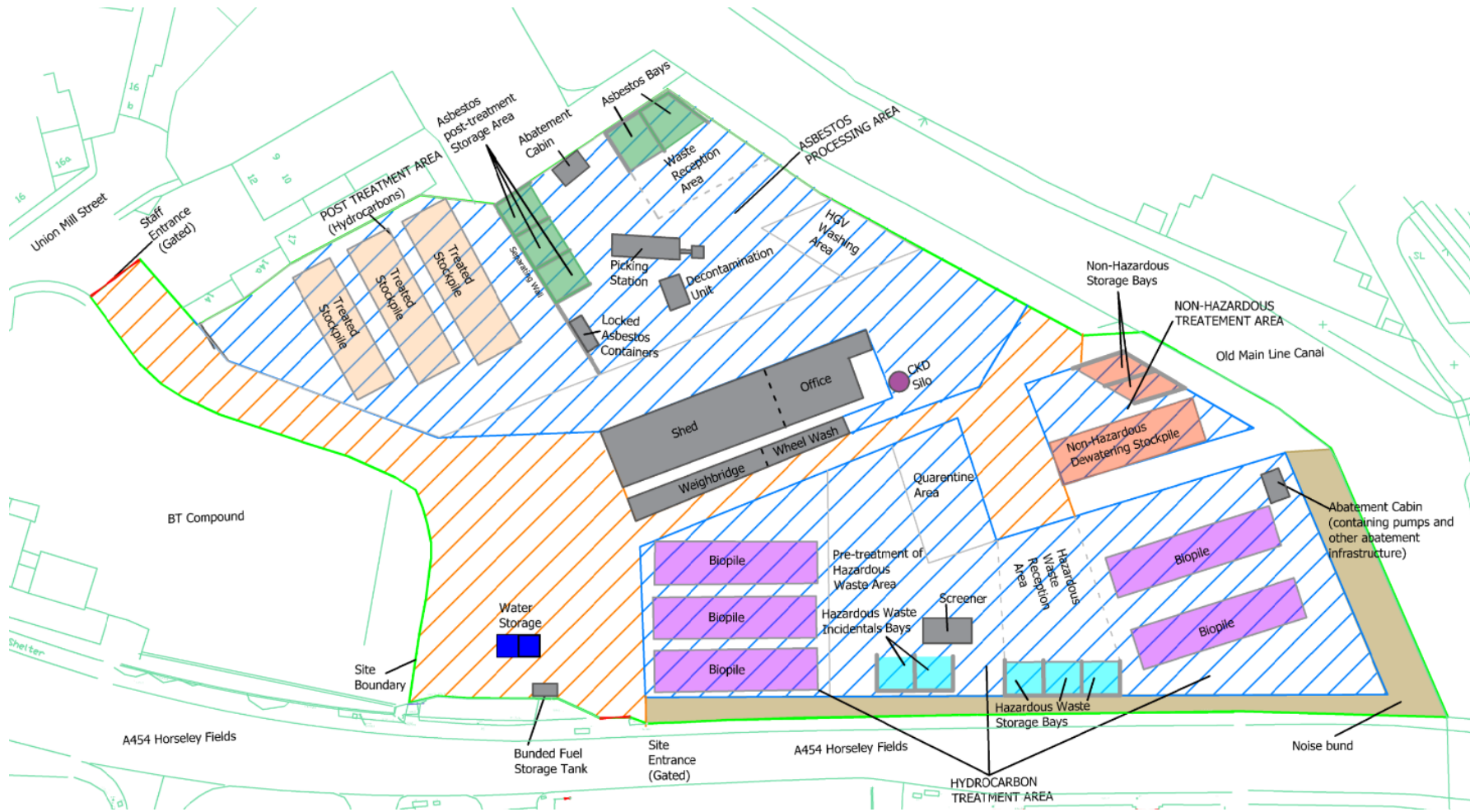
Treatment of soil containing asbestos containing materials (activity reference AR2)

The site will receive waste contaminated with asbestos containing materials under Section 5.3 Part A (1) (a) (ii) of the Environmental Permitting Regulations (England and Wales) 2016 (“EPR 2016”). The waste producer will sample and classify the waste at the pre-acceptance stage and the Horseley Fields site will sample the waste at the acceptance stage to ensure that free asbestos fibres are below hazardous waste thresholds. The site layout has been designed so that asbestos waste will be treated within a designated area. **Asbestos will be stored in enclosed bays provided with negative pressure to prevent emissions.** The **negative pressure system** will connect to a **filtration system (electrostatic precipitators/bag filter)** and **a carbon filter to prevent the release of any free fibres** and any volatile organic carbons (VOCs). Waste will be **wetted down prior to removal from the asbestos storage bays** to minimise dust emissions. **These wastes are loaded onto a hopper which is equipped with spray bars** for additional dust management. Waste will be processed via a purpose built picking station which will consist of a raised conveyor belt with spray bars, **enclosed by an airtight cabin served by the filtration system**. Picked asbestos will be placed in dedicated bins, within double bag liners (activity reference AR7) in accordance with HSE requirements. The Operator has outlined a sampling regime using sub and composite samples to ensure effective, representative sampling for the acceptance and waste treatment validation stages. To further ensure insignificant emissions are released from the process, the Operator has outlined ambient air monitoring to detect releases to ensure the measures proposed remain effective. To ensure appropriate ambient air monitoring is implemented we have inserted these ambient air monitoring requirements into the emissions monitoring tables.

The Operator has demonstrated that they have identified the potential risks associated with the asbestos picking process. In order to remove the pathway to the receptor they have **enclosed the storage and treatment process and provided abatement systems to effectively manage the emissions**. They have **committed to ensuring all waste is dampened during each stage of transfer between the enclosed areas** in line with the requirements of the relevant HSE guidance. They have also demonstrated they have an appropriate monitoring and sampling procedure in place pre and post treatment to ensure reliable waste acceptance and validation of waste treatment. We are therefore satisfied that the Operator has appropriately demonstrated they will implement BAT to manage emissions from this process.

1.8 Site location

Grid reference SO9231298612







2 Dunton Technologies Limited Dunton Bridge Street North - Smethwick

2.1 Site details

Permit Number EPR/WE8923AB

Bridge Street North Waste Treatment Facility

Bridge Street North

Smethwick

Birmingham

B66 2BZ

Grid reference SP0260988961

2.2 Environmental risk assessment 1620013520-002

6.4 Fugitive Emissions

The risk assessment for fugitive emissions is presented in the table below.

Table 6.4: Fugitive Emissions

Source-Pathway-Receptor Hypothetical Model			Risk Management Techniques	Assessing the Risk		
Source of Pollution	Receptor	Pathway		Likelihood of Exposure	Consequence of Exposure	Overall Risk
Fugitive Emissions: dust, asbestos, mud and odour	Humans including: Facility workers/visitors; workers on adjacent premises; local residents; intermittent presence on pedestrian routes / roadways surrounding the factory.	Through the air	<ul style="list-style-type: none"> Dust and HEPA extraction systems will be in place within the main building and asbestos picking area, vented at roof level, with four emission points. Waste materials will be stored internally in dedicated storage bays, Material transfers will be facilitated by a covered conveyor belt system. Post treatment bays will be roofed. All incoming and outgoing vehicles will be sheeted or covered to prevent any load loss. A wheel wash area will be present at the site, so that vehicles are washed down following deposition of material. Management plans are in place and monitoring will be undertaken on a monthly basis for dust, and a daily basis for odour. Waste will be tested using a portable analyser prior to acceptance. Waste pre-acceptance and acceptance procedures ensure that the fibre content of the waste is below the threshold for hazardous determination. Waste in the asbestos picking station will pass under spray bars to maintain moisture content and minimise dust formation. Daily VOC monitoring will be undertaken using a portable photoionisation detection unit. 	Low	Medium	Medium
	Atmosphere			Low	Low	Low

2.3 BAT assessment 1620013520-002

BAT 14	In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given below.	Yes																
	<table border="1"> <thead> <tr> <th data-bbox="282 411 584 443">Technique</th> <th data-bbox="595 411 920 443">Description</th> <th data-bbox="931 411 1137 443">Applicability</th> </tr> </thead> <tbody> <tr> <td data-bbox="282 451 584 738">a Minimising the number of potential diffuse emission sources</td> <td data-bbox="595 451 920 738"> This includes techniques such as: <ul style="list-style-type: none"> - appropriate design of piping layout (e.g. minimising pipe run length, reducing the number of flanges and valves, using welded fittings and pipes); - favouring the use of gravity transfer rather than using pumps; - limiting the drop height of material; - limiting traffic speed; - using wind barriers. </td> <td data-bbox="931 451 1137 738">Generally applicable</td> </tr> <tr> <td data-bbox="282 746 584 1106">b Selection and use of high-integrity equipment</td> <td data-bbox="595 746 920 1106"> This includes techniques such as: <ul style="list-style-type: none"> - valves with double packing seals or equally efficient equipment; - high-integrity gaskets (such as spiral wound, ring joints) for critical applications; - pumps/compressors/agitators fitted with mechanical seals instead of packing; - magnetically driven pumps/compressors/agitators; - appropriate service hose access ports, piercing pliers, drill heads, e.g. when degassing WEEE containing VFCs and/or VHCs. </td> <td data-bbox="931 746 1137 1106">Applicability may be restricted in the case of existing plants due to operability requirements.</td> </tr> <tr> <td data-bbox="282 1114 584 1257">c Corrosion prevention</td> <td data-bbox="595 1114 920 1257"> This includes techniques such as: <ul style="list-style-type: none"> - appropriate selection of construction materials; - lining or coating of equipment and painting of pipes with corrosion inhibitors. </td> <td data-bbox="931 1114 1137 1257">Generally applicable</td> </tr> <tr> <td data-bbox="282 1265 584 1348">d Containment, collection and treatment of diffuse emissions</td> <td data-bbox="595 1265 920 1348"> This includes techniques such as: <ul style="list-style-type: none"> - storing, treating and handling waste and material that may generate diffuse emissions in </td> <td data-bbox="931 1265 1137 1348">The use of enclosed equipment or buildings may be restricted by safety considerations</td> </tr> </tbody> </table>	Technique	Description	Applicability	a Minimising the number of potential diffuse emission sources	This includes techniques such as: <ul style="list-style-type: none"> - appropriate design of piping layout (e.g. minimising pipe run length, reducing the number of flanges and valves, using welded fittings and pipes); - favouring the use of gravity transfer rather than using pumps; - limiting the drop height of material; - limiting traffic speed; - using wind barriers. 	Generally applicable	b Selection and use of high-integrity equipment	This includes techniques such as: <ul style="list-style-type: none"> - valves with double packing seals or equally efficient equipment; - high-integrity gaskets (such as spiral wound, ring joints) for critical applications; - pumps/compressors/agitators fitted with mechanical seals instead of packing; - magnetically driven pumps/compressors/agitators; - appropriate service hose access ports, piercing pliers, drill heads, e.g. when degassing WEEE containing VFCs and/or VHCs. 	Applicability may be restricted in the case of existing plants due to operability requirements.	c Corrosion prevention	This includes techniques such as: <ul style="list-style-type: none"> - appropriate selection of construction materials; - lining or coating of equipment and painting of pipes with corrosion inhibitors. 	Generally applicable	d Containment, collection and treatment of diffuse emissions	This includes techniques such as: <ul style="list-style-type: none"> - storing, treating and handling waste and material that may generate diffuse emissions in 	The use of enclosed equipment or buildings may be restricted by safety considerations		<p>a) The number of potential diffuse emission sources is limited by the majority of process operations being undertaken within a building. Waste soils are transported to the site in covered vehicles and then transferred to storage bays located within the treatment building. Only soils that have been validated as being treated will be stored outdoors in the post treatment bays.</p> <p>b) Not applicable to site operations.</p> <p>c) Not applicable to site operations; soils are maintained at approximately pH 7.</p> <p>d) All treatment operations take place within a building with extraction to abatement systems (HEPA and carbon filters).</p> <p>e) Dampening will be used as the primary prevention of fugitive emissions of dust and odours. Wastes arriving at the site will be dampened prior to being moved to the storage bays that are located within the treatment building. Waste in storage will be kept damp to prevent releases in storage.</p> <p>Waste for bioremediation will be transferred into the biopads which are located within the building. These materials will only be transferred outdoors on validation of treatment. Wastes that arrive for asbestos picking will be dampened again prior to transfer into the asbestos picking cabin. The picking cabin has one release point to atmosphere which has a carbon filter and a HEPA filter installed to prevent releases.</p> <p>After material is passed through the asbestos picking station, it will be either transferred to the post treatment bay; or if it requires further treatment by bioremediation, it will be immediately transferred into the building and into a biopad or storage bay.</p> <p>f) The site machinery and abatement systems will be maintained in line with manufacturers specifications.</p> <p>g) Cleaning will be carried out with road sweepers and the wheel-wash system. Additionally, cleaning and maintenance checks on workable plant is carried out daily.</p> <p>h) Leak Detection and Repair systems are not applicable to site operations and the wastes accepted at site may be contaminated with hydrocarbons, but they are not highly volatile. Wastes contaminated with hydrocarbons will be stored within the building where the air is extracted via HEPA and carbon filters.</p>
Technique	Description	Applicability																
a Minimising the number of potential diffuse emission sources	This includes techniques such as: <ul style="list-style-type: none"> - appropriate design of piping layout (e.g. minimising pipe run length, reducing the number of flanges and valves, using welded fittings and pipes); - favouring the use of gravity transfer rather than using pumps; - limiting the drop height of material; - limiting traffic speed; - using wind barriers. 	Generally applicable																
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2.4 Dust management plan 1620013520-002

4.5 Point Source Emissions – Asbestos

Additionally, in accordance with the Control of Asbestos Regulations 2012 - Approved code of practice, an emission limit, referred to in this document as a 'control limit' has been set for the discharge point from the picking station as set out in Table 4.5.

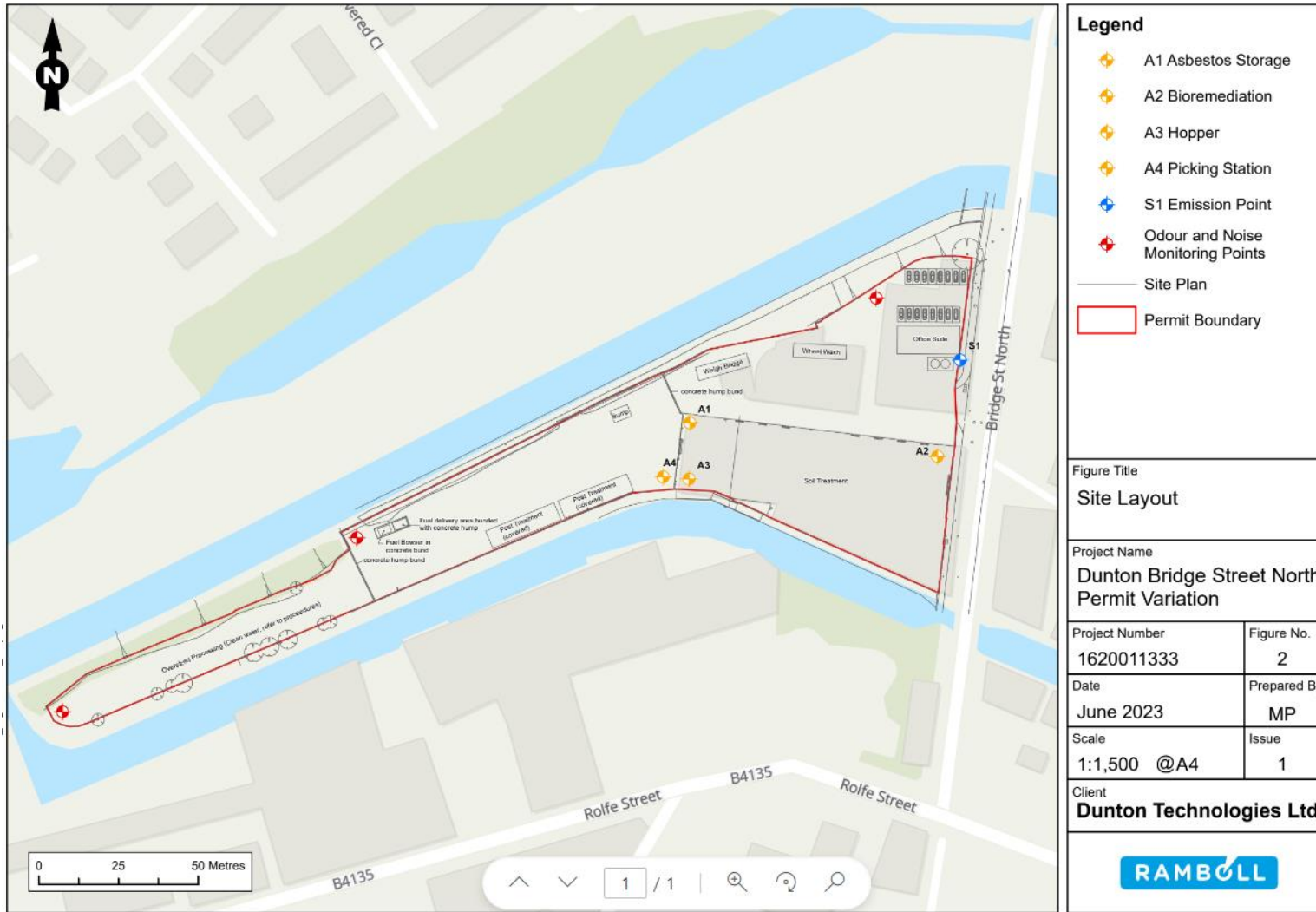
Table 4.5: Point Source Emissions Monitoring – Asbestos

Monitoring point reference	Parameter	Limit	Reference period	Monitoring frequency	Monitoring standard or method
Discharge outlet for asbestos picking station	Asbestos	0.01 f/cm ³	Averaged over a four-hour period	Monthly	As per Control of Asbestos Regulations 2012 (CAR 2012)

Note that if the emission limits are breached within Tables 4.2, 4.3, 4.4 or 4.5 above, then this will result in the triggering of the sites remedial actions and waste will cease to be treated or accepted until such times as the breach has been investigated and all actions required to ensure no further breaches have been taken.

Table 4.6 outlines the risk, pathway, receptor assessment and provides management techniques to control/mitigate each of the risks.

2.5 site location







3 Tetron Finningley LLP Finningley Quarry Waste Facility

3.1 Site details

Tetron Finningley LLP- EPR/NB3039RM
Finningley Quarry Waste Facility
Old Bawtry Road
Austerfield
Doncaster
DN9 3BZ
Grid reference - SK6652598085

3.2 Permit Summary

Variation amendment EPR/NB3039RM/V003

Adding the treatment of construction waste impacted by bonded asbestos by hand picking
Adding the treatment of soils impacted by bonded asbestos by handpicking and washing;

The wet screening plant is designed to segregate the inorganic material (including ACM) from organic waste. It then further splits the inorganic mineral materials by size. This enables the silts, fine sands and clay fraction that limit the effectiveness of picking to be removed, leaving the coarser fragments that can be effectively segregated. Clays/silts are separated from the waters in a separation tank and pressed. The water is treated and recirculated into the system.
(from [Asbestos management plan 193433/AMP](#) April 2021 Section 2.1)

The treatment of asbestos (Area 3) is fully contained within a building fitted with an air management system retaining a negative pressure. The building has a point source emission to air that will be subject to monitoring. Monitoring will also be undertaken upwind and downwind of Area 3 on a daily basis when asbestos treatment operations are undertaken.

Washing of waste may potentially create a risk that asbestos fragments break up and fibres are generated. The Applicant has indicated that there will be no such release of fibres into the soil matrix and the permit requires that this does not occur. The water in the washing system is recirculated and treated through a series of clarifiers and filters. (EA decision Document 17/01/2022 Key issues page 3 EPR/NB3039RM/V003).

3.3 Permit activities Table S1.1

AR3	Section 5.3 A(1)(a)(vi) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment involving recycling or reclamation of inorganic materials other than metals or metal compounds.	Treatment of soils impacted with identifiable pieces of bonded asbestos by washing R5 - Recycling of other inorganic compounds.	<p>From treatment of waste through to storage of separated waste fractions (some of which will continue to be impacted with bonded asbestos cement and require handpicking), and filter cake (from the filter press).</p> <p>Treatment in a soil washing barrel wash plant, including water treatment, settlement, filtration and filter press.</p> <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system.</p> <p>The washing of asbestos impacted wastes shall not increase the asbestos fibre load in the waste.</p> <p>Operations shall be limited to area 3.</p> <p>Storage of treated waste shall only take place inside a building within designated bays.</p> <p>Asbestos contaminated soil shall be stored on site in a way that minimises asbestos fibre emissions such as spraying, sheeting etc.</p> <p>Asbestos contaminated soil fractions not subject to further picking of asbestos shall be appropriately contained for disposal (double-bagged and/or stored in a lined, sealed locked skip).</p> <p>Storage of treated waste shall not exceed 250 tonnes.</p> <p>A maximum of 50,000 tonnes of bonded asbestos-impacted waste shall be treated through handpicking and washing per year.</p> <p>Waste types (soil wastes only) and quantities as specified in Table S2.3.</p>
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3.4 improvement Conditions

IC2	<p>The operator shall provide a report on the monitoring undertaken as part of the sampling of the incoming waste, the separated wastes streams, and recirculated water from the operation of the asbestos washing process as set out in the Asbestos Management Plan ref over the first 4 months of operation, for approval by the Environment Agency.</p> <p>The sampling report shall:</p> <ul style="list-style-type: none">• detail the method(s) used to sample and analyse the treated waste streams and water for asbestos fibres;• demonstrate a high percentile level of confidence in the treatment process taking account of the amount of waste treated per batch and the number of samples required to adequately sample each waste stream, and the recirculated water, both initially and on an ongoing basis;• demonstrate that additional asbestos fibre contamination is not being created by the wash process.• recommend any additional measures to be undertaken to ensure compliance with the permit conditions. <p>The notification requirements of condition 2.6.2 will be deemed to have been complied with on submission of the plan.</p> <p>You must implement the additional measures as approved, and from the date stipulated by, the Environment Agency.</p>	Within 6 months of the completion of commissioning.
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3.5 Pre operational conditions

PO2	Operation of the installation activities AR2 and AR3	<p>At least 4 weeks (or any other date as agreed with the Environment Agency) prior to commissioning of the installation, the operator shall provide a written report on the air extraction system for the installation for approval by the Environment Agency. The report shall include the following:</p> <ul style="list-style-type: none"> • an assessment of the building fabric for potential fugitive emission routes to air, and any actions taken to rectify the potential routes. • an assessment of the air extraction system demonstrating that the building is under effective negative pressure and that all air extracted is emitted via the air filtration system. <p>No site operations shall commence or waste accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>
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3.6 Point source emissions to air

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
Point A1 on site plan in Schedule 7, referred to as S1 in application documents	Air Extraction System stack	Asbestos fibres	0.1 fibre/ml	Hourly average	Monthly (Note 1)	ISO 10397: 1993
		Particulate matter	5 mg/m ³	Average value of 3 consecutive measurements of at least 30 minutes each	Every 6 months	BS EN 13284-1
Note 1: May be reduced to a quarterly frequency after 12 monthly monitoring events with the written agreement of the Environment Agency.						

3.7 process monitoring

Table S3.3 Process monitoring requirements					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Outside air testing when asbestos contaminated soils are being received, handled and moved within the site. Outside Sampling points as shown on site plan in Schedule 7	Asbestos fibres	0.01 fibres/ml. Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	During receipt, handling and movement of asbestos contaminated soil within the site 1 hour at 8 l/min or other agreed period in writing.	In line with M17 monitoring guidance While asbestos contaminated soils are being received, handled and moved within the site. <ul style="list-style-type: none"> • Pumped sampling • 1m above ground level • Flow rate = 8 litres/minute • Minimum sample volume = 480 litres • Filter pore size = 0.8-1.2µm Asbestos fibre limit of detection = 0.001 fibres/ml	--

3.8 Risk assessment

Risk Assessment 193433/H1ERA

Table 5. Assessment of fugitive fibre emissions (other than particulates)

Hazard	Receptors	Harm	Pathway	Probability of Exposure	Consequence	Magnitude	Justification	Risk Management	Residual Risk
To Air									
<p>Fugitive emissions of fibres from incoming waste streams transported to enclosed area of placement.</p> <p>Fibres mobilised at area of placement/ when enclosure is opened.</p> <p>Fibres from operations, storage and handling of waste streams.</p> <p>Asbestos fibres from picking area.</p>	<p>Residential properties 550 m north of site.</p> <p>Workers</p> <p>The surrounding land is predominantly agricultural and recreational land.</p> <p>Deciduous woodland priority habitat.</p>	<p>Harm to human health, respiratory irritation and illness.</p>	<p>Airborne then inhalation.</p>	<p>High</p>	<p>High</p>	<p>Medium</p>	<p>Risk from inherent nature of the activity i.e. working with asbestos.</p>	<p>All controls will be in accordance with the OP and Particulate Emissions Management Plan.</p> <p>PPE / RPE will be in accordance with HSE Guidance.</p> <p>Asbestos waste will only be received into the dedicated asbestos waste reception area, which is fitted with negative pressure and appropriate abatement equipment. Waste will be dampened down to prevent the release of dust.</p> <p>All vehicles and equipment shall be inspected at both the start of the work day and the end of the work day and at intervals in between to ensure that there is not a build-up of particulates on surfaces and equipment.</p>	<p>Low</p>

3.9 Asbestos management plan

Application EPR/NB3039RM/V003 - Tetron Asbestos management plan 193433/AMP April 2021

The barrel wash is designed to float off the light organic fractions, whilst the denser minerals sink and are **transferred to a cyclone and sieves**. This leaves the mineral waste, split into 3 fractions: (from Asbestos management plan 193433/AMP April 2021 Section 3.14)

Design Of Works

2.1 The detailed layout of the processing area is presented in drawing 193433/D/010. The layout incorporates the following measures:

- The operations will be fully enclosed within a sealed building with automated roller shutter doors. The building design schematic is shown in 193433/D/013B;
- The enclosure has an air management system retaining a negative pressure. All extracted air is filtered through a bag filter before release. The bag filter will be fitted with High Efficiency Particulate Air (HEPA) filters. The emission limit of 0.01 f/ml is set within the particulate emissions plan downwind of the plant;

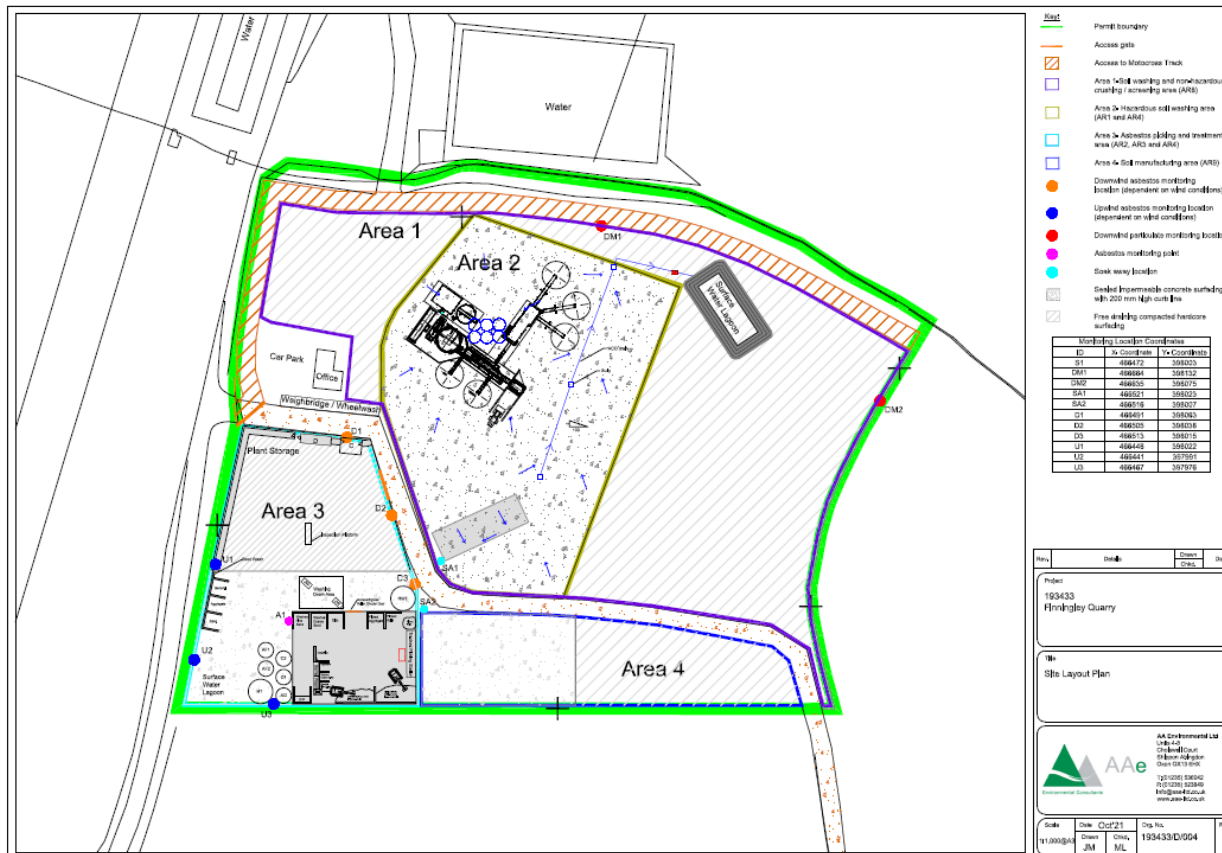
Table 2 - Soil treatment by wet screening

4	Residual entrained silts, fibres and process waters.	<p>The silts and clays in suspension flow into pipe work and are fully contained. They flow and discharge within the clarification tank. The silts settle and are transferred via enclosed pipework direct to filter and pressed. Fibre may be within the clarification silts. Anticipated at non-hazardous level below < 0.1% weight by weight.</p> <p>Clarified waters are likely to retain asbestos fibres. These are further clarified, dosed prior to dilatometric earth filtration effectively removing all fibre. The resulting water is further filtered to remove any soluble organic contamination prior to re-circulation in the system. Further details of the water treatment system are detailed in the Surface Water and</p>
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3.10 Site location

Area 1 & Area 2: hazardous and non-hazardous soil washing and non-hazardous crushing/screening operations

Grid reference SK6652598085







4 Keltbray AWS Limited Mohawk Wharf Recycling Facility

4.1 Site details

Bradfield Road

Silvertown

London

E16 2AX

Variation application number

EPR/FP3092LH/V005 issued 02/08/2021

4.2 Permit introduction

The new asbestos treatment activity constitutes a picking line whereby trained operatives pick visible asbestos fragments from asbestos containing wastes on a conveyor belt. The management of waste in this building is compliant with BAT measures for dusty wastes and is controlled by a dust emissions management plan. **All asbestos containing waste loads are only deposited in the building when the building doors are closed.** The waste is dampened during this process and is dampened frequently throughout the treatment. **The treatment building will be held under negative pressure and benefit from air abatement in the form of a high efficiency particulate air (HEPA) filter.** This filter removes airborne asbestos fibres from the air extracted from the building. Four asbestos monitoring points surround the building ensuring any escape of asbestos fibres is identified. Monitoring is carried out in line with M17 guidance on the monitoring of particulate matter in ambient air.

4.3 Table S1.1 activities

AR3	S5.3 A1(a)(vi) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.	R5: Recycling/reclamation of other inorganic materials	From receipt of waste through to storage of treated waste. Treatment in a dedicated enclosed and abated picking line. All treatment and storage shall take place on an impermeable surface with a sealed drainage system. Treatment of hazardous waste through the picking line shall not exceed 50,000 tonnes per annum. Asbestos removed from the soil shall be double-bagged and stored in a sealed locked skip. Hazardous waste types and quantities as specified in Table S2.4.
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4.4. Improvement conditions

IC4	<p>The Operator shall undertake 6 months of dust, particulate matter and asbestos monitoring for both the point source emission point A1 and the ambient air on site in line with M17 guidance. Using this monitoring data the Operator will submit a report to the Environment Agency for written approval. The report shall contain but not be limited to the following elements:</p> <ul style="list-style-type: none"> • A review of the effectiveness of the dust management plan along with an assessment of whether ambient air monitoring environmental standards for total suspended particulates and asbestos fibres are being achieved in line with our guidance on air emissions risk assessment for your environmental permit. • Identification of any further dust and particulate matter abatement measures that are needed and proposed timescales for implementation of these measures. <p>The Operator shall implement any further abatement measures in line with the timescales agreed with the Environment Agency.</p>	02/04/2022
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4.5 point source emissions to air

Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A1 [Point A1 on site plan in Schedule 7]	HEPA filter abatement plant serving asbestos treatment building.	Asbestos fibres	--	--	--	--
		Dust	5 mg/m ³	Average over sample period	Once every 6 months	In accordance with BS EN 13284-1

4.6 Ambient air emissions

Location or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
M1, M2, M3 and M4 within dust emissions management plan referenced in table S1.2	Asbestos fibres	0.01 fibres/ml Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy	Every 4 hours during handling or treatment of asbestos	In line with M17 monitoring guidance	The monitoring shall be carried out to the following specifications: <ul style="list-style-type: none"> • 1m above ground level • Flow rate = 2 litres/minute • Minimum sample volume

Table S3.2 Ambient air monitoring requirements					
Location or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
		to confirm the concentration of asbestos fibres present			= 480 litres <ul style="list-style-type: none"> Filter pore size = 1.2µm Asbestos fibre limit of detection = 0.01 fibres/ml
PM1 within dust emissions management plan referenced in table S1.2	Total suspended particulates (TSP) unless otherwise agreed in writing with the Environment Agency	As agreed in line with Dust management plan referenced in table 1.2	Continuous	In line with M17 monitoring guidance	Monitoring equipment should meet the MCERTS performance standards for indicative ambient particulate monitors or similar standard agreed in writing with the Environment Agency. The equipment shall be calibrated in accordance with the manufacturer's recommendations or 6 monthly, whichever is first. The system must be managed and maintained by suitably trained personnel. The system must obtain representative data that must accurately reflect PM10 levels produced by the site's activities.

4.7 Decision Document

The original proposals for this variation application included an enclosed asbestos treatment building and an adjacent outdoor asbestos containing material storage bay. In accordance point 14d of the [best available techniques \(BAT\) conclusions for waste treatment, under Directive 2010/75/EU of the European Parliament and of the Council](#) (BAT conclusions or BATc) the storage both prior to and after treatment is now located within the treatment building. **This means that all activities involving asbestos containing materials are now taking place within an enclosed building. In line with BAT 14d this building is kept under negative pressure at 8 air exchanges per hour (-5pa approx).** The air emission point is designed to benefit from a HEPA filter abatement system that removes asbestos fibres from the air at a 99.97% efficiency. This abatement plant, associated emission monitoring and plant maintenance are in line with BAT.

4.8 Application Risk Assessment GRP-HSQE-FRT-096 Rev 03



Risk Assessment

Risk Assessment				
Project Name:	Mohawk Wharf	MS or TBS Name:	Mohawk Wharf Site Working Plans	RA Written by:
Activity:	Asbestos Picking from Soils	MS or TBS Number:	Abesos in Soils	Rhea Fenemor

Acceptance of materials containing ACM's	Health Issues	Neighbouring Site Users	5	2	10	Covering and dampening down on stockpiles All asbestos picking activities contained within the picking building Building to be under negative pressure using HEPA filters Minimisation of dust generation on site	3	1	3
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4.9 Revised format risk assessment Mohawk Wharf

Risk Assessment Cover Sheet Revision 1 ref 44119 Mohawk Drive

WORKBOOK REPAIRED We temporarily repaired this workbook so that you can open it in Reading View.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2		Risk Assessment												
3		Project Name:					MS or TBS Name:							
4		Activity:	Asbestos Operations				MS or TBS Number:				Asbestos in Soils			
5		KEY												
6		Severity				Likelihood						Risk Rating		
7			1 Negligible	4 Major		1 Rare		4		Likely		15 to 25	Intolerable	4 to 6
8			2 Minor	5 Catastroph		2 Unlikely		5		Almost Certain		8 to 12	Substantia	1 to 3
9			3 Moderate			3 Possible								
10		Operation / Task	Hazards Identified			Who or what could be harmed and how			Risk Rating			Control Measures		
11								S	L	RR				
12		Movement of ACM on and around site	Ariel Emissions of Dust & Asbes			Environmental (Air Pollution)			5	3	15	All incoming ACM wastes will be pre-arran		
13			Ariel Emissions of Dust & Asbes			Persons working on and around site			5	3	15	All staff working on site to attend an asbes		
14		Moving Plant within the ACM area	Spread of ACM and other spills			Contaminated Ground and operatives around ACM area			5	3	15	All plant and machinery should undergo d		
15		Use of Picking station	Noise levels and moving plant w			Operative			4	3	12	Hearing protection to be worn whilst pick		
16		Use of Picking station	Potential for fire Potential for fu			Asbestos Picking Operatives			5	2	10	Appropriate fire extinguishers to be kept c		
17		Maintainence of Picking Station	Fallls from height and entrapme			maintinaince operatives			4	2	8	No lone maintainance work to be carried o		
18		Dampening stockpiles, decontamination and use of fire equipment	contaminated surface waters			river/water courses			4	1	4	Wash down water from decontamination		
19		Storage of ACM	Cross contamination/dust emmi			environment/workers			5	3	15	Stockpiles located within the enclosed she		
20														
21														
22														
23														
24														

4.10 Asbestos soil document

Company Proprietary Information

The electronic version of this document is the latest revision. It is the responsibility of the individual to ensure that any paper material is the current revision. The printed version of this procedure is uncontrolled, except when provided with a document number in the field below:

Document No KE-COMP-PRO-008 Rev 03
 Uncontrolled Copy Controlled Copy Date Jun 21

Activity	Emission Point	Abatement Options
Storage of soils containing asbestos	Contaminated Stockpiles	<ol style="list-style-type: none"> 1. All incoming materials to be delivered in enclosed tippers who shall tip close to ground as to prevent dust clouds. 2. Stockpiles to be contained within the picking station, with the reception bay surrounded by dust suppression system to dampen down and reduce dust. 3. Extra hoses and sprinklers on site to use in addition to dust suppression if needed or to use if dust suppression system should fail 4. Stockpiles to be covered with polythene sheeting to prevent spread of dust when not active. 5. Stockpiles to be segregated to prevent cross contamination with non-asbestos containing stockpiles on site 6. Enclosure fitted with ventilation system with HEPA filter to control air flow. 7. Air Monitoring to take place to ensure effectiveness of control measures

		8. Emergency procedures for environmental incident to be planned and practiced
Removing chrysotile asbestos	Picking station	<ol style="list-style-type: none"> 1. All operatives to receive full training, induction and be briefed on hazards. Only trained and competent persons to work on site. Asbestos Awareness training mandatory. 2. Airflow to be controlled with airlocks and ventilation system fitted with HEPA filter. This along with above dust suppression control measures will reduce risks to workers/environment 3. Rigorous monitoring and maintenance procedures to be followed to ensure effectiveness of control measures 4. Picking station to be stopped, turned off, isolated and locked before maintenance procedures can take place or in the event of emergency 5. Shift patterns to limit the workers exposure to hazards 6. Control and minimise mechanical vibration 7. All appropriate guards and rails in place 8. Specialist first aid equipment available, exits clearly marked and emergency procedures for evacuation in place and practiced. 9. Appropriate PPE supplied including disposable coveralls, hearing protection and suitable RPE, which is not compromised by hearing protection 10. All workers to undergo health surveillance and attend medical examination of asbestos removal workers under CAWR 2002
Decontamination	Decontamination unit	<ol style="list-style-type: none"> 1. Separate contaminated and clean areas for changing 2. Plant and machinery to be washed down with low pressure wash in a designated wash down area by site operative whilst driver remains in cab. 3. Decontamination unit with adequate showers 4. When leaving ACM area, workers to wash their boots in the boot wash at designated PPE zone. 5. Spent PPE will be removed carefully and double bagged in red and clear asbestos bags and placed in secured covered asbestos skip for offsite disposal. 6. Operatives to wash for at least 5 minutes using mild soap and avoiding skin rubbing. 7. Water to be continuously flowing to thoroughly wash away asbestos dusts 8. Wash down water from decontamination procedure will be pumped into intermediate bulk container to allow suspended solids to settle.

Moving Asbestos Contaminated Material Around Site	Entrance/Exits and local roads	<ol style="list-style-type: none">1. All incoming materials to be pre-arranged in line with waste acceptance procedures. Only bonded asbestos, confirmed by UKAS analysis to be below set threshold level to be accepted, due to its lower risk of fibre release2. All incoming asbestos contaminated materials to be contained within tipper trucks lined with polythene and loads to be covered.3. Area surrounded by dust suppression as mentioned above to minimise spread of dust.4. Same rules to apply to plant, material to be moved at minimal heights and slowly to disturb as least as possible.5. As mentioned above, vehicles and plant to be washed down at designated wash down area to avoid contamination of wider area
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4.11 Dust management plan

Company Proprietary Information

The electronic version of this document is the latest revision. It is the responsibility of the individual to ensure that any paper material is the current revision. The printed version of this procedure is uncontrolled, except when provided with a document number in the field below:

Document No	<u>KE-COMP-PLN-011</u>	Rev	<u>10</u>
Uncontrolled Copy	<input type="checkbox"/>	Controlled Copy	<input checked="" type="checkbox"/>
		Date	<u>Apr 2021</u>

The building will use a HEPA bag filter for air emissions abatement, this coupled with the building being under negative pressure means the risk of fibre release outside of the building is reduced significantly. Paragraph 389 of the ACoP specifies a minimum airflow of 1,000m³/hour through small enclosures and at least 8 “air changes” per hour. This level of air flow and extraction will give the building a negative pressure of c. -5pa which according to ARCA guidance gives good containment. The HEPA filter and air extraction system within the enclosed asbestos picking station will achieve these rates and will have maintenance schedules and certificates to regularly check the pumps and filter is working effectively. Spent filters will be changed by qualified personnel and placed in to the asbestos skip within double bag and labelled containers. The H rated HEPA filter will have a designated length of use time based on the flow rate of the room and the volume of air passing through the filter. This will not be exceeded and the filter will be changed prior to the limit being reached. Further detail on the maintenance and management of the HEPA filter and ventilation can be found in *KE-COMP-PRO-008 - Asbestos in Soils Rev02*.

4.12 Site location

Grid Ref - TQ4038179806



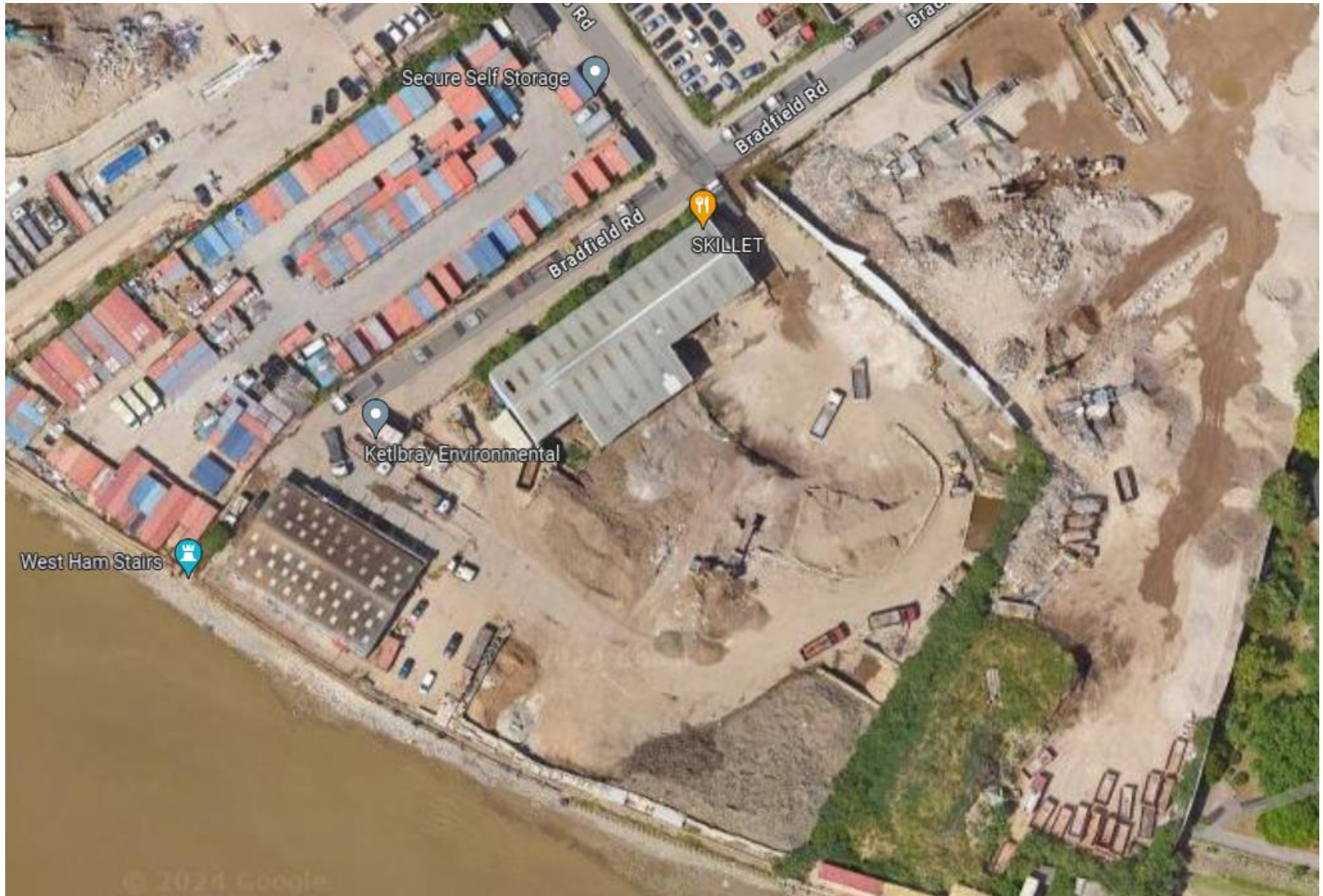






Figure 1. Plan of Mohawk to show Bay layout and location of Picking Station building

5). Mick George Limited - Mepal Soil and Waste Treatment Centre

5.1 Site details

Mick George Limited

Mepal Soil and Waste Treatment Centre

Witcham Meadlands Landfill Site

Block Fen Drove

Mepal

Chatteris

Cambridgeshire

CB6 2AY

Permit number - EPR/EP3492SP

5.2 Permit Table S1.1 activities

AR6	S5.3 A(1)(a)(ii)	<p>Physical treatment of hazardous waste - Asbestos</p> <p>Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment.</p> <p>D9: Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12.</p>	<p>Asbestos removal from soils and construction and demolition waste.</p> <p>From receipt of hazardous waste through to storage of treated waste prior to being subject to bioremediation and / or stabilisation or sent off-site for disposal.</p> <p>Treatment consisting only of hand picking of identifiable pieces of bonded asbestos from waste soils in a dedicated enclosed picking line located within the building labelled as 'Asbestos Treatment Building'</p> <p>Asbestos removed from the soil shall be double bagged and kept within clearly identified, segregated, secure, lockable container located within the building labelled as 'Asbestos Treatment Building'.</p> <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system within the building labelled as 'Asbestos Treatment Building' as shown on drawing number Drg 208 Building Vr C dated 11/03/19.</p> <p>Subject to any other requirements of this permit wastes shall be stored for no longer than 6 months prior to disposal.</p> <p>Waste types and quantities as specified in Table S2.5.</p>
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5.3 Permitted waste types

Table S2.5 Permitted waste types and quantities for handpicking of asbestos waste (AR6, AR7)	
Maximum quantity	In total no more than 150,000 tonnes per annum of hazardous waste will be accepted for treatment at the site.
Exclusions	<p>Wastes having any of the following characteristics shall not be accepted:</p> <p>Wastes consisting solely or mainly of dusts, powders or loose fibres;</p> <p>Waste liquids;</p> <p>Odorous wastes;</p> <p>Asbestos in unbound fibrous form (FREE CHRYSOTILE FIBROUS ASBESTOS IN SOIL AND CONSTRUCTION AND DEMOLITION WASTES AS DETAILED BELOW MUST BE <0.1% w/w. OTHER FORMS OR MIXED FORMS OF FIBROUS ASBESTOS IN THE WASTE MUST BE <0.01% w/w)</p> <p>Wastes with hazard codes HP1, HP2, HP3, HP9, HP12, HP15.</p>
Waste code	Description
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 01	concrete, bricks, tiles and ceramics
17 01 06*	mixtures of, or separate fractions of concrete, bricks, tiles and ceramics containing hazardous substances (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))
17 05	soil (including excavated soil from contaminated sites), stones and dredging spoil
17 05 03*	soil and stones containing hazardous substances (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))

Table S2.5 Permitted waste types and quantities for handpicking of asbestos waste (AR6, AR7)	
17 05 04	soil and stones other than those mentioned in 17 05 03 (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))
17 06	insulation materials and asbestos-containing construction materials
17 06 05*	construction materials containing asbestos (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))
17 09	other construction and demolition wastes
17 09 03*	other construction and demolition wastes (including mixed wastes) containing hazardous substances (CONTAINS IDENTIFIABLE PIECES OF BONDED ASBESTOS (any particle of a size that can be identified as potentially being asbestos by a competent person if examined by the naked eye))

5.4 Point Source emissions to air

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method
FB1 as shown on plan Asbestos Treatment Building Plan 208-Building Rev.2	Air extraction via bag filter release point	Asbestos fibres	0.1 fibre/ml	Hourly average	Monthly ^{NOTE 1}	ISO 17020 ISO 17025 HSG248
		Particulate matter	5 mg/m ³	Hourly average	Once every six months	BS EN 13284-1
NOTE 1: May be reduced to a quarterly frequency after 12 monthly monitoring events with the written agreement of the Environment Agency.						

5.5 Process Monitoring

ER Table S3.3 Process monitoring requirements					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Sampling points M1, M2, M3 and M4 as shown on plan Asbestos Treatment Building Plan 208-Building Rev.2	Asbestos fibres	Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron	During asbestos hand picking works ^{NOTE 2} 1 hour at 8 l/min or 2 hours at 4 l/min	In line with M17 monitoring guidance While asbestos is being treated. • Pumped sampling • 1 m above ground level	--

ER Table S3.3 Process monitoring requirements					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Air testing within the building for the duration of the asbestos hand picking works.		microscopy to confirm the concentration of asbestos fibres present.		<ul style="list-style-type: none"> • Minimum sample volume = 480 litres at variable rates • Filter pore size = 0.8-1.2 µm Asbestos fibre limit of detection = 0.001 fibres/ml	
20 m downwind of asbestos building	Asbestos Fibres	Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	Monthly 1 hour at 8 l/min or 2 hours at 4 l/min	In line with M17 monitoring guidance While asbestos is being treated. <ul style="list-style-type: none"> • Pumped sampling • 1 m above ground level • Minimum sample volume = 480 litres at variable rates • Filter pore size = 0.8-1.2 µm Asbestos fibre limit of detection = 0.001 fibres/ml	--
50 m upwind of asbestos building					
Site boundary downwind of asbestos building					
SW1 Sealed Drainage Tank as shown on plan Asbestos Treatment Building Plan 208-Building Rev.2.	Asbestos fibres	Where process water from the tank is reused on site total fibre concentration must be less than 0.001 fibres/ml	Monthly	In line with M17 monitoring guidance Asbestos fibre limit of detection = 0.001 fibres/ml	--
NOTE 2: Monitoring frequency may be reduced to a frequency agreed in writing by the Environment Agency after 6 months of continuous monitoring.					

5.6 Risk assessment A112327 Mepal SWP Variation 2019

2.6.3 The site's operations are unlikely to cause fugitive emissions due to the active mitigation measures on site which are in line with Environment Agency's Sector Guidance Note S5.06 – Recovery and Disposal of hazardous and non-hazardous waste. The proposals include ensuring the activities are undertaken within a building which is fitted with negative pressure and abatement, utilisation of vacuums around the site to clear any spills (as is BAT in accordance with HSE guidance note em5), and employing good housekeeping techniques, such as a daily inspection of plant and equipment, cleaning of plant and equipment to prevent fugitive emissions and the daily sweeping of the building and regular site walkovers. The Operator will have a sufficient supply of water on site which can be utilised for dust suppression both during waste treatment practices, storage, on site roads and onsite infrastructure, prior, during and post treatment.

<p>Dust emissions generated from the treatment of wastes</p>	<p>Occupiers of domestic dwellings listed in Table 2.</p> <p>Surrounding agricultural land.</p> <p>Ouse Washes (SSSI, SPA, SAC, Ramsar).</p> <p>Priority Habitats listed in Table 2.</p> <p>Local Wildlife Sites listed in Table 2.</p>	<p>Atmosphere</p>	<p>The Mepal Soil and Waste Treatment Centre will only treat asbestos wastes that derive from land remediation and construction and demolition activities which will solely comprise bonded asbestos. As such, no fibres will be released from the proposed treatment activity.</p> <p>The treatment of asbestos wastes will be undertaken within a dedicated building which will contain suitable abatement technology, including negative pressure and air filtration to ensure that asbestos cannot escape into the atmosphere. Because of the measures in place to control dust, the risk of dust to impact receptors beyond the site boundary is low.</p> <p>The picking station will contain spray bars which are designed to keep the waste damp at all times.</p>	<p>Unlikely due to direction of prevailing wind and measures in place.</p>	<p>Local nuisance</p> <p>Potential respiratory health risk to public and staff.</p> <p>Smothering.</p>	<p>Not significant due to management techniques employed.</p>
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5.7 BAT assessment A112327 Mepal SWP Asbestos Variation

1.1.4 With reference to Schedule 7 of the Environmental Permit (Site Plan), all wastes containing asbestos will be treated within a designated building that's located to the east of the site.

Table 6: Fugitive Emissions Control (SGN S5.06, Section 2.2)

Indicative BAT	BAT Justification
Fugitive Emissions to Air	
Dust	
<ol style="list-style-type: none"> 1. The following general techniques should be employed where appropriate: 2. <ul style="list-style-type: none"> • Covering of skips and vessels • Avoidance of outdoor or uncovered stockpiles (where possible) • Where dust creation is unavoidable, use of sprays, binders, stockpile management techniques, windbreaks and so on • Regular wheel and road cleaning (avoiding transfer of pollution to water and wind blow) • Closed conveyors, pneumatic or screw conveying (noting the higher energy needs), minimising drops. Filters on the conveyors to clean the transport air prior to release • Regular housekeeping • Enclosed silos (for storage of bulk powder materials) vented to fabric filters. The recycling of collected material should be considered under Section 2.6. • Enclosed containers or sealed bags used for smaller quantities of fine materials 	<p>The Environmental Risk Assessment Management plan has been developed for the site. In summary, dust management will contain the following measures:-</p> <ul style="list-style-type: none"> • All skips containing picked asbestos will be covered and locked to ensure no fugitive emissions to air, these will be checked at the end of each working day to ensure they are in good working order; • Wastes awaiting asbestos treatment will be stored within a building which is fitted with negative pressure to prevent the release of fibres, the negative pressure will be connected to bag filters; • Water will be used to dampen stock piles within the building and the building will be fitted with fast acting roller doors to ensure that the activities are isolated from any potential wind influences. Asbestos wastes will be stored within bays which will separate loads and act as windbreaks in the event that wind enters the building and the operator will ensure that they maintain headroom in the bays to avoid wind catching the waste; • All conveyors will be enclosed and drop heights will be minimised when handling wastes; • The operator will ensure regular housekeeping is undertaken, dust will be removed regularly from machinery and a check will be kept on buildings and site infrastructure. Infrastructure may be hosed down if necessary; and • The site will not store powders or particularly dusty wastes.

General Storage Requirements

6. Storage areas are often the most visible aspects of the installation. Storage areas should be located away from watercourses and sensitive perimeters, for example, those which may be adjacent to public rights of way, housing or schools, and within the security-protected area of the installation to prevent vandalism.

Drawing No 208 Location Version B indicates the site layout. The site layout has been designed to ensure that asbestos treatment and storage areas are completely separate from the rest of the site so as to ensure asbestos wastes cannot be accidentally mixed and to ensure minimum handling, i.e. wastes will only be handled within the building as shown on Drawing Number 208 Building Version C.

The facility is located within a predominantly rural setting, the closest residential receptor is located some 860 m North of the site, with local highways or minor roads located within 150 m of the site and a local wildlife habitat within 10 m (the Sutton and Mepal Pumping Station Local Wildlife Site)

Mepal Soil and Waste Treatment Centre – Best Available Techniques

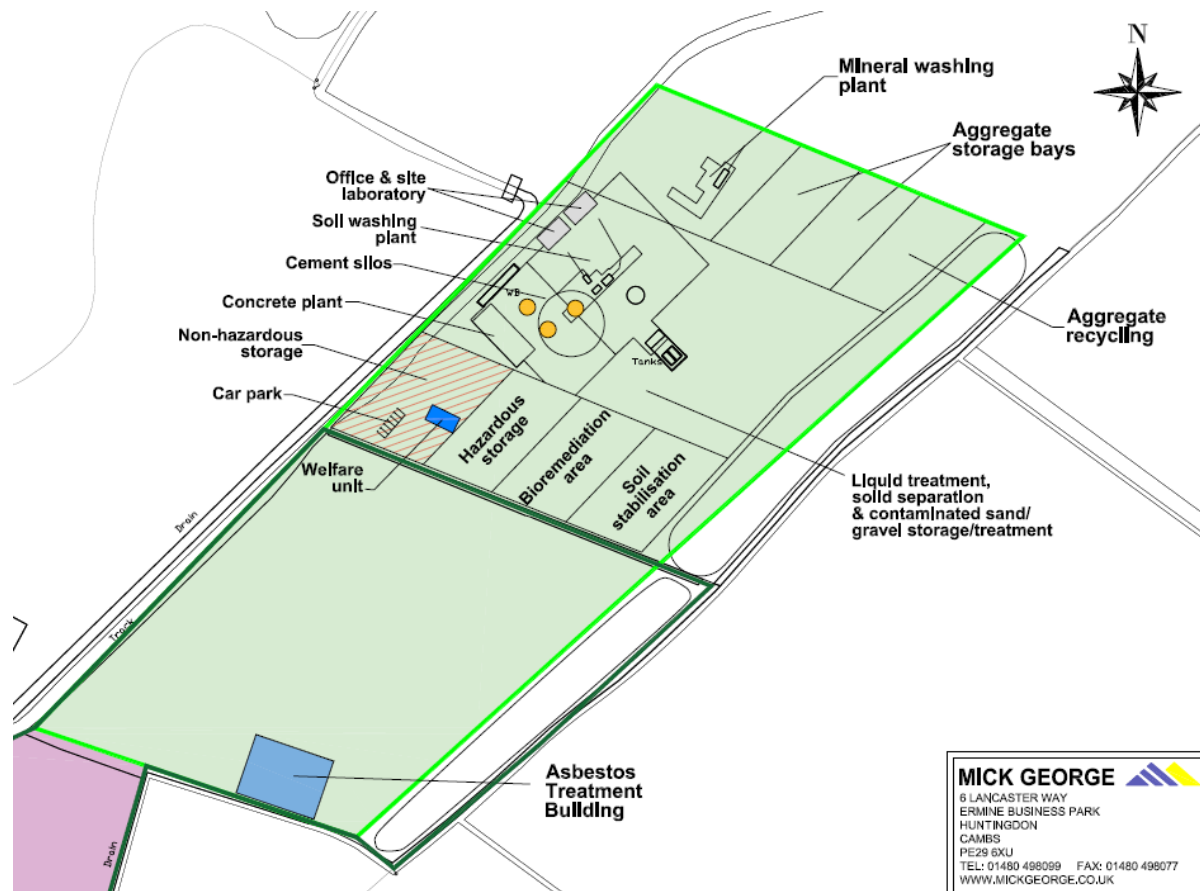


of the site boundary. Given that the site will be picking asbestos wastes, the Operator has determined that, while there are no immediate receptors which are likely to be impacted by the activities, in order to ensure safety of site staff, all asbestos picking activities will take place within a building which will be fitted with negative pressure to extract air through a central point which will be fitted with abatement.

The facility is completely enclosed within a lockable building, the site in its entirety has fencing and lockable gates to prevent unauthorised access as well as CCTV.

5.8 Site Location

Grid reference - TL4435283755







6) NRS Meriden Aggregates Ltd - Cornets End Recycling Facility

6.1 Site details

NRS Meriden Aggregates Ltd

Cornets End Recycling Facility

Cornets End Lane

Meriden

Solihull

CV7 7LH

EPR/HB3802HF/V003

Grid reference SP2331481169

6.2 Permit introduction

Asbestos picking

Hazardous waste containing bonded asbestos will be hand-picked from an enclosed conveyor with water spray to prevent fibre releases. The pieces of removed asbestos will be double bagged and stored in a locked container prior to removal from the site for disposal. The remaining waste will be tested for fibre content and treated as non-hazardous waste where testing indicates fibre content is below the threshold. If the asbestos containing waste has other hazardous properties, the waste will first be treated by hand-picking of asbestos and then further treated by screening and/or washing where asbestos fibres are not present above the threshold. If the content of asbestos fibres is above 0.1% following hand-picking, the waste will be disposed of at a suitable landfill.

Hazardous waste washing

Hazardous waste that does not require screening, the hazardous fractions following screening and **wastes with asbestos removed** will be washed to separate hazardous fractions. Water used for the washing will be recirculated following treatment and filtered to remove the fines which are then pressed. The pressed filter cake will be tested and then disposed of at a suitable facility. The washed fractions will be tested and if they are non-hazardous, the wastes will be crushed and screened to produce aggregate.

6.3 Permit activities table S1.1

<p>AR1</p>	<p>S5.3 A1(a)(vi) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving recycling or reclamation of inorganic materials other than metals or metal compounds.</p>	<p>Asbestos removal R5 Recycling/reclamation of other inorganic materials</p>	<p>From receipt of waste through to storage of treated waste. Treatment in a dedicated enclosed and abated picking line. Asbestos removed from the waste shall:</p> <ul style="list-style-type: none"> • Be double-bagged and stored in a sealed locked container. • not be transferred between different bulk containers, which shall be locked when not being loaded and shall not be stacked. <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system. Hazardous waste types and quantities as specified in Table S2.2.</p>
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6.4 Permitted Waste types

Table S2.2 Permitted waste types and quantities for Activity AR1 – Asbestos removal	
Maximum quantity	Total quantity of waste accepted per year under activities AR1 to AR4 and AR8, shall be no more than 300,000 tonnes per year, of which waste accepted under activity AR1 shall not exceed 30,000 tonnes per year.
Exclusions	Wastes having any of the following characteristics shall not be accepted: Asbestos in unbound fibrous form (fibres must be <0.1% w/w)
Waste code	Description
17	Construction and demolition wastes (including excavated soil from contaminated sites)
17 06	insulation materials and asbestos-containing construction materials
17 06 01*	insulation materials containing asbestos – pieces/bonded asbestos only
17 06 05*	construction materials containing asbestos – pieces/bonded asbestos only

6.5 Ambient air Monitoring

Table S3.2 Ambient air monitoring requirements					
Location or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Monitoring locations in accordance with PO2 in table S1.4	Asbestos Fibres	0.01 fibres/ml Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	Monthly during receipt, handling and movement of asbestos contaminated wastes	In line with M17 monitoring guidance	<ul style="list-style-type: none"> • Pumped sampling • 1m above ground level • Flow rate = 8 litres/minute • Minimum sample volume = 480 litres • Filter pore size = 0.8-1.2µm Asbestos fibre limit of detection = 0.001 fibres/ml

6.6 Risk assessment 21/001c Appendix 4 Environmental Risk Assessment V3

Data and information				Judgement			Action (By Permitting)		
Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
Local human population, including industrial units, neighbouring businesses, and residential dwellings.	Releases of dust. Asbestos fibres.	Harm to human health - respiratory irritation and illness i.e., lung cancer, mesothelioma and asbestosis	Air transport or via physical contact then inhalation.	Low	High	Medium	<p>Commercial land uses e.g., industrial uses and offices, are located proximate to the Site and may be sensitive to dust emissions.</p> <p>Incoming proposed waste types are hazardous. Construction and demolition waste. These wastes are to be stored outside. These wastes are likely to be dusty due to the nature of the waste and the fragmented particle sizes.</p> <p>Treatment activities may produce dust emissions.</p> <p>Construction & demolition waste containing asbestos will be accepted and treated on Site.</p>	<p>A number of mitigation measures are used to reduce the risk of dust emissions.</p> <p>Strict waste acceptance procedures are in place to ensure that excessively dusty loads are not accepted on Site.</p> <p>Waste contaminated with asbestos containing materials (ACM) will be accepted onto the Site. This includes unbonded fibrous asbestos. Site operatives will be required to wear PPE when handling ACM.</p> <p>Waste operations that have the potential to generate dust e.g., crushing, screening and tipping will be subject to water sprays for dust suppression.</p>	Low

S Meriden Aggregates Limited, Comets End Quarry, Comets End Lane, Comets End, Meriden, Solihull, CV7 7LH

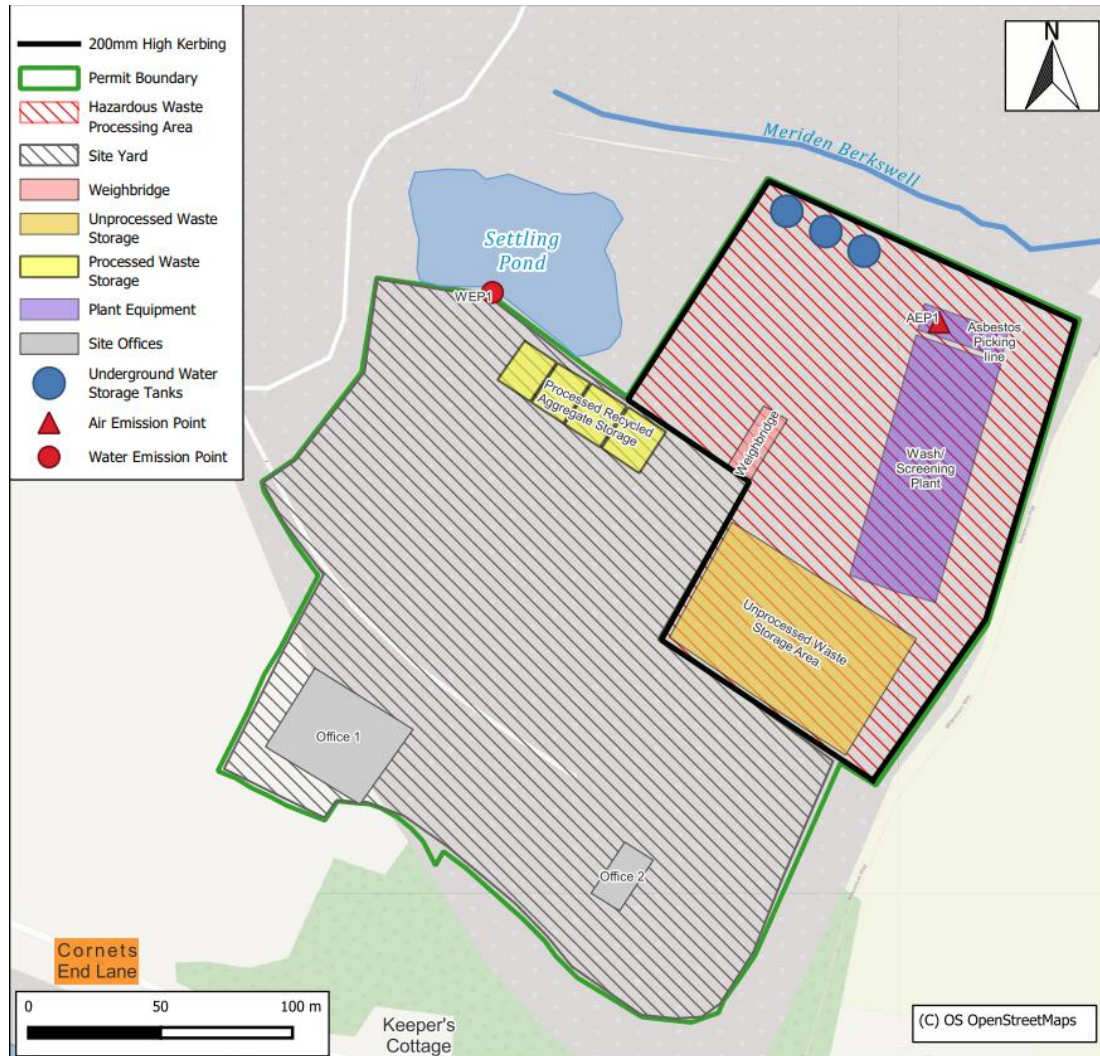
ndix 4 Environmental Risk Assessment V3

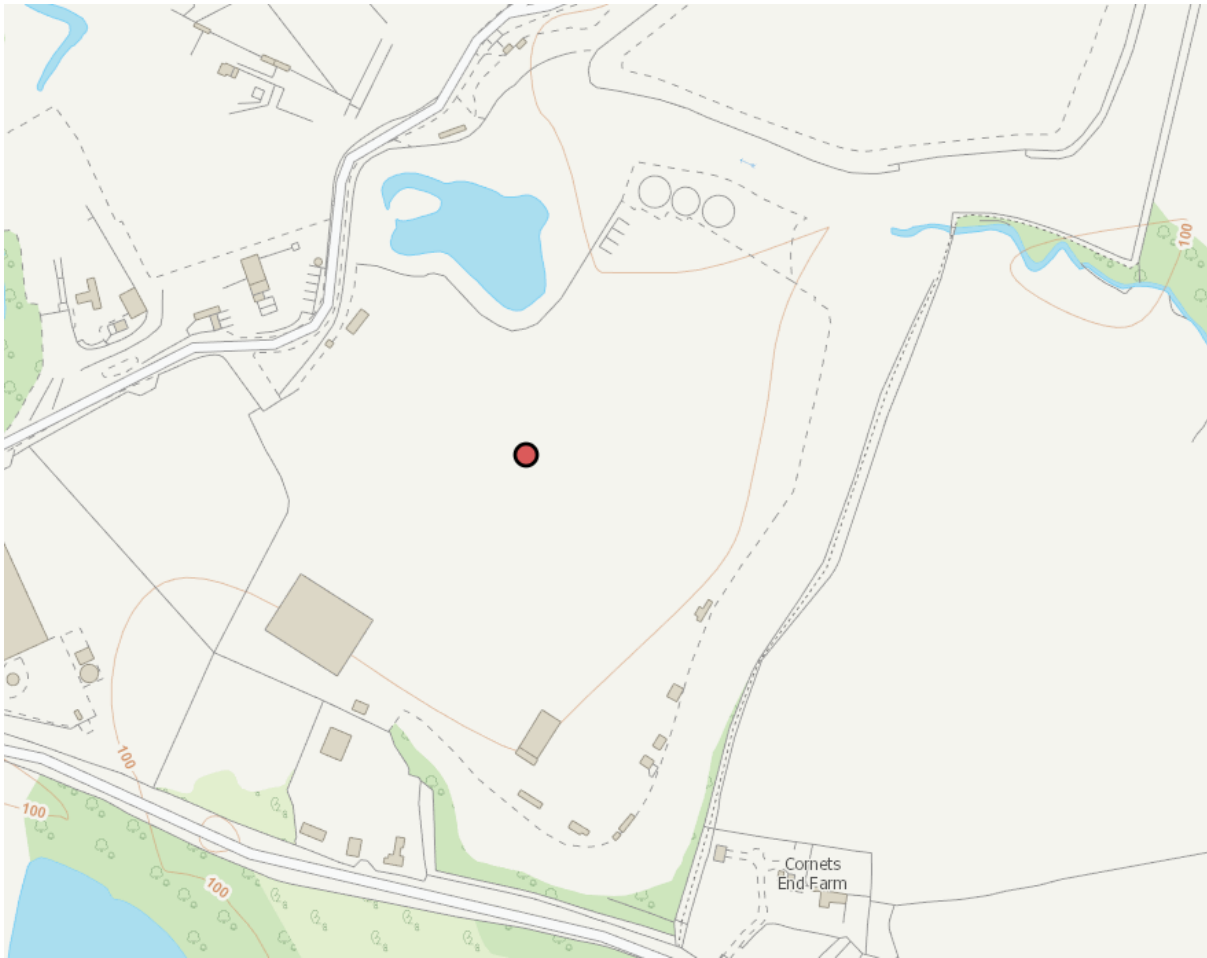


Data and information				Judgement			Action (By Permitting)		
Receptor	Source	Harm	Pathway	Probability of Exposure	Consequence	Magnitude of Risk	Justification for Magnitude	Risk Management	Residual Risk
							<p>There is a low potential for exposure to staff when handling ACM - Personal Protective Equipment (PPE) reduces the risk of this</p>	<p>The built in dust suppression bar on the crusher is used to reduce the potential for dust emissions from this plant.</p>	

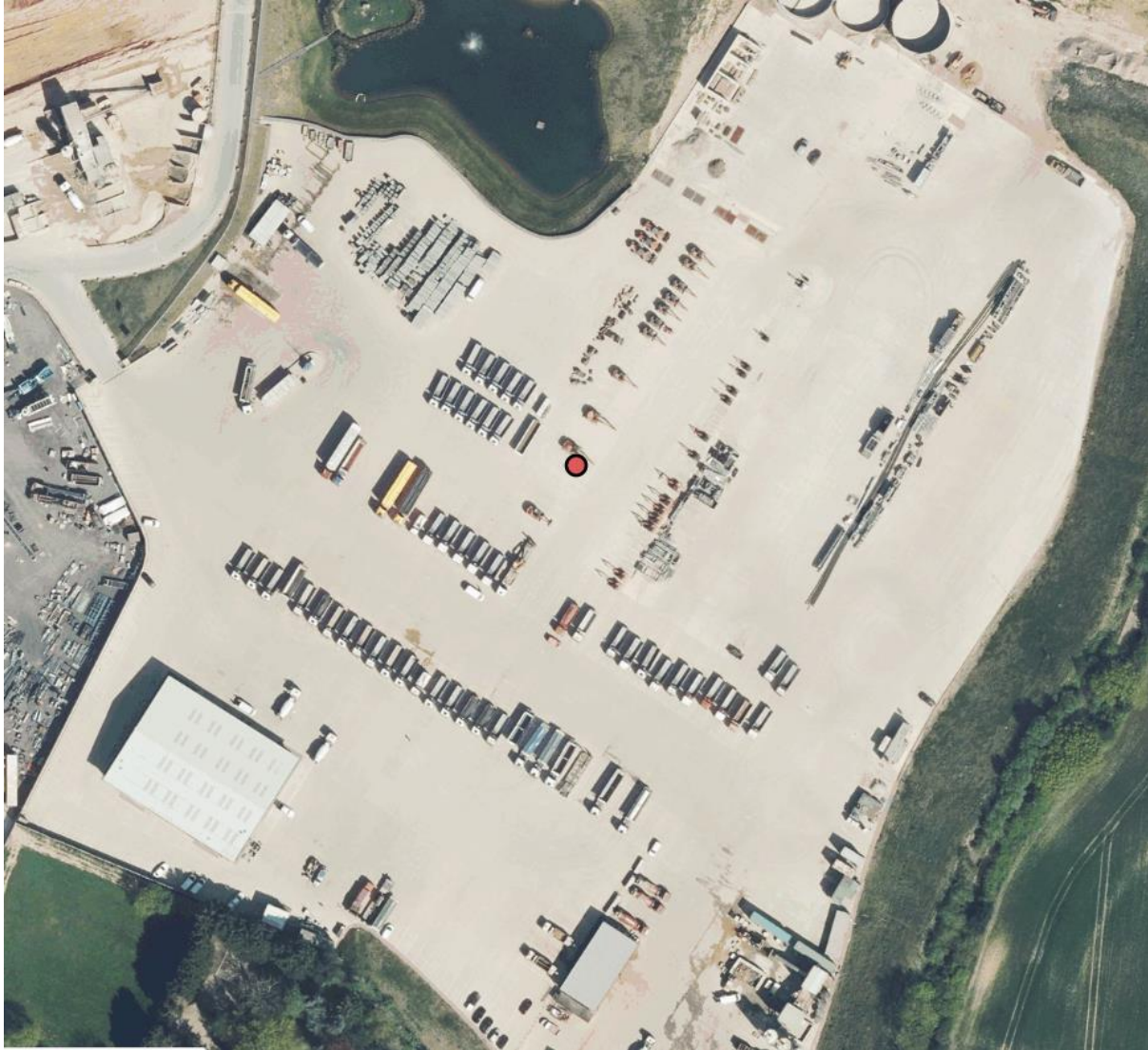
6.7 Site Location

Grid reference SP2331481169









7. Thermal Recycling (UK) Limited

7.1 Site details

Thermal Recycling (UK) Limited
Unit 5A and 5B
Sprint Industrial Estate
Four Ashes
Staffordshire
WV10 7DA
EPR/BP3136WY

7.2 Permit introduction

The facility is for the thermal treatment of waste cement bonded asbestos sheets and pipes. The maximum waste tonnage will be 29,500 tonnes per year. Subject to pre-acceptance testing for suitability, waste asbestos will arrive at the facility wrapped or bagged to prevent the escape of fibres, and will be unloaded within the site building. **The building will be kept under negative pressure and extracted air will discharge via a HEPA filter to ensure that any fugitive emissions of fibres are not released to the atmosphere.**

7.3 Table S1.1 activities

AR1	S5.3 A(1)(a) Disposal or recovery of hazardous waste with capacity exceeding 10 tonnes per day involving one or more of the following activities:	(vi) recycling or reclamation of inorganic materials other than metal or metal compounds. R5 thermal treatment of cement bonded asbestos.	Two individual treatment kilns. All activities shall be undertaken within a building that is maintained under negative pressure. Waste types as specified in Table 2.2.
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7.4. Preoperational Conditions

PO3	<p>At least 4 weeks (or any other date as agreed with the Environment Agency) prior to commissioning of the installation, the operator shall provide a written report on the air extraction system for the installation for approval by the Environment Agency. The report shall include the following:</p> <ul style="list-style-type: none">• An assessment of the building fabric for potential fugitive emission routes to air, and any actions taken to rectify the potential routes.• An assessment of the air extraction system demonstrating that the building is under effective negative pressure and that all air extracted is emitted via the air filtration system. <p>No site operations shall commence or waste accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>
PO4	<p>At least 4 weeks (or any other date as agreed with the Environment Agency) prior to the commencement of operation of the installation, the operator shall provide a revised sampling plan for the treated waste. The sampling plan shall:</p> <ul style="list-style-type: none">• detail the method(s) to be used to sample and analyse the treated wastes for asbestos fibres;• demonstrate a high percentile level of confidence in the treatment process taking account of the amount of waste treated per batch and the number of samples required to adequately sample each batch, both and initially and on an ongoing basis. <p>No site operations shall commence or waste accepted at the installation unless the Environment Agency has given prior written permission under this condition.</p>

7.5 point source emissions to air

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (incl. unit)	Reference period	Monitoring frequency	Monitoring standard or method^{NOTE2}
A1 [Point A1 on site plan in Schedule 7]	Treatment plant stack	Oxides of Nitrogen (NO and NO ₂ expressed as NO ₂)	400 mg/m ³	Hourly average	Annually	BS EN 14792
		Particulate matter	No limit set	Hourly average	Monthly ^{NOTE1}	BS EN 13284-1
		Asbestos Fibres	0.1 fibre/ml	Hourly average	Monthly ^{NOTE1}	ISO 10397: 1993
A2 [Point A2 on site plan in schedule 7]	Air Extraction System stack	Particulate matter	No limit set	Hourly average	Monthly^{NOTE1}	BS EN 13284-1
		Asbestos Fibres	0.1 fibre/ml	Hourly average	Monthly^{NOTE1}	ISO 10397: 1993
NOTE1: May be reduced to a quarterly frequency after 12 monthly monitoring events with the written agreement of the Environment Agency.						
NOTE2: Temporary means of access can be provided with the agreement of the Environment Agency.						

7.6 Schedule 5 Response H1 amenity risk assessment CE-FA-0667-RPO6

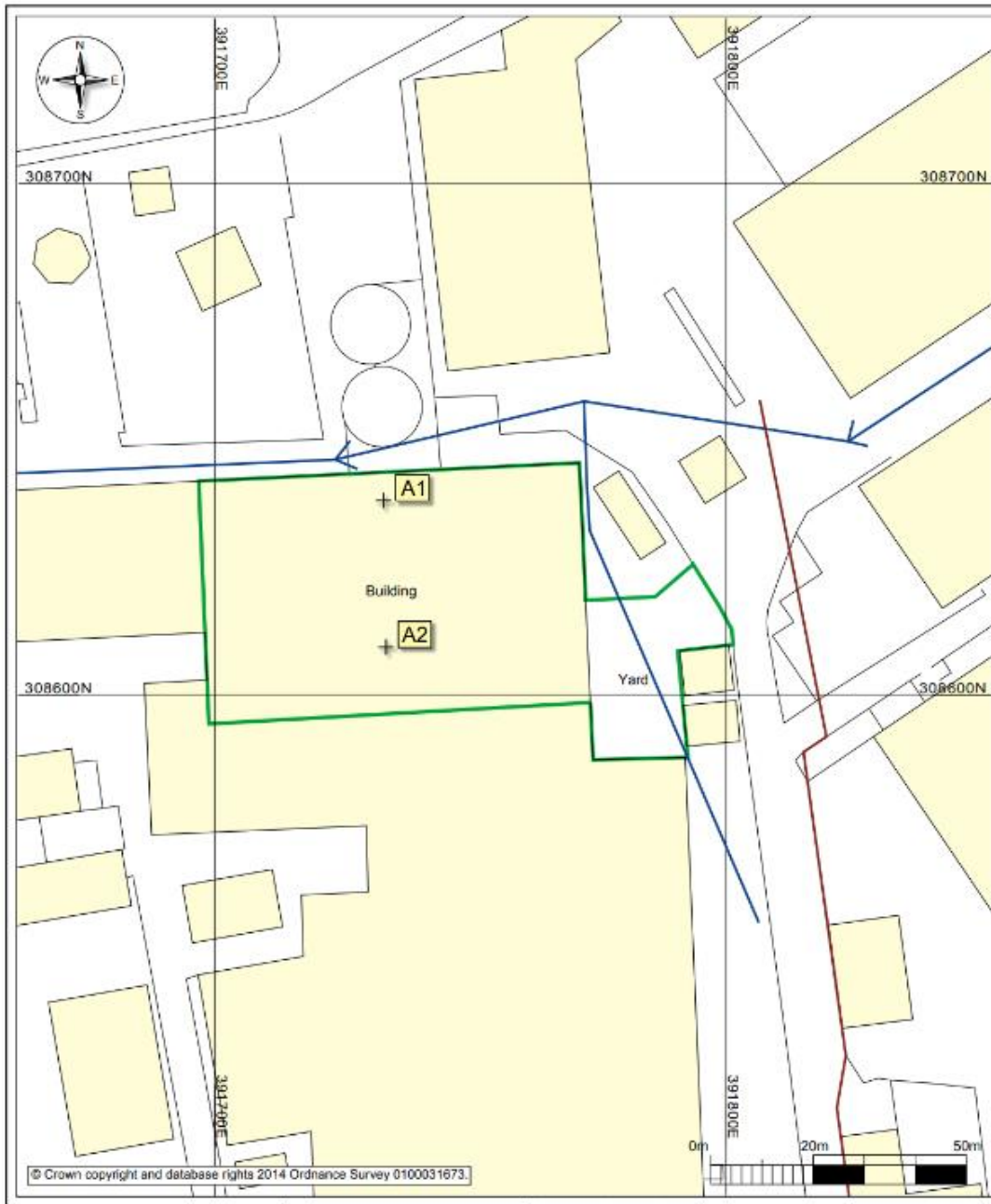
Source						
Asbestos Fibres, NOx, and CO ₂ emissions.	Sprint Industrial Estate surrounding the Site boundary.	Air transport then inhalation and/or deposition.	All asbestos loads entering the site will be contained. The thermal treatment will take place within a purpose-built kiln. The process will be entirely contained within existing building.	Possible due to the distance to the receptors and nature.	Potential harm to human health - respiratory irritation and illness	Not significant if carefully managed.
	Four Ashes Industrial Estate - approx 183m S of the Site boundary.					
	Residential Properties – located on Station Drive approx. 128m SW of the Site boundary.	As above	The building will be sub-divided as shown on Drawing No TS10908-D1, Issue C 'Plant Layout', into an 'asbestos intake area', kiln room and 'processed material despatch'. The asbestos intake area and processed material despatch will each operate under negative pressure with air drawn to a dedicated HEPA filter for that section of the building. The kiln room will be kept under a negative pressure using a HEPA type filter that will draw ambient air from outside of the building through a series of inlets. Particulate removal efficiency is designed to be 99.95%. The air from the building systems and all gaseous arisings from the kiln will be fed through a 5 micron-sized ceramic filtering system to prevent the escape of particulate matter of this size or greater.	As above	As above	As above
	Fair Tree Cottage - approx. 358m W of the Site boundary	As above		As above	As above	As above
	Wood View House - approx. 427m E of the Site boundary.	As above		As above	As above	As above
	Ash House - approx. 617m E of the Site boundary.	As above		As above	As above	As above
	Chemical Works - approx. 286m NE of the Site boundary.	As above		As above	As above	As above
	Woodside Farm House - approx. 702m NE of the Site boundary.	As above		As above	As above	As above
	Sports Ground - approx. 276m SW of the Site boundary.	As above		As above	As above	As above

7.7 Site Location

Grid reference - SJ9173108589







8. Biffa Waste Services Limited - Redhill Landfill Site

8.1 Site details

Biffa redhill – Partial refusal
Grid reference TQ2908850607
Biffa Waste Services Limited
Biffa Waste Services Ltd
Redhill Landfill Site
Cormongers Lane
Nutfield
Redhill
Surrey
RH1 4ER

8.2 Permit introduction

The variation authorises the operation of an asbestos picking station adjacent to the existing soil treatment facility located within Redhill Landfill Site. This will permit the handpicking of identifiable pieces of bonded asbestos from waste soils. The variation also includes the addition of EWC 19 01 11* Bottom ash and slag containing hazardous substances for disposal into the non-reactive hazardous cell.

8.3 Table S1.1 activities

Table S1.1 activities (NEQ and SWA)				
Activity reference	WFD Annex I and II operations (where applicable)	Activity listed in Schedule 1 of the EP Regulations	Description of specified activity	Limits of specified activity
A4 (NEQ)	D9:Physico-chemical treatment resulting in final compounds or mixtures which are discarded by any of the operations numbered D1 to D12	Section 5.3A(1)(a)(ii) Disposal or recovery of hazardous waste with a capacity exceeding 10 tonnes per day involving physico-chemical treatment	Asbestos removal from soils	<p>From receipt of hazardous waste through to storage of treated waste prior to being subject to bioremediation or sent off-site for disposal.</p> <p>Treatment consisting only of hand picking of identifiable pieces of bonded asbestos from waste soils in a dedicated enclosed picking line.</p> <p>All treatment and storage shall take place on an impermeable surface with a sealed drainage system within the area highlighted Asbestos Picking Station as shown on drawing number 003 – Submitted with the permit variation application dated 02/04/2019.</p> <p>Waste subject to this process shall only be contaminated with asbestos alone or in combination with hydrocarbons.</p> <p>Asbestos removed from the soil shall be double-bagged and stored in a sealed skip.</p> <p>Hazardous waste specified in table S2.5</p>

8.4 Process Monitoring

Table S3.15 Process monitoring requirements					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
Monitoring location labelled M as shown on Figure 6 – Diagram of air monitoring locations within the Asbestos Management Plan document	Asbestos Fibres	0.01 fibres/ml. Where total fibre concentration exceeds 0.01 fibres/ml in any sample, that sample must be submitted for electron microscopy to confirm the concentration of asbestos fibres present	Twice weekly on 2 separate days and continuous sampling over a 4 hour period	In line with M17 Guidance. Whilst soils are being unloaded and constructed into stockpiles, processed through the picking station, constructed into stockpiles <ul style="list-style-type: none"> • Pumped sampling • 1m above ground level • Flow rate = 4 litres/minute • Minimum sample volume = 480 litres • Filter pore size = 0.8-1.2µm 	-

Permit number
EPR/BU81261Y

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Table S3.15 Process monitoring requirements					
Emission point reference or source or description of point of measurement	Parameter	Limit	Monitoring frequency	Monitoring standard or method	Other specifications
				Asbestos fibre limit of detection = 0.001 fibres/m	

8.5 Decision document – partial refusal

Description of activities

The treatment process involves the removal of identifiable pieces of bonded asbestos fragments from the soils by hand picking on a dedicated enclosed picking line.

The soils will be loaded onto an enclosed conveyor belt using a tracked excavator. They will then travel into the raised portacabin like picking station.

General picking

We have decided to **refuse the operators proposal to accept and treat construction materials containing asbestos (17 06 05* and 17 09 03*)**.

The operator has confirmed that the material they propose to accept will be fire damaged construction and demolition waste contaminated with asbestos. For example from when a building collapses following a fire incident.

Given construction and demolition wastes such as bricks and rubble can be heavy and historically do not work well with picking stations affecting conveyors we requested the operator clarify how the asbestos fragments would be identified on the picking line and if there were any special working arrangements required for this waste. **The operator subsequently clarified that the construction and demolition material would be passed through a static bar screen which will separate the larger bulky oversize material and enable the passing materials less than 100mm to be conveyed through the picking station**. The oversize material would be subject to visual inspection and hand picking for asbestos fragments. The same dust suppression technique of damping down would be used for all operations.

We consider that the proposed operation poses a risk of generating airborne asbestos fibres. Degraded fire damaged asbestos containing waste will potentially be friable and will pose a significant risk of releasing asbestos fibres into the atmosphere. This will be further compounded by handling and treatment.

Mechanical Screening

We consider the mechanical screening process proposed by the operator is likely to agitate the waste and result in the generation of asbestos fibres. Such fibres from damaged/broken bonded asbestos can easily become airborne during treatment. The screening of such waste will break the asbestos pieces and release fibres into the atmosphere. The inhalation of asbestos fibres can cause serious illness and significant harm to human health including malignant lung cancer, mesothelioma and asbestosis (a type of pneumoconiosis). Any increase and/ or agitation of fibres would create a risk to human health as there is no safe lower limit. Therefore having regard to the nature of the potential emissions and the need to prevent them to ensure the waste management of asbestos is carried out without endangering human health or without harming the environment, it is essential that the handling of waste containing asbestos is kept to a minimum to avoid the risk of any release of asbestos.

8.6 Schedule 5 Response

Environment Agency Question 9:

Firstly, airborne fibre emissions will be minimised by strict 2 stage procedures, **pre-acceptance and reception, which ensure that the free fibrous asbestos within the soil matrix is low enough not to cause concern from the release of fibres.** Asbestos in unbound fibrous form free chrysotile fibrous asbestos in the soil will have been confirmed by analysis to be <0.1% w/w. other forms or mixed forms of asbestos in the soil will be <0.01% w/w.

Secondly during movement from stockpiles and loading to the conveyor damping down equipment will be used, in the form of **mist cannons**, to ensure that the moisture content of the tipped material remains elevated above 10%. Asbestos fibres, if present, are proven to be very unlikely to become airborne from soils with a moisture content >10%.

In addition, the process of **conveying the material at a steady rate and picking by hand is not expected to lead to airborne emissions from soil** which contains fragments of ACM does not contain fibrous forms of asbestos.

8.7 Site location

Grid reference TQ2908850607





