



## Environmental Management System

### Graphite Resources

Bespoke Mobile Plant Permit

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# ROOTS

RECYCLING OF ORGANICS - TECHNICAL SUPPORT

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ROOTS - Recycling of Organics Technical Support

On behalf of Graphite Resources (DEP) Ltd

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# 1.Introduction

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The EMS applies to all mobile plant permit activities carried out by Graphite Resources Ltd and is submitted in support of the bespoke mobile plant permit application.

In order for the EMS to be effective, it will be implemented and overseen by Graphite Resources Ltd.

## 2. Proposed Activities

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All activities carried out under the proposed mobile plant permit will be as per the Standard rules SR2010No5 - Mobile plant for the reclamation, restoration or improvement of land permit. The only variation will be the addition of 19 12 12 Graphite Autoclave Organic Fibre Material to the accepted list of wastes in table 2.

All proposed activities have been summarised below:

### 2.1 Summary of Activities

The proposed bespoke mobile plant permit will allow the operator to operate mobile plant. The mobile plant shall be for land treatment activities on notified land that has been subject to industrial or other man-made development for restoration, reclamation or improvement in England and Wales resulting ecological improvement.

To facilitate the application of the wastes the following technology and associated plant necessary for treatment and associated storage:

- plant for the storage and mixing (not for treatment) of permitted wastes listed in table 2
- plant for the spreading of wastes in order to carry out treatment of land to create or improve a soil profile.

The activities shall not be carried out within:

- 10 metres of any watercourse;
- 50 metres of any spring or well, or any borehole used to supply water for domestic or food production purposes. This must include private water supplies.
- Groundwater Source Protection Zone 1.

The operator will submit a deployment form to the Environment Agency, prior to the activity commencing

### 2.2 Record Keeping

Records demonstrating compliance with the permit and EMS shall be maintained.

Any person having duties that are or may be affected by the matters set out in the permit shall have convenient access to a copy of them kept at or near the place where those duties are carried out.

The operator shall comply with the requirements of an approved competence scheme.

### 2.3 Avoidance, recovery and disposal of wastes produced by the activities

The operator will take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

The operator will review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

### 2.4 Permitted Activities

At least 25 working days in advance of starting each land treatment activity the Environment Agency will be notified using the deployment form LPD1. For each deployment:

- no more than 10 waste streams, and
- no more than 50 hectares shall be notified.

Each notification will contain an assessment that shows that benefit will be conferred by spreading of the waste. The assessment shall be made by a person with appropriate technical expertise and contain evidence demonstrating the reasons for their opinion.

The activities will not begin at any site until the Environment Agency has agreed a deployment form in writing for that particular site.

The activities will only be carried out in accordance with the requirements of the agreed deployment form unless otherwise agreed in writing by the Environment Agency.

Records demonstrating compliance with permit shall be maintained.

Table 1 lists the activities associated with the bespoke mobile plant permit.



**Table 2 – List of proposed permitted wastes**

Table 2 - Waste types	
Waste Code	Description
<b>03</b>	<b>WASTES FROM WOOD PROCESSING AND THE PRODUCTION OF PANELS AND FURNITURE, PULP, PAPER AND CARDBOARD</b>
<b>03 03</b>	<b>wastes from pulp, paper and cardboard production and processing</b>
03 03 05	de-inked paper sludge and de-inked paper pulp from paper recycling only
03 03 09	lime mud waste
03 03 10	fibre rejects and sludges including mineral based fillers and coatings only
03 03 11	sludges from on-site effluent treatment other than those mentioned in 03 03 10
<b>10</b>	<b>WASTE FROM THERMAL PROCESSES</b>
<b>10 01</b>	<b>wastes from power stations and other combustion plants</b>
10 01 05	gypsum (solid) only
10 01 07	gypsum (sludge) only
<b>10 13</b>	<b>wastes from manufacture of cement, lime and plaster and articles and products made from them</b>
10 13 04	wastes from calcinations and hydration of lime
10 13 12*	cement kiln dusts and by-pass dust only
10 13 13	cement kiln dusts and by-pass dust other than those mentioned in 10 13 12 only
10 13 99	gypsum only
<b>17</b>	<b>CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)</b>
<b>17 05</b>	<b>soils (excluding excavated soils from contaminated sites), stones and dredgings</b>
17 05 04	soil and stones including chalk other than those mentioned in 17 05 03
17 05 06	dredging spoil other than those mentioned in 17 05 05
<b>17 08</b>	<b>gypsum-based construction material</b>
17 08 02	gypsum only
<b>19</b>	<b>WASTE FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE</b>
<b>19 02</b>	<b>wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)</b>
19 02 03	cement kiln dust and by-pass dust from cement kilns conditioned with water only
19 02 04*	cement kiln dust and by-pass dust from cement kilns conditioned with water only
<b>19 05</b>	<b>wastes from aerobic treatment of waste</b>
19 05 03	compost from source segregated biodegradable waste only
19 05 99	compost derived from non-source segregated biodegradable waste
<b>19 06</b>	<b>waste from anaerobic treatment of waste</b>
19 06 03	liquor from anaerobic treatment of non-source segregated biodegradable waste
19 06 04	whole digestate and fibre digestate from anaerobic treatment of non-source segregated biodegradable waste
19 06 05	liquor from anaerobic treatment of source segregated biodegradable waste only
19 06 06	whole digestate and fibre digestate from anaerobic treatment of source segregated biodegradable waste only
<b>19 08</b>	<b>waste from waste water treatment plants</b>
19 08 02	washed sewage grit (waste from desanding) only
19 08 05	sludges from treatment of urban waste water
<b>19 09</b>	<b>wastes from the preparation of water intended for human consumption or water for industrial use</b>
19 09 02	sludges from water clarification
<b>19 12</b>	<b>Wastes from the mechanical treatment of waste (for example sorting, crushing,</b>

	<b>compacting, pelletising) not otherwise specified</b>
19 12 12	soil substitutes other than that containing dangerous substances only
19 12 12	Graphite Organic Fibre
<b>19 13</b>	<b>wastes from soil and groundwater remediation</b>
19 13 04	sludges from soil remediation other than those mentioned in 19 13 03

### 3. Additional Requirements for the application of Graphite Organic Fibre to Land

The proposed organic fibre for landspreading must be derived only from the wastes listed in Table 3 below.

**Table 3 Waste types acceptable for autoclave process where subsequent organic fibre is applied to land.**

Waste Code	Description
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION/INDUSTRIAL USE
19 12	wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 03	Other municipal wastes
20 03 01	mixed municipal waste

All batches will be fully traceable and sanitised to meet ABPR.

To prevent the spreading of waste that may have properties that can cause any environmental harm or nuisance when spread a minimum quality has been specified. This baseline specification is set out in Table 4 below. All organic fibre to be spread under the bespoke mobile plant permit must meet this standard.

Fibre will be samples every 5000m<sup>3</sup> of material produced, each sample shall be representative of the batch from which it is obtained and sampling will be carried out in line with BS EN 12579.

**Table 4 – Specification for the Graphite Organic Fibre**

Specification for the Graphite Organic Fibre for use in Land Restoration/Reclamation			
Parameter	Units	Limit	Source document <sup>1</sup>
Total zinc	mg/kg dm	<2,500	EEC (1986)
Total copper	mg/kg dm	<1,000	EEC (1986)
Total cadmium	mg/kg dm	<20	EEC (1986)
Total nickel	mg/kg dm	<300	EEC (1986)
Total lead	mg/kg dm	<750	EEC (1986)
Total chromium	mg/kg dm	<1,000	EU (2000)
Total mercury	mg/kg dm	<16	EEC (1986)
Organic matter	% dm	>15	IPTS (2012)
<i>E.coli</i>	cfu/g	<1,000	BSI (2010)/BSI (2011)
<i>Salmonella spp</i>	/25g	Absent	BSI (2010)/BSI (2011)
pH		5.5-8	BSI (2007)
Stability	mg CO <sub>2</sub> /g OM/day	<22	Based on BSI (2018 Consultation)
Total plastic >2 mm	% w/w	<2.5	Based on BSI (2007) and SNIFFER (2010)
Total other physical contaminants >2mm	% w/w	<2.5	Based on BSI (2007) and SNIFFER (2010)

<sup>1</sup> . The proposed standard is drawn from the following existing documents  
 EU Sludge Directive (86/278/EEC), EEC (1986);  
 3rd Working Document on Sludge Management, EU (2000);  
 End-of-Waste 3rd Working Document (IPTS, 2012);  
 PAS100/PAS110 (BSI, 2011; BSI, 2014);  
 British Standard for Topsoil (BSI, 2007);  
 Code of Practice for the Use of Sludge, Compost and Other Organic Materials for Land Restoration (SNIFFER, 2010).



## 4. Environmental Management

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### 4.1 Point Source Emissions

There shall be no point source emissions to land, except from the sources listed in the agreed deployment form.

The limits given in the agreed deployment form shall not be exceeded.

### 4.2 Odour

All spreading / storage activities will be carried out in line with a site-specific Odour Management Plan submitted with each deployment application.

The odour management plan incorporates specific guidance for each site but will include the following points:

#### **Transport of material to spreading site**

- All material will be assessed for odour potential prior to dispatch, material with the potential to cause odour will not be released for landspreading.
- All vehicles carrying material to site will be covered.
- Time of day will be considered for all vehicle movements.

#### **Stockpiling on site**

- Stockpiles of organic fibre will be no more than 500 tonnes
- Stock rotation will be carried out ensuring that the oldest material is used first
- All material must be stored a minimum of 10m away from any drains or sources of surface water.
- Storage areas marked on plans must be used.
- Storage should not be made next to footpaths, bridleways or roads passing across the land. Again, all marked stores are away from these risk receptors.
- Once delivered to the storage site/s, the heap will only be moved at the time of spreading and unnecessary movements shall be avoided in order to reduce any odour generation
- Any stockpiles store more than one week will be monitored for odour, temperature and moisture daily.

#### **Spreading and incorporation**

- The detailed plan/instructions will be provided by the staff showing the areas of the site to be spread including application rates. Maps and application rates are made available for each area to be spread.
- Spreading operators should familiarise themselves with the maps provided.

- Prior to spreading, an assessment will be made of wind direction and weather, odour checks carried out daily during spreading
- Spreading should be done as swiftly as possible when weather conditions permit.
- Spreading will be avoided when heavy rain is forecast within the next 48 hours
- Material should be spread at times to minimise any inconvenience, avoiding weekends or Bank holidays where at all possible.

#### **Actions to be taken in-case of nuisance**

- If the odour from the creation and siting of a stockpile is to be found the farmer/contractor and permit holder will investigate immediately. The pile will be monitored and a decision will be made to spread or remove the pile.
- If the odour from a spreading operation is found the farmer/contactor will stop operations immediately, investigate and take action.
- All complaints received will be recorded and informed to the permit holder. These will be investigated to the type of operation causing the odour and then reviewed to assess what mitigation will be carried out.

#### 4.3 Noise

Spreading operations have been assessed and identified to create minimal noise however each individual deployment application will be assessed any a noise and vibration management plan will be implemented if this is required to prevent or minimise any noise and vibration carried out by any activities associated with the operation.

## 5. Technical Competence

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The nominated technical competent person responsible for the mobile plant operations will hold the relevant WAMITAB qualification. A copy of the certificate is included in the application. See Appendix 5.